

# 1974 HIFI YEAR BOOK

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# HIFI

# YEAR BOOK

# 1974

Editor Colin Sproxton

Deputy Editor of Electrical & Electronic Trader.

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*Published by*

IPC Electrical-Electronic Year Books Limited

Dorset House Stamford Street London SE1 9LU 01-261 8000

*Printed in Great Britain by*

Chapel River Press, Andover, Hants.

# Contents

## Articles

- 6 Stereo FM Beyond the Fringe  
*by John Earl*
- 13 Developments in Tuner/Amplifiers  
*by Gordon J. King*
- 19 Bargains for Beginners  
*by W. A. Chislett*
- 22 Whither Quadraphony?  
*by Donald Aldous*
- 25 Audio Enthusiast's Bookshelf
- 30 Abbreviations

## Directory Sections

- 33 Pickups and Arms
- 53 Pickup Accessories
- 67 Record Decks
- 91 Radio Tuners
- 111 Tuner/Amplifiers
- 151 Amplifiers and Control Units
- 191 Quadraphonics
- 203 Tape Recorders
- 221 Tape Transport
- 223 Tape Players
- 229 Tape Decks
- 249 Tape Amplifiers and Mixer Units
- 255 Tape Accessories/Components
- 269 Magnetic Tape
- 274 Test Tapes and Discs
- 277 Constructional Kits
- 289 Microphones
- 319 Speaker Drive Units
- 333 Speaker Accessories
- 345 Speaker Enclosures
- 413 Hi Fi Cabinets
- 423 Complete Audio Systems
- 447 Hi Fi Headphones
- 465 Combination Units
- 477 FM/VHF Aerials
- 483 Directory of Manufacturers
- 489 Directory of Hi Fi Dealers
- 510 VHF Radio Transmitting Stations
- 511 Tape Playing Times
- 512 Advertisers' Index

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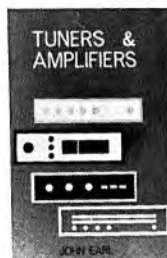


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# Introduction

Once again it has been necessary to increase the number of pages in the Hi-Fi Year Book in order to accommodate the ever-growing array of audio equipment on the UK market.

The pattern of the book follows the established and successful formula that has evolved since the first edition in 1956. At the front there are useful feature articles covering a wide range of audio subjects. Then come the product specifications and prices which make up the bulk of the editorial content. Finally there are comprehensive directories covering manufacturers, distributors, brand names and hi-fi retailers.

A major difference this year concerns the method of pricing which has changed since the last edition, when purchase tax was in force, and now incorporates the new value-added-tax (VAT).

As the legislation for this tax came into effect only just before the directory sections were compiled, manufacturers and distributors were allowed to quote their prices either including or excluding VAT, according to which method they preferred.

It is now clear that an inclusive price is not only more acceptable to the public but also easier and more sensible for the trade. Next time, therefore, makers will be asked to conform to a standard all-in recommended retail price.

On the question of prices it should be noted that the figures quoted in the book are recommended prices suggested by the manufacturer or distributor. In practice it is often possible to obtain a better deal by shopping around. On the other hand, due mainly to worldwide fluctuations in currency values affecting the cost of imported goods and materials, some shop prices may in fact be higher than the published figure.

A minor change this year, introduced to bring the section titles into line with popular usage, is the adoption of Record Decks in place of Motor Units.

A new feature this time, and one it is hoped to extend in future issues, is a list of magazines and books of interest to audio enthusiasts and music lovers.

It should be noted that all the specifications published in the book are those supplied by the makers or distributors, the publishers of the Year Book do not undertake to test equipment or verify the accuracy of the information provided.

All the details of products, prices, names and addresses published in the Hi-Fi Year Book are carefully compiled and every effort is made to ensure accuracy, but the publishers regret they are unable to accept responsibility for any errors or omissions that may have occurred.

Comments on the book, and suggestions for new sections or other ways of increasing its value to the reader, are welcome.

# Stereo FM beyond the fringe

by John Earl

An enthusiast seeking FM stereo reception over a path distance upwards of 60 miles or so from a transmitter is involving in a battle with nature. VHF signals which carry the FM information travel through space relatively close to the earth (Fig 1). From this it is clear that the maximum distance of reception would be limited to that of a straight line just grazing the horizon between the tops of the two aerials.

The higher the aerials, therefore, the greater the distance of reception. It can be shown that the horizon distance in miles is approximately equal to 1.22 times the square-root of the height in feet. Thus from the top of a transmitting aerial some 1300ft above sea level the horizon distance would be about 43 miles, while it is about 6.5 miles from the top of a 30ft receiving aerial.

The total line-of-sight distance, therefore, between the tops of these two aerials, is a little under 50 miles, and if this was the end of the matter 50 miles would be the absolute maximum distance for reception.

Although VHF waves, like light rays, travel in straight lines in 'pure' space (regarded as a homogeneous medium), owing to the change in the conditions of the atmosphere with increasing height above the earth, the path of the waves tends to curve slightly, thereby increasing the distance beyond that of line-of-sight. Moreover, curvature of the wave path also results from diffraction at the surface of the earth, further extending the reception distance.

The effect in the atmosphere results from refraction, in the same way that light waves are refracted on passing from one medium to another. Maximum effect occurs in the troposphere and comes about because of variations in atmospheric pressure, temperature and moisture with height above the earth.

The refractive index of the troposphere increases, in fact, with elevation, the effect being to bend the waves back to earth. The average curvature resulting from this cause is equivalent to an

increase in radius of the earth by 25 to 35 per cent.

As a consequence of tropospheric refraction and diffraction at the earth's surface it is possible to secure direct-ray propagation of signal energy between a transmitter and receiver even when the straight-line path falls slightly below the earth's surface. The salient features are detailed in Fig 2.

In practice, of course, there are hills, buildings and obstructions generally in the signal path, and these also influence signal propagation. Large buildings and hills can both diffract and reflect the VHF signals, so the problem in reality is more complex than when considered from the aspect of a smooth curved earth.

## Reception Distance

Now, just what extra distance can be achieved by tropospheric refraction depends on the index at the time of reception. The norm. is some 25 to 35 per cent, as already noted, and this makes fringe area reception feasible on a fairly reliable basis up to some 60 or so miles. This assumes average, but not heavily screened, conditions. Such a distance is not much encouragement to the person who wants to receive stereo stations over a path of some 100 miles or even more.

Fortunately, reception over 100 miles or more is possible because the refractive index is not constant and because it does increase significantly at certain times and under specific weather conditions. The maximum reception distance for direct-ray transmission is given by:

Distance (miles) =  $1.22k(\sqrt{ht} + \sqrt{hr})$  where  $ht$  and  $hr$  are the respective heights of the transmitting and receiving aerials in feet and  $k$  is a factor related to the refractive index. Under average conditions  $k$  is about 1.33, while under conditions favouring VHF propagation it can rise well above this.

However, it must be clearly understood that when  $k$  exceeds 1.33 the reliability of reception

in the distant areas exploited by its rise is diminished. And when the refractive index is changing the strength of the received signals will also change. Cyclic fading must, therefore, be expected and also the frustration of a total fade-out of signal when  $k$  suddenly falls to its norm., or less!

To achieve maximum reliability of fringe area reception, therefore, the receiving aerial must be sited at the maximum possible elevation, so that we are less reliant on a large  $k$  factor. In other words, the more we rely on a large  $k$  factor, the less reliable is likely to be our fringe area reception.

VHF propagation is thus essentially 'local' in nature, and although it is certainly possible to receive good signals over distances well in excess of 60 miles, this can only be regarded as abnormal reception, no matter what is said or written to the contrary.

At lower frequencies the ionosphere (ionized layers above the troposphere) plays a major role in long-distance propagation, but at VHF and above signals fail to be refracted back to earth by the ionosphere. They pass through the ionized regions and are lost in space.

The critical frequency above which this occurs is governed by the maximum electron density in the regions, and since the density is subject to diurnal and seasonal variations, the critical frequency varies likewise. It is generally highest in the daytime during summer, but even then,

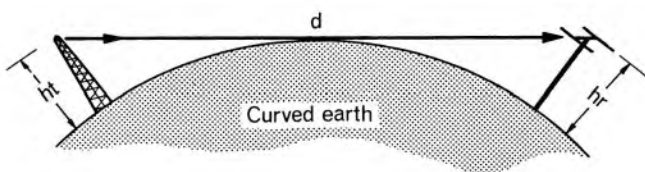
under normal conditions, it rarely rises much above 40MHz.

However, there are times when it enters Band II (88–108MHz), sometimes encouraged by sun-spot activity and ionospheric storms, and when this happens extremely long-distance FM reception becomes possible, though often only of a transitory nature. Ionisation resulting from passing meteorites can also give sudden short-duration bursts of extremely long-distance reception. Ordinary fringe area reception, though, mostly relies on tropospheric propagation.

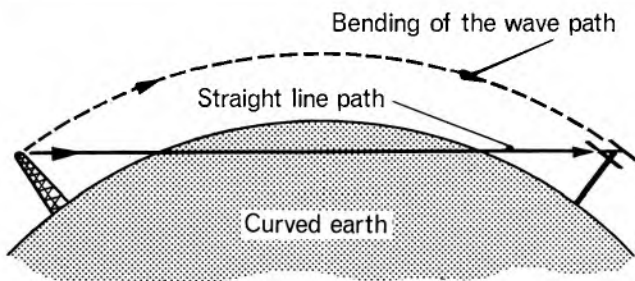
The  $k$  factor is highest during spells of anti-cyclonic weather, which can occur both in winter and summer, but which usually remain for the longest time during the spring and summer months (although this was not true to form during the winter of 1972–73). It is during these periods that television programmes from distant regions can also be received with relative ease, sometimes when not desired!

When the troposphere is active is the time to discover how well an existing FM tuner will handle distant stations. It is possible that the frequency of the required stereo programme will be adjacent to that of a more powerful local station, so apart from the *sensitivity* requirement, the tuner will also have to be very *selective* to discriminate against the unwanted station.

There are hosts of technical factors involved, so before investing in an elaborate aerial system, which is essential for optimum fringe area recep-



**Fig 1** In homogeneous space VHF waves travel in straight lines, so that the maximum transmitting distance ( $d$ ) is limited by the waves just grazing the horizon, which is a function of the heights of the transmitting aerial ( $h_t$ ) and receiving aerial ( $h_r$ ).



**Fig 2** Refraction in the troposphere bends the path of the VHF waves so that the reception distance rises above the straight-line path. Reception distance is also increased by diffraction at the earth's surface.



tion, it is just as well to determine what the tuner can do when the right conditions present themselves.

However, one must not lose sight of the fact that the aerial is part and parcel of the receiving system. Since the aerial is a tuned device it can be regarded as the first tuned circuit of the tuner itself. Thus outstanding reception, even during desirable propagation conditions, cannot be expected when the aerial is not of correct Band II design. Moreover, even a single dipole horizontally disposed to receive signals in the horizontal plane of polarisation is directional to some degree, with maximum response occurring at right-angles to its length.

Thus there are two angles of maximum response and two angles of minimum response, the latter when either end is pointing to the station. Such an aerial is said to be bi-directional, while a single dipole mounted vertically is omnidirectional—it will respond almost equally to signals arriving from all directions.

Uni-directional characteristics occur when a dipole has a reflector behind it and directors in front of it. Maximum response then occurs with the directors pointing to the required station. Such an aerial has a greater pick-up potential than a single dipole because its response has been concentrated in one main direction only.

When the troposphere favours long-distance reception, therefore, the receiving aerial should be reorientated for maximum response of the required stereo signal from the distant transmitter. This will also help the tuner to discriminate against any near-frequency stronger signal, assuming that the aerial is directional and there is a reasonable angle between the arrival paths of the two signals (Fig 3).

### Tuner Requirements

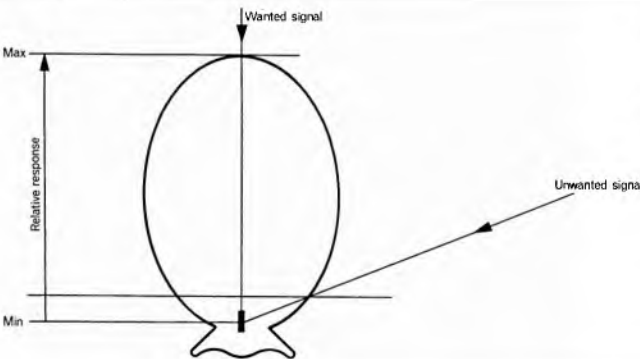
Before the aerial system in particular is considered, however, let us look at some of the important tuner requirements. Obviously, the tuner must be equipped with a stereo decoder. Most recent models are stereo-ready with the decoder built-in, but others, although being designed to accommodate a decoder, do not have it actually fitted. Very early tuners without decoder facilities are rarely suitable for serious fringe area reception.

Since the required signal is likely to be pretty weak a main requirement is high sensitivity. A usable sensitivity (based on IHF) of at least  $3\mu\text{V}$  is essential. With this sort of sensitivity generally goes a good limiting performance, and these two parameters determine the signal/noise ratio and how well interference will be rejected.

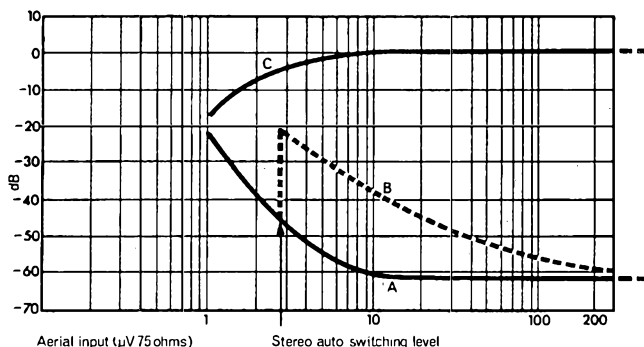
Since the usable sensitivity parameter is commonly referred to the *mono* function, it follows that the input required on *stereo* for the same signal-to-noise ratio will be greater, particularly at the lower end of the curve.

The curves in Fig 4 show at A and B the mono and stereo sensitivity performance of a sensitive tuner at the lower end of the input scale, and at C the limiting function, which is the same on both mono and stereo.

In this example the maximum S/N ratio is reached in the mono mode at about  $10\mu\text{V}$  aerial input, while the maximum ratio in the stereo mode requires about  $200\mu\text{V}$ . Although these curves cannot be regarded as typical, they at least illustrate the points under discussion. Maximum limiting occurs at around  $8\mu\text{V}$ , which is fairly typical of a sensitive tuner (though some may reach the ultimate of limiting at a lower input).



**Fig 3** Polar response of directional FM aerial, showing how orientation can provide discrimination against an unwanted signal.



**Fig 4** Limiting and sensitivity curves of a sensitive FM tuner (see text for explanation).

Most contemporary stereo FM tuners are equipped with automatic switching for the stereo function, often with an over-ride switch which makes it possible to translate a stereo signal to mono in the interest of a better S/N ratio. In **Fig 4** it will be seen that the stereo switching operates at a level around  $2\mu\text{V}$ , below which point the tuner will render a stereo transmission in mono. When the decoder switches *in* the stereo indicator or beacon is activated. It is sometimes possible to alter the stereo switching level by an internal preset of some kind.

Now let us translate the information in **Fig 4** to practical performance. Mono and stereo signals between about  $1.5$  and  $2\mu\text{V}$  will produce a *mono* output of fair S/N ratio (if  $30\text{dB}$  S/N ratio is regarded as the minimum usable, which is geared to the IHF spec.).

A mono signal above about  $2\mu\text{V}$  will give a reasonably noise-free output, with the maximum S/N ratio provided by the tuner design occurring at about  $10\mu\text{V}$ . However, and this is important, a stereo signal at  $2\mu\text{V}$  level will produce a very noisy output (S/N ratio about  $20\text{dB}$ ). Excluding interference, which will be considered in a moment, the noise will be in the form of a disconcerting hiss.

On stereo, therefore, an input of at least  $4\mu\text{V}$  (often higher in practice) will be required to obtain the minimum usable  $30\text{dB}$  S/N ratio, and towards  $200\mu\text{V}$  for the best possible stereo S/N ratio. This clearly reveals the need for the strongest possible aerial signal on stereo, which is sadly incompatible with fringe area working.

On top of this there is the interference problem. The FM system overall is engineered to provide the least disturbance from the various kinds of

interference, including RF and impulsive interference. Much of the latter comes from electrical equipment (particularly domestic-based) and motor car ignition, etc. Such interference results in amplitude modulation of the FM signal passing through the tuner. In theory the detector should respond only to FM, the amplitude variations being disregarded and producing no output.

Moreover, the *limiting* action before the detector should effectively slice off any AM ripples and pulses from the FM signal passing through the tuner, so that the signal is effectively free from amplitude components by the time it reaches the FM detector. Just how well the limiting action works depends on the strength of the received signal and on how deeply it causes the limiter to function.

Referring to **Fig 4** again it will be obvious that some AM will remain on the signal at least to the FM detector when the aerial input is below about  $8\mu\text{V}$ .

Other factors are also involved. For example, by-product FM is produced by AM and this can cause a response at the FM detector, depending on the tuner design. Moreover, the limiter may be fully effective only on steady-state AM, such as produced, for example, by an interfering RF signal, the beat giving the modulation envelope.

To be fully effective, the limiter should also respond adequately to short-duration pulses, as produced by car ignition and some electrical equipment. The limiting circuit time-constant in some tuners tends to prevent operation of the limiting action on impulsive interference, though being adequate for less rapid steady-state AM interference. Once the limiter is free from these

delaying time-constants, such as may result from the limiting shunting a tuned circuit, then it becomes much more valuable for removing the most annoying spiky type of interference, even at relatively low levels of aerial input.

On top of this we have the stereo subchannel to consider. As this is based on AM the interference to stereo is much more dramatic, particularly when the aerial signal is at threshold level. Fringe area stereo listeners in main road habitat and in 'noisy' electrical environments will confirm this! In most cases reasonable freedom from stereo impulsive interference demands high aerial input, so unless an elaborate array can be mounted high in interference-free space a listener some 100 miles from the nearest stereo station cannot hold out much hope for 'entertainment value' stereo via FM. There would be more hope if the general elevation is some 200ft above sea level and the scan towards the required transmitter free from high hills, etc.

Even if aerial input is reasonable, the tuner must still be sensitive enough to cater within the usable sensitivity and limiting range for fading signals, which certainly must be expected beyond about 60 miles from a transmitter. Fig 5 gives stereo S/N ratio and limiting curves pertaining to a not very sensitive tuner.

Assuming that the aerial input is just above the  $15\mu\text{V}$  switching level, the noise will be pretty intolerable (at not much more than 20dB S/N ratio) and the limiting will be nowhere near complete. If the signal is fading between, say,  $5\mu\text{V}$  and  $50\mu\text{V}$ , which is not uncommon, the stereo decoder will switch off on low swings while the S/N and limiting will improve significantly on high ones, and if the fading is rapid the results can be singularly disturbing, to say the least.

However, a tuner with the performance given by the curves in Fig 4 would handle the signal swings quite well and 'entertainment value' stereo would be obtained all the time.

Other tuner factors are also very much involved. For example, a local station may be producing three carriers having millivolts of signal strength and one of these might only be 400 or 200kHz (sometimes less) from the weak stereo signal.

The tuner has thus to be extremely selective to provide maximum discrimination against the unwanted signal(s). A tuner with an alternate channel selectivity (IHF) less than 50dB is rarely suitable for serious fringe area work. 80dB is a far better value, needing crystal or ceramic IF

filters, but is obviously more costly to secure.

An impression of the selectivity requirement is given in Fig 6. For good stereo reproduction, minimal distortion, crosstalk, etc., the response passband between the  $-6\text{dB}$  points should be around 250kHz, while at  $\pm 400\text{kHz}$  from the tuned frequency the response is 80dB down. At that point the disturbance from a very much stronger signal of 100 per cent modulation is equivalent to a S/N ratio of 30dB. The better the selectivity, the greater the rate of slope of the skirts of the response, and fast falling sides are more readily obtained from crystal or ceramic filters than conventional tuned circuits.

Many recent tuners are equipped with automatic frequency correction (AFC) and when this remains active it is impossible to tune a weak signal close to a more powerful one owing to the latter pulling the tuning on to its own frequency. Thus, for fringe area activities AFC *must* be switchable.

Similarly, inter-station muting may be employed, and if this is not switchable only stations above the established muting level will result in an audio output. If employed, therefore, the muting must be switchable or adjustable for fringe area experiments.

Local stations yielding adjacent signals of millivolt level can also embarrass the tuner front-end, resulting in overloading and consequent intermodulation effects that cannot be tuned out and which might well affect the weaker stereo signal. With the coming of stereo FM commercial stations (around 100MHz) input overload immunity will assume increasing importance. Modern tuners minimise this trouble by the use of field effect transistors in the RF amplifier and mixer stages. Such transistors can usually accept a greater signal input than bipolar transistors for a given degree of non-linearity, and are thus not so likely to generate spurious interfering signals within the passband.

Moreover, since the transfer function of an FET is almost exactly square-law there is less third-order intermodulation yield under conditions of high, local-signal field. When bipolar transistor stages are operated at high aerial signal level third-order intermodulation can manifest as an interfering signal of frequency  $f_2 + f_4 - f_3$ , where  $f_2$ ,  $f_3$  and  $f_4$  are the three frequencies of Radios 2, 3 and 4 respectively. The interfering signal in this case lies in  $f_3$  channel and is triggered by the modulation in any of the three channels.

The selectivity of the front-end (as distinct from the IF channel) is also important to give high image and IF rejection ratios. Good selectivity also prevents the mixer stage from receiving a multiplicity of strong signals either side of the wanted, possibly weaker, tuned signal, which again might evoke spurious signals within the passband.

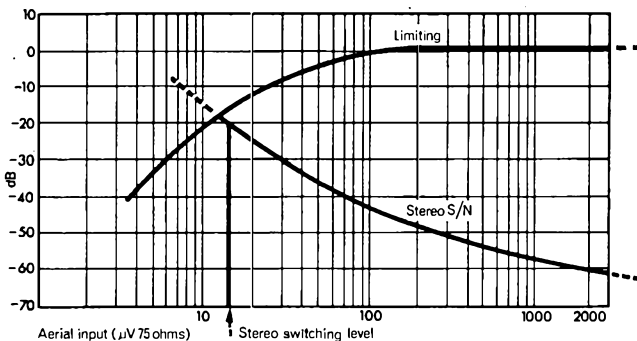
For serious fringe area work the front-end should contain at least three tuned circuits prior to the mixer input. One should tune the gate input of the RF amplifier and there should be a bandpass pair between the RF amplifier output and the mixer input. This circuit arrangement is incorporated in the Goodmans Module 90 tuner-amplifier for example.

A different configuration might be used, possibly with an *extra* tuned circuit, where two

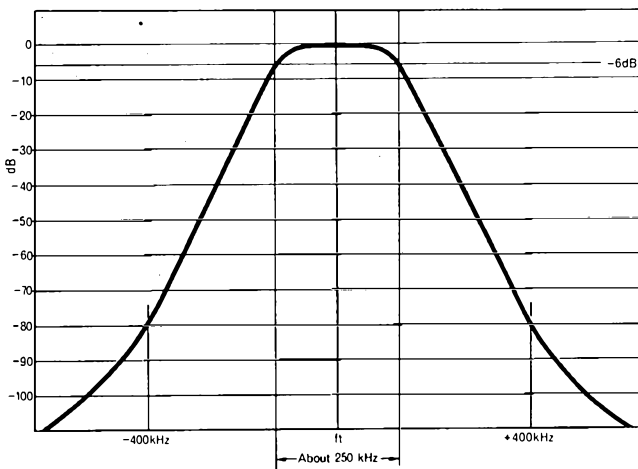
RF amplifier stages are employed. A tuner's front-end selectivity is revealed by its image rejection ratio, sometimes up to 100dB in an outstandingly good model. A tuner with two tuned circuits only prior to the mixer input will have a ratio of around 40dB. Incidentally, the tuned circuits mentioned do not include that for oscillator tuning. This is extra, and has no bearing on the selectivity as such.

Under certain conditions a tuner with only two tuned circuits, provided the other requirements are met, can give a fair fringe area performance.

The final main point has to do with filtering between the FM detector output and the decoder input. Under conditions of adjacent channel working the 200kHz beat between the two stations can itself beat with the tenth-harmonic of



**Fig 5** Limiting and stereo sensitivity curves relating to a tuner of mediocre sensitivity. A tuner based on these would be unsuitable for fringe area reception.



**Fig 6** This response curve gives an impression of alternate channel selectivity (see text).

the pilot tone (fifth-harmonic of the 38kHz switching frequency) and produce a 10kHz signal that reacts with the modulation and manifests itself as 'warbling' or 'birdies'.

The trouble stems essentially from the non-linearity of the decoder multiplier. Decoders of enhanced linearity have been mooted and some are beginning to appear. The 'birdies' problem is also eased by balanced decoding, based on four diodes or transistors, but the vast majority of designs to date can benefit most from the inclusion of a low-pass filter ( $f_c = 55\text{kHz}$ ) between the FM detector and stereo decoder. Of course, the better the IF selectivity, the smaller will be the beat signal arriving at the decoder and the less troublesome will be the interference.

### **Fringe Area Tuners**

To summarise on tuner requirements, therefore, the following gives suggestions for parameters suitable for serious fringe area activities.

1. Sensitivity (based on usable IHF): 1 to  $3\mu\text{V}$ .
2. Limiting complete: 1 to  $3\mu\text{V}$ .
3. Selectivity (alternate channel IHF): 45dB or more (by crystal or ceramic filters).
4. AFC switchable.
5. Muting switchable.
6. Front-end selectivity resulting in at least 60dB image rejection ratio.
7. Field-effect RF amplifier and mixer stages.
8. Low-pass filtering between FM detector and decoder.
9. Maximum linearity of stereo decoder.
10. Preferably decoder switching level preset.
11. Maximum-reading tuning meter, capable of discriminating between adjacent channel signals and unaffected by early limiting, to provide an indication of received signal strength. This might be in addition to a centre-reading meter or other arrangement for determining the most accurate tuning point.

Parameters 1 and 2 are provided by the use of integrated circuits in the IF channel, while parameter 11 is very useful for beaming the aerial on to the required station.

### **Fringe Aerials**

A high-gain directional aerial is needed for adventurous FM/VHF work, and this should be mounted as high as possible in clear space away from television aerials or other obstructions, particularly metal ones. Good quality low-loss feeder should couple the aerial to the tuner. If the tuner incorporates only a balanced 240-ohm

or 300-ohm aerial input a low-loss balun transformer should be connected between the 75-ohm coaxial feeder and the tuner. However, in some cases it is possible to obtain a good match to 75-ohm coaxial merely by connecting the braid to the tuner chassis (tag or terminal) and the inner conductor to one of the balanced aerial terminals, leaving the other terminal unconnected.

VHF aerials suitable for fringe area reception are given in the appropriate pages of this book, and include well-known arrays from J-Beam, Aerialite, Antiference, Ben Nevis, etc. Some of these firms also market balun transformers and the accessories required for successful aerial installations.

When the aerial is high up in the sky it is not an easy matter to reorientate to a new bearing, and to help in this respect some firms market special electrically driven rotators, some of which indicate the aerial bearing by compass point remotely geared into the listening room. This sort of installation is essential for really serious work. To show when the aerial is correctly 'beamed' the tuner should incorporate a tuning-meter-come-signal-strength-indicator, as already noted.

It may also be necessary to orientate the aerial for maximum discrimination against a powerful unwanted station, rather than for the best response of the wanted station, and the greater the directivity of the aerial the greater will be the discrimination with the least fall-off in wanted signal strength (Fig 3).

A rotator also allows the aerial bearing to be optimised for the least multipath interference due to the aerial responding to reflected signals arriving at angles off the main beam.

If you really want to get technical it is possible to erect a space diversity system using two large, possibly parabolic, arrays spaced some 50 to 100 wavelengths apart. It is necessary to have fast transistor switching between them, so that as the signal strength at one aerial fades the aerial at the other site, where with any luck the signal is increasing, is automatically switched into circuit.

Such systems, based on tropo-scatter reception, are used in large scale television distribution systems—but are generally outside the scope of the enthusiast merely wanting to bring in good stereo from a station some 100 miles or so away. As stated at the start of this article, fringe area reception is largely a battle with nature.

# Developments in tuner/amplifiers

by Gordon J. King

The tuner-amplifier is becoming the most popular heart of the hi-fi system as witnessed by the multiplicity of makes and models over a wide price range now available. As a programme source, stereo by radio has the edge on most others in terms of signal quality.

A well engineered live stereo broadcast received on one of today's top-quality tuners yields a programme signal of the lowest distortion available (except, perhaps, from microphone direct) in the present state of the art. Moreover, the pulse code modulation links from the studios to transmitters are increasing both the stereo programme range and the areas served by stereo signals. Such links are also noted for low noise (giving a potentially high dynamic range) and low distortion.

It is only logical that his hi-fi system should include a radio tuner of quality at least equal to that of the record-playing unit, and this integrated with a stereo amplifier of matching quality can quell some of the distaff reaction to the use of separately wired units in the shrinking domestic scene.

Some tuner-amplifiers are little larger than tuners alone, yet produce 20W or more of continuous power per channel and carry all the other facilities of the separate amplifier. With the recent implementation of VAT there is a bonus, too, for a tuner-amplifier previously selling, say, for £117 with purchase tax now costs about £110 with VAT.

At one time tuner-amplifiers were almost all imported, but in recent years British firms have joined the act and have come up with some extremely good designs. One has only to look at the specifications of the recent launchings by Goodmans, Armstrong, Leak, Rogers, Bryan, etc., to see how true this is.

Importations still predominate, however, and there are some really good highlights in this area also; but some of these, although basically sound, tend to be somewhat 'over-equipped' compared with the British counterparts. It is not uncommon, for instance, to find designs, some selling at quite low prices (relatively), with pairs of stereo inputs for pickups and auxiliary

sources, often two and sometimes three sets of speaker outlets, two sets of recording/replay sockets for tape machines, facilities for microphone, sometimes with mixing, etc.

## **Ambiophony**

One feature, which can often be useful, and which is appearing on some British as well as imported equipment, is an extra pair of speaker outlets for ambiophony. There is the usual pair for the front stereo speakers and a second pair for the rear speakers under the control of front switching.

In one mode the extra pair can be operated as remote speakers (in a different room) on regular stereo. The extra pair will usually be at a lower level than the main pair.

In the other mode the pair connected to the remote sockets responds only to the differential of the stereo signals presented to the main (front) pair, thereby introducing the 'ambio' or ambience to the overall sound field.

Improved ambio balance is sometimes achieved by the switched introduction of ballast resistors in the rear speaker circuits to reduce the output.

Another helpful scheme, which tends to improve the subjective isolation between the main front stereo scene and the ambience introduced at the rear, is low-pass filtering in the circuits to the rear speakers only. This gets rid of distracting treble from the rear speakers in the ambio mode, while also helping to minimise high-frequency distortion which is sometimes present on the differential signal when obtained from disc records played with a none too good pickup.

A British model with this ambio facility is the Goodmans Module 90, while an imported model is the Bang and Olufsen Beomaster 4000, which is more costly but which also has a switchable ambio low-pass filter.

This basic ambio idea is not new. It has been employed by a few enthusiasts for some time now, and is easily obtainable merely by connecting one or a pair of rear speakers across the 'live' terminals of the left and right stereo speaker outlets. A variable resistor (wire-wound) can be

used to adjust the level of the rear speakers, and a switched low-pass filter can also be introduced into the circuit of the rear channel, as shown in **Fig 1**. The front speakers are best left in correct phase, but the phasing of the rear speakers (relative to each other and the front speakers) is less critical and can be experimented with to find that which provides the most desirable ambio effect in the prevailing listening conditions.

### **Quadraphony**

Four-channel tuner-amplifiers correctly engineered for so-called quadraphonic reproduction, have also appeared over the last twelve months or so. Some of these incorporate a matrix decoder suitable for SQ (Columbia) or QS (Sansui) four-channel discs. There is at least one with a kind of matrix which conforms to no particular standard, but which provides rear channel information from any type of matrix or stereo disc to provide a sort of 'surround sound' (ambio?) effect. This is the Onkyo Y-3A, having four separate channels, each one rated at 12W continuous power.

Since we are discussing design aspect, the Onkyo has a couple of interesting features. One is a 'sound field indicator' on the front and the other a radio microphone facility. The first consists of a small screen illuminated in quadrants by four bulbs each energised separately from the four channels. Intensity is thus dependent on the sound level in any one channel in the corresponding quadrant. The screen is designed so that the illumination spreads towards the centre as the sound level increases. An approximation of the overall sound field in the listening room is thus displayed on the screen.

The radio microphone facility works in conjunction with the FM section of the tuner. The microphone signal is tuned in on the FM band and a separate control makes it possible to superimpose the resulting audio on any other source at the required level. It is thus possible to mix in the microphone signal when a disc record is playing, for example, the mix then being recordable or reproducible, depending on the requirements. This is one facility, however, which would **not** be permitted in the UK; and perhaps it is significant that the sample sent for test was without the radio microphone.

Any four-channel amplifier section with unequalised inputs at medium-sensitivity can be adapted for use with RCA four-channel discs recorded to the CD-4 (Victor Company of

Japan) requirement by adding a suitable decoder. The CD-4 system differs from the SQ and QS systems in that the four-channel information is recorded by a multiplex carrier technique. A special pickup and stylus responding at least to 45kHz are required.

The signal complex delivered by the pickup is then translated to left and right, front and rear signals by the CD-4 decoder, and as this usually contains equalising and preamplifier circuits the four output signals are of the level and frequency characteristics required by the amplifier inputs.

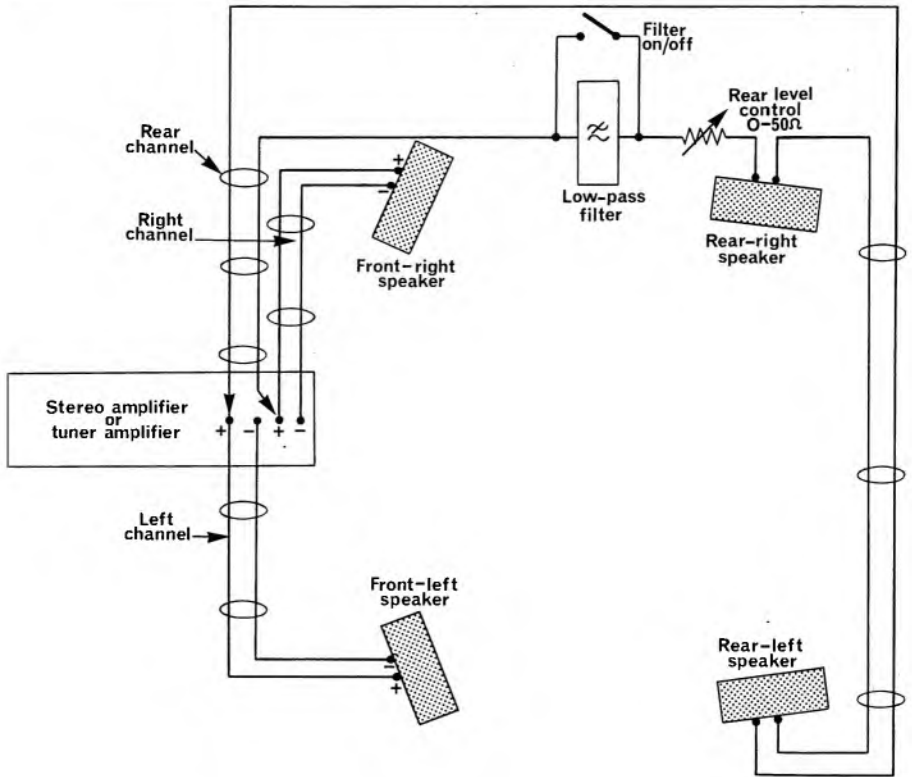
A special pickup system is not required by the SQ and QS systems, and any low-tracking hi-fi species is suitable. However, although both systems are matrix type they are not compatible, because the mathematics of the matrix differ; neither, of course, is it possible to obtain correct reproduction from a CD-4 disc playing on a matrix system, or vice versa. Some degree of *stereo* compatibility exists with the matrix systems, particularly SQ, and matrix discs can be played on ambio systems to yield rear channel signals. It will be understood, of course, that an ambio system also provides rear information from regular stereo discs from the stereo signal differential (i.e., out-of-phase information) as already intimated.

A recent tuner-amplifier with four audio channels and SQ decoder is the Rotel RX154A. This includes a rear switch which allows separate operation of the four channels in the quadraphonic mode and two-channel operation in the stereo mode at greater per-channel power. This happens because in the stereo mode the switch effectively connects the two pairs of power amplifiers together. The specification quotes 14W per channel in four-channel mode and 23W per channel in two-channel mode. Harman-Kardon, the American firm whose wares are distributed in the UK by Highgate Acoustics, also has a four-channel equipment switchable to two-channel operation, but it is understood that the per-channel power in the two-channel mode is greater than twice the per-channel power in the four-channel mode.

Four-channel amplifier sections, of course, also accept four-channel quadraphonic tape-source signals, from an eight-track quadraphonic cartridge, for instance.

### **Higher Power**

The power of the audio section in tuner-ampli-



**Fig 1** Arrangement for providing ambio reproduction from a standard stereo output. Rear speakers, which are series-connected, have separate level control and filter

fiers is increasing while the harmonic and inter-modulation distortion is decreasing. One of the more powerful tuner-amplifiers is the Teac AG-7000 with a rated 65W into 8ohms per channel (with both channels driven), giving 130W continuous power at 1kHz for a stated 0.8 per cent distortion (only 0.1 per cent on one model tested).

On the British front the Goodmans One-Ten yields 40W per channel into 8-ohm loads (50W per channel into 4-ohm loads) with distortion rated at below 0.1 per cent (0.025 per cent was measured at 1kHz and 30W into 8ohms, both channels driven). The more recent Module 90 is not far behind at 30+30W into 8 ohms at less than 0.1 per cent harmonic distortion (0.08 per cent was measured at 1kHz).

Most manufacturers now pay more attention to the minimisation of crossover distortion. Methods employed include current drive and complementary compound output pairs (e.g.,

Goodmans). When the distortion factor residual corresponds to something less than 0.1 per cent it is obvious that even mild discontinuities will be revealed by oscilloscope analysis, but these are normally very small nowadays.

In general, it would appear that British designers are ahead of their Oriental counterparts so far as hi-fi audio channel 'exactness' is concerned; but this is certainly not to imply that all Oriental designs are wanting in this area. Indeed, some have the edge on British ones. This applies also to the FM section, though of recent months the design here is tending to swing in favour of some British circuits.

**Fig 2** shows at (a) crossover distortion when it is really bad, while (b) shows residual completely devoid of artifacts. Both oscillograms refer to class B designs (although one could be forgiven for concluding that (b) refers to class A) with distortion factor less than 0.1 per cent at 1kHz and 10W.



A sad thing about crossover distortion so far as *measurement* is concerned is that since its total energy is quite small it gives only a small meter reading, which is quite incompatible with its effect on reproduction. Distortion figures are thus best studied in relation to the distortion factor residual.

### LF Performance

Greater importance is also being attached to low-frequency response, and towards this end there are developments in power supplies and more use of DC couplings, right up to the speakers.

One firm which is exploiting this technique is American Harman-Kardon whose Models 930 and 630 tuner-amplifiers incorporate twin power supplies. These not only allow both channels to be wound up to full power without the single-channel power falling, but also exhibit a low source impedance on the supply feed to each power amplifier. This ensures that the power supply remains fully active on transient signals of very low repetition frequency, such as a squarewave.

Moreover, DC coupling eliminates waveform differentiation at low frequencies, the net results being less than 5 per cent tilt on a squarewave of 20Hz repetition frequency. Some strong arguments, supported by demonstrations, have been put up by Harman-Kardon in favour of maintaining this sort of wave-shape (i.e., minimal LF phase distortion) right down to infrabass frequencies.

### HF Response

The company is also in favour of the maintenance of a wide treble response, leading to a very small rise-time, which is required for optimum musical 'attack' and minimal HF phase distortion. That hi-fi reproduction demands an HF response extending above the limit of audibility has often been emphasised by this author, one of his first references to this being in *The Practical Hi-Fi Handbook*, first published in 1959.

However, just how far the response should be extended is debatable. One does not want the amplifier to act as a 50W medium-frequency transmitter; and it is equally undesirable for the amplifier to be wide open to incoming medium-frequency radio signals.

My current thoughts on this are that the power amplifier should have an HF response as high as the frequency cut off of the power output

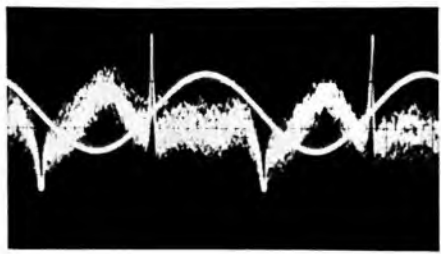


Fig 2a Oscilloscope showing bad crossover distortion in Class B output stage

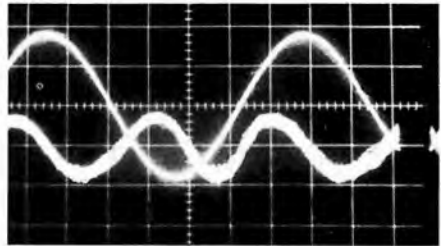


Fig 2b Similar stage to above but with freedom from crossover components

transistors permit, while the response of the preamplifiers should be rolled off earlier in Gaussian fashion. This technique, as indicated recently by a Philips engineer, goes a long way towards reducing transient intermodulation distortion. Clearly, the response time of the feedback loop of the power amplifiers should not exceed that of transient pulses, etc., applied by way of the preamplifiers.

### RF Susceptibility

It is also noteworthy that steps have been taken in recent times to achieve a higher immunity against RF signal response than hitherto by the introduction of simple RF roll-off filters in the early stages. Radio and television signals, however, can still gain admittance via speaker cables and negative feedback loop and by direct pickup in the low signal level stages when the screening is not too good. There is still much more to be done in this area, and to help establish an RF susceptibility criterion test procedures are being prepared for consideration by BSI and other authorities. These include signal coupling via the input circuits and direct pick up.

### Pickup Input Overload

An early shortcoming of some amplifiers was inadequate overload margin of the magnetic

pickup RIAA preamplifier stages. This has now mostly been cleared and an overload margin at 1kHz of at least 50mV is commonplace so far as true hi-fi tuner-amplifiers are concerned. The slimmest margin that can be tolerated here is about 23dB at 1kHz referred to the input sensitivity voltage of the magnetic pickup.

Transistor failure, due to overdrive or shorts on speaker circuits under high drive conditions is also less common since recent designs incorporate some form of overload or short-circuit protection. The protection can be electronic or electro-mechanical, as fitted to some recent Trio and Pioneer equipment, or consist of quick-blow DC or speaker fuses in conjunction with power transistors of generous current rating.

### FM Section

On the radio side we find even more sensitivity, better selectivity and immunity against input overload than would have been thought possible a few years ago. Modern designs also exhibit low capture ratio, high rejection ratios, low distortion and early limiting.

Sensitivity is now pretty well at the ultimate in the present state of the art, and based on the IHF usable sensitivity, where the noise *plus* distortion is referred to the output at 100 per cent modulation, values down virtually to 1µV at 74ohms have been measured.

It must be stressed that IHF usable sensitivity does *not* refer merely to a 30dB signal/noise ratio. The modulation is *not* switched off during the tests but notched out so that noise *and* distortion remain.

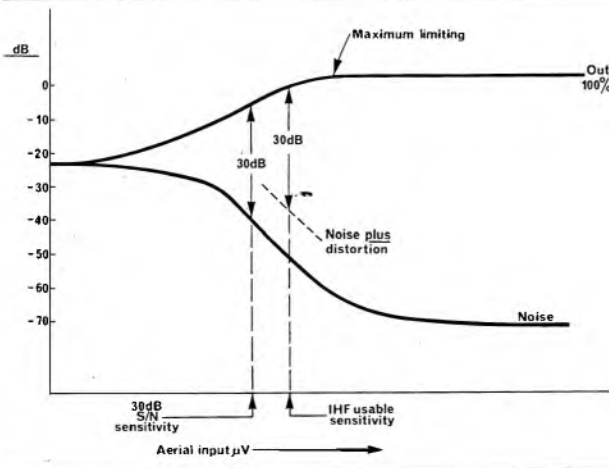
The test, in fact, is designed also to indicate the relative freedom of the tuner from objectional distortion during periods of maximum modulation. Thus, the IHF usable sensitivity is less than the 30dB S/N sensitivity, as shown in Fig 3.

The noise figure of the first RF transistor is obviously going to influence the sensitivity—the smaller the figure the better the sensitivity since noise is one component to which it is referred. Modern FM sections employ a low-noise RF device, and only few designs include more than one RF stage, though this may consist of two devices, such as two FETs in a cascode stage (as in the Goodmans Module 90).

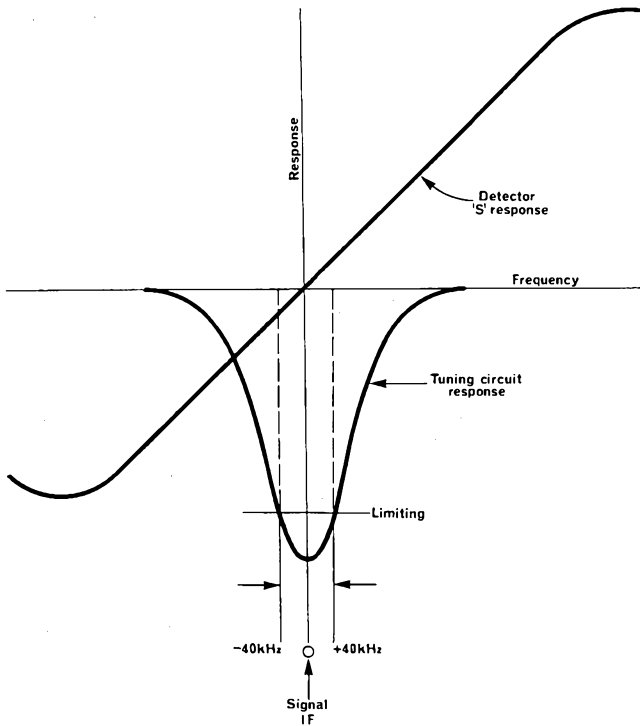
High gain IF channels are employed to ensure early limiting, and these now employ ICs. With good FM detector design, the result is low capture ratio, and owing to this FM mechanism it is noteworthy that when the RMS value of the signal is about ten times greater than the RMS value of the noise, virtually *all the noise* is captured by the signal.

### Front-End Selectivity

To reduce input overload and inter- and cross-modulation from the increasing number of signals in Band II as much selectivity is engineered into the front-end as possible. An FET RF amplifier and sometimes mixer also help to prevent third-order inter-modulation since the transfer characteristic of these devices exhibits smaller third-order components than bipolar transistors. They also have a wider signal dynamic range capability.



**Fig 3** Signal-to-noise curves showing the difference between 30dB S/N sensitivity and the IHF usable sensitivity figure (see text)



**Fig 4** Response curves associated with the tuning indicator circuit used in the latest Goodmans Module 90 tuner/amplifier

Only a few less expensive FM front-ends have just a single tuned circuit prior to the mixer. Better designs have at least two, and with the coming of commercial FM radio three will be more the requirement. Some designers have already anticipated the problems likely to occur in high signal field areas and already use three tuned circuits (four including the local oscillator tuning).

### IF Selectivity

Selectivity in the IF channel, required for discrimination against unwanted stations in adjacent or alternate channels, is provided by crystal or ceramic IF filters. Properly engineered, such an IF channel has a linear phase characteristic over about 230kHz bandwidth, which is the requirement for good stereo and low HF distortion. The phase lock loop stereo decoder IC has also found its way into a number of recent designs. One advantage of this is that it needs no external tuned circuits.

### Tuning Accuracy

New ideas for accurate FM tuning are appear-

ing. Bang and Olufsen has retained the twin-light systems, where one tunes until both lights are of the same brightness, which is very accurate. Goodmans has done away with the tuning meter of the One-Ten and employ a novel system in the Module 90 which is entirely different. Off-tune a red strip of light appears on the fascia, the idea being to tune until this light goes out. A separate stage including ceramic filter is employed in this circuit, whose function can be understood by references to Fig 4.

This shows the main 'S' response curve of the FM detector and the tuning circuit response curve, obtained by the ceramic filter. This is arranged exactly to coincide with the centre point of the 'S' response, so that when the tuning is correct the peak of the tuning circuit response reaches the limiting point of the circuit. This cuts off the transistor which is energising the indicator light, and since the response of the tuning circuit is only about  $\pm 40\text{kHz}$ , one can be certain that when the light goes out the tuning is accurate within these limits. A very neat idea indeed!

So to the future. . . .

# Bargains for beginners

*A selection of 20 top-class records for under £20*

by W. A. Chislett

From personal observation, and from what I am told by friends who are audio and record retailers, it is clear that far too many people get off to a bad start when buying their first record-playing equipment. And this seems to apply whether the purchase is an inexpensive record-player or a more elaborate hi-fi system.

Having chosen their equipment they then select, almost at random, about half-a-dozen LPs, sometimes less, which they promptly proceed to play to death. There is no surer way of not only boring themselves but also their friends and their families too.

To make things worse there is a tendency on the part of newcomers to assume that the newest releases and/or the most expensive must necessarily be the best.

Experienced record buyers know that the sound from many reissues on cheaper labels of older recordings is in fact very often far better than that from the same record as first released on a more expensive label. But people without experience cannot be expected to realise, unless told, that of all the improvements made in recent years none have been greater than that in the technique of transferring from the original tape to disc, and most of the cheaper reissues are in this re-mastered form. But, of course, not all cheap records are reissues. Some are brand new recordings.

I propose therefore to nominate 20 desirable LPs, the total cost of which will leave a bit of change out of £20. I make no extravagant claims, such as that these are the best 20. To do so would be foolish if not impossible. All I claim is that the performances and recording quality are good throughout, mostly very good indeed, and that between them they make a reasonably representative collection of the music of several centuries and offer a wide variety of style, form and mood.

Let us start with a record which illustrates admirably the advances made in the technique of transferring from master tape to disc. It is a recital by John Webster on the organ of University College, Oxford, a modest-sized instrument

redesigned a few years ago to Mr Webster's own specification.

The programme ranges from a selection of chorale preludes by Bach to a group of voluntaries by English composers of which those by John Stanley and William Walond are especially delightful. The playing is beautifully polished and neat and the registrations are a delight (**Decca Eclipse ECS669**).

From the organ of John Webster to the harpsichord of George Malcolm is a very natural step, if only because the two men are close friends. Here again some recordings of considerable age are given a new lease of life.

They are Alec Templeton's extrovert *Bach goes to Town*, the exuberant *Bach before the Mast* by Mr Malcolm himself, and a transcription of Rimsky-Korsakov's well-known *Flight of the Bumble-Bee*, which has to be heard to be believed. The speed at which the last is played without even a hint of a falter caused some experienced players to wonder whether such wizardry was possible without gimmickry in the recording. Not a bit of it. There are treasures too in the more serious music, notably some



Scarlatti sonatas. This is virtuosity at its best (Decca SPA261).

Now to the piano, the true tone of which is captured splendidly in the *Waltzes Nos. 1-14* by Chopin played by Samson Francois. One cannot rank M. Francois in the Rubinstein class, particularly in sensitivity to rubato, but he plays very well, and the corresponding Rubinstein LP costs about three times as much, and soundwise at any rate is no better (Classics for Pleasure CFP40029).

A second piano record gives us Alfred Brendel, one of the great pianists of today, in a mixed programme of Beethoven, Schubert, Liszt and Balakirev. Mr Brendel is well known for his interpretations of the music of the first two composers so we can take them for granted, but his extrovert brilliance in the other two may well come as a surprise to some listeners.

The Liszt *Hungarian Rhapsody No. 11*, one of the least known but most original of the series, is magnificent in its blend of sensitivity and vivacity, while musicality in Balakirev's *Islamey* is never sacrificed on the altar of virtuosity. One or two items in the programme have been re-processed for stereo but the difference between the sound of these and that of the items recorded in genuine stereo is infinitesimal (Decca SPA249).

Now for a two-disc set called 'Classical Moods'—a 'sampler' record by various instrumental soloists, orchestras and conductors in a programme ranging from Vivaldi, Albinoni, Handel and Beethoven to Mendelssohn, Schubert, Saint-Saëns and Tchaikovsky. Unlike many samplers we are offered only complete works except for an isolated movement from an oboe concerto by Albinoni, and what a joy it is with Heinz Holliger as the soloist.

Other soloists include Szeryng, brilliant in the Saint-Saëns *Introduction and Rondo Capriccioso*, and expressively persuasive in the Beethoven *Romance No. 1*; and Brendel, who is at his most caressing in some short pieces by Schubert. Haitink and the Concertgebouw Orchestra are equally happy in such diverse pieces as Mendelssohn's *Midsummer Night's Dream Overture* and Tchaikovsky's *Romeo and Juliet* (Philips 6747 041, two records, not available separately).

Coming to symphonies, a particularly happy and helpful coupling is that of Beethoven's No. 5 and Mozart's No. 40, two of the most popular of symphonies and well contrasted in style and mood. The Beethoven is played by the Con-



certgebouw Orchestra conducted by George Szell, with great strength in the quicker movements and really dancing lyricism in the slow movement.

The orchestra in the Mozart is the London Symphony and its conductor is Colin Davis, of whose conducting of Mozart there is little new to say, except that here the orchestra responds magnificently to the pace demanded of them in the first and last movements (Philips 6833 102).

We must include a Tchaikovsky symphony and the obvious choice is No. 6, the 'Pathétique', but instead let us plump for No. 4 in a stunningly invigorating performance by the London Symphony Orchestra directed by George Szell. There are few performances to equal it at any price and the sound is excellent (Decca SPA206).

For a really recommendable *Unfinished Symphony* by Schubert we shall have to go a little over the £1 mark, but by savings elsewhere we can afford it so let the choice be the version by the Dresden State Orchestra conducted by Sawallisch. It is a fine performance and there is the bonus of an even better one of the *Symphony No. 5* on the reverse. An ideal coupling (Philips 6580 010).

There are two or three bargain versions of Dvořák's *New World Symphony*, all of which have great merits and between which there is little or nothing to choose. I opt for that played by the Philharmonia Orchestra under Sawallisch because it offers an exhilarating bonus in the shape of the same composer's *Carnival Overture* (Classics for Pleasure CFP104).

Of piano concertos I think that the Tchai-

kovsky No. 1 must be first choice. Again there are several good cheap versions but none to beat that with Nelson Friere as the soloist and the Munich Philharmonic Orchestra conducted by Kempe. It does not get off to the best of starts but soon gets into its stride and except for some rather forward sounding woodwind in places both tone and balance are good; and with it is an even better performance and recording of the Grieg Concerto (**CBS SPR24**).

Beethoven's *Emperor Concerto* is next on the list and few pianists on record have ever given a more sensitively controlled account of the solo part than Rudolf Firkusny, a pianist in the aristocratic class who is not heard on records as often as he should be. Steinberg and the Pittsburgh Symphony Orchestra are not quite as sensitive but they give support that is at least adequate (**Classics for Pleasure CFP103**).

With violin concertos we are fortunate that those by Mendelssohn and Bruch, two of the most popular, are so often coupled together. The recommendation is for the performance by Josef Suk, a violonist who has both warmth and brilliance, and who is admirably supported by the Czech Philharmonic Orchestra conducted by Karel Ančerl in a well-balanced recording (**Supraphon SUAST50546**).

Opera presents problems. Obviously in 20 records only specialists would include a complete work and mixed anthologies at under £1 are few and far between. A brilliant exception however is one which gives us Joan Sutherland in popular arias from operas by Bellini, Charpentier, Delibes, Donizetti and Verdi, coupled with a few non-operatic items. This is a superlative bargain (**Decca SPA100**).

Having so far stuck, with one exception, to records costing less than £1 each, we have a bit of money in hand so let us use some of this on a slightly more expensive record for a second operatic choice, and let the singer be Fritz Wunderlich, now, alas, no longer with us but a tenor of rare beauty of voice and sensitive in style.

The record suggested contains arias from operas by Mozart, Lortzing, Wagner and Tchaikovsky, and to these are added highly attractive numbers from Viennese operettas by Lehár, Kunnecke, Kálmán and Léo Fall. He is just as happy in one group as the other (**HMV HQS1253**).

Coming to lieder and songs the choice is greater. I plump unhesitatingly for records by

two English singers who are of international stature. The first is Janet Baker who sings more beautifully than I have ever heard the complete cycle *Frauenliebe und Leben* by Schumann and adds to this other songs by Schumann and Brahms. In Martin Isepp she has a perfect partner at the piano. This record would be cheap at three times its price (**Saga 5277**).

The second singer is John Shirley-Quirk and his selection, an all-English one, includes eleven songs by Vaughan Williams, including the nine which constitute the *Songs of Travel*, and other songs by Ireland, Stanford, Keel and Warlock. In this superb record he too has an ideally sensitive and co-operative partner at the piano in Viola Tunnard (**Saga 5211**).

Dare one in this country compile a list of 20 without including something from Handel's *Messiah*. I think not and the choice must be a collection of highlights taken from the complete recording in which Sir Malcolm Sargent conducted the Huddersfield Choral Society and Royal Liverpool Philharmonic Orchestra, with Elsie Morison, Marjorie Thomas and Richard Lewis as the soloists represented in these excerpts.

Nowadays some may prefer an almost chamber-like rendering, but most still prefer the heart-warming sound of bigger forces, like these. The sound is really spacious and vivid (**Classics for Pleasure CFP40020**).

There are times when we all want relaxation. For these and for bedtime listening palm court music is ideal, providing it be good of its kind and the playing is sympathetic and expert. Both provisions are met in a record by Reginald Kilbey (cello) and Jack Byfield (piano).

The programme ranges from Rubenstein's *Melody in F* and Massenet's *Elégie* to the popular *Tango* by Albeniz and a delightful arrangement of Rachmaninov's *Vocalise* (**Music for Pleasure MFP2149**).

Now for the last record. We have a bit of money in hand so let us splash a few pence of it on a quite delicious selection of well varied lollipops by Haydn, Mozart, Schubert, Rossini, Mendelssohn and others of the great masters played by Neville Marriner and the Academy of St Martin-in-the-Fields in a style which challenges even Beecham's supremacy in the art of lollipoppery, and beautifully recorded (**Philips 6580 066**).

And having bought it we still have enough of our original £20 left to buy a few cigarettes!

# Whither Quadrophony?

by Donald Aldous

There is little doubt that at the present time the general public is completely in the dark about four-channel audio and most people still regard anything with four speakers as 'quadraphonic', whether it is discrete, matrix, ambiophonic or just extra speakers connected in parallel.

It is also true that many audio enthusiasts and people in the hi-fi business are equally confused about the different systems. This is probably the main reason for the marked lack of enthusiasm for quadraphonic equipment at retail level, in spite of its enormous commercial possibilities.

So far the big manufacturers in this field have concentrated too much on the *differences* between the systems—which are often quite small—and on the supposed advantages of their own methods compared with those of their competitors.

There have been a few notable public promotions, mostly of the hard-sell variety, but the basic need at present is for some first-class, simple explanations and really good demonstrations to let consumers appreciate the increase in realism and the additional musical pleasure that good quadrophony provides.

To achieve this end more equipment and 'software' will have to be available, and all the indications are that this is happening. For instance, in the early part of 1973, some 240 SQ discs were marketed here, plus more than 400 QS records on 24 labels, as well as over 170 CD-4 issues, with more to come by the entry of WEA (Warner-Electra-Atlantic) into CD-4.

An analysis of the basic 4-channel systems, which was included in the *1973 Hi-Fi Year Book*, should be referred to if the reader is just starting to study the subject. In the present short review, we can just touch on recent developments. Philips (in Holland) and JVC and National Panasonic (in Japan) have developed prototype 4-channel tape cassettes using  $\frac{3}{2}$ -in-wide tape. These dimensions present many problems, particularly from crosstalk between channels and tape alignment.

The ElectroVoice EVX-44 decoder, not available yet in UK, has outputs that resemble the 10/40SQ circuit. This means that it is more compatible with SQ discs than QS decoders.

TATE (Tate Audio Transmission Equipment) now offers a range of SQ hardware, much of it in module kit form for home construction, including logic, discrete and integrated active elements, costing from around £9 to £34. Lasky's markets these kits, as well as a ready-made SQ decoder under its Audiotronic brand name for £22.50.

SQ licensees now include Thorn Consumer Electronics and Rogers Developments, adding up to a total of some 60 brand names using SQ circuitry. The Rogers SQD1 is a self-powered decoder, incorporating a single-chip circuit power supply and 10/40 blend resistors, retailing for £15.40 (inc VAT).

EMI announced its SQ1500 decoder, which has six-pole phase difference circuits with a phase difference of  $90^\circ \pm 10^\circ$  over the frequency band 20Hz to 18kHz. This unit has fixed blend option and an 'ambience' switch for four-speaker playback of ordinary stereo discs, using a printed circuit board made by TATE.

EMI Sound & Vision Equipment has made available special speakers designed for surround-sound replay of stereo material from 2-channel amplifiers. Known as LE3SS, they are fitted with double-wound voice coils in the drive units in an 11:5 impedance ratio. This means that the signals 11L+5R and 11R+5L are fed to the front pair and 11L-5R and 11R-5L go to the back pair. When the voice coils are connected in series, the impedance is 16 ohms.

Sansui announced at the 1973 Sonex exhibition a licensing plan for the QS regular matrix (RM) system and released full details of its Vario-matrix system, which enhances channel separation. Discrete plug-in boards are available to manufacturers for around £3, plus licensing fees.

The JVC/CD-4 carrier system; because of the

very high frequencies that have to be recorded, demands special pickup cartridges. Suitable models are offered by JVC/Nivico, National Panasonic, Audio Technica, Empire, Micro. ADC Q Series, Shure V15 MkIII, and the latest Ortofon SL15Q. This last design is a low-mass version of the S15 moving coil unit, with Shibata stylus.

CD-4 discs are fully compatible (for playing on mono or stereo reproducers) and RCA Quadradiscs can be bought for normal stereo playback. In fact, this mode will be used for all new RCA material to avoid duplicating the repertoire.

American Duane Cooper's BMX phasor matrix system, which offers certain advantages in distributing phase error to provide good localization for listeners in the centre of a room, has not yet reached the UK, but is of considerable technical interest.

Ambience enhancement (or retrieval) circuits, which can provide pleasing effects from certain stereo records, have attracted many experimenters, some of whom connect two extra speakers in series and in antiphase, between the

two 'live' LS terminals on the amplifiers.

Adaptor and synthesiser units are being marketed by Eagle and Howland-West, and other units, intended to drop the level of sound in the rear speakers, are available from Dynaco. Scan-Dyna and the Palm 4-channel stereo master. No extra amplifiers are needed with these units.

Another trend is for amplifier manufacturers such as B&O, Goodmans, Grundig, TCE, Siemens, Saba and Sharp, to provide additional sockets for the rear speakers.

Benjamin Bauer, and his team at CBS Laboratories in Stamford, Connecticut, have worked hard on their SQ encoding and decoding methods, and described their advances in an important paper<sup>1</sup> presented at the 44th meeting of the AES in Rotterdam, early in 1973.

At this event a hierarchy of decoders was described, from the simplest (matrix with fixed blend) to the most comprehensive (full logic, with wave matching, and signal-adaptive variable blend). A paramatrix logic circuit, which would embrace all optimum alternatives, was projected for the near future.



*Tate Electronics high definition four-channel decoder with provision for matrix, SQ and discrete systems in addition to normal stereo*

*Luxury four-channel tuner/amplifier from Marantz is the 4415 Quadradial 4 receiver. Plug-in decoders provide facilities for all systems*





Although these refinements are all based on the SQ format, it seems that unless agreement between the contestants can be reached, the latest Marantz systems may hold the key to the future. Their 44154-channel model, for example, will play coded or uncoded records through four loudspeakers, and the unit has an under-chassis pocket for an optional decoder. In the first models, two types of SQ decoder were introduced: SQA-1 with front-to-back logic, and SQA-2 with full logic. Later a CD-4 decoder module may be released, and decoders for any system that may appear in the future can be produced.

Even the philologists have failed to agree on a standard terminology of 'quadrophony', expressing disapproval of the Latin-Greek hybrid words and their spelling. Peter Fellgett (Cybernetics Professor at the University of Reading) prefers the term *ambisonic* for reproduction using two or more channels to feed three or more speakers to give the listener directional information, either all round the azimuth circle (*pantophonic*) or over the whole sphere or hemisphere subtended at the listener (*periphonic*).

At the present state of the 4-channel art, all announced systems have their limitations. These include limited listening area, mono/stereo compatibility, poor directional accuracy and phase differences that adversely affect image width or localization. As Geoff Shorter said, the differences between the various 2-channel systems amount to a combination of the above effects,

the proportion of each varying in each system. Increasing the number of channels to three would remove most of these compromises, but to date all systems concentrate on two.

In reaching a final decision on an internationally acceptable multi-channel system, undoubtedly, the opinions of the major USA recording companies, as well as the views of the big British organizations, will influence the ultimate choice—remembering that Decca has not, as yet, publicly committed itself to any technique.

The BBC is conducting experiments in this area, and is—as always—cautious. But unquestionably the ability to broadcast quadratically encoded records in a compatible format will be a significant factor for the total success of any system.

It is also true that further in-depth psychoacoustic studies of 'sound field information' are required and such investigations must be pursued if we want totally satisfying 4-channel sound reproduction.

#### SELECTED REFERENCES

1. Benjamin B. Bauer, and colleagues, *Quadraphonic Matrix Perspective-Advances in SQ Encoding and Decoding Technology*. Paper at AES 44th meeting, Rotterdam, February 22, 1973.
2. Geoffrey Shorter, *Quadraphonics*. *Audio*, May 1973.



*Special version of the Garrard Zero 100 record deck fitted with a push-button four-channel decoder unit*

# Audio enthusiast's bookshelf

A selection of magazines and books of interest to music lovers, hi-fi enthusiasts, audio technicians and everyone connected with the world of high quality sound reproduction. The list is not comprehensive and other publishing firms with books dealing with audio are invited to submit details for inclusion in future editions.

## Audio

Prestige monthly magazine launched in 1972 to cater for all levels of audio enthusiasts and music lovers. Includes articles on all hi-fi subjects, equipment reviews, constructional features and comprehensive reports on outstanding new recordings. Price: 20p a month (£3.80 annual subscription). Published the third Friday of the month before by IPC Magazines Ltd, Fleetway House, Farringdon Street, London, EC4A 4AD.

## Cassettes and Cartridges

A new monthly magazine devoted entirely to cassettes and cartridges, including both hardware and software. Regular features are the listing of new releases, reviews of the pick of the latest tapes, news of the industry and background articles for newcomers to the medium. Denys Killick as audio editor covers hardware, including tabular information on equipment, together with product reports on domestic, in-car and portable tape machines. Price: 20p a month (£3.30 annual subscription). Published by General Gramophone Publications Ltd, 177-179 Kenton Road, Harrow, Middlesex, HA3 0HA.

## The Gramophone

One of the oldest established magazines in the music and audio field, having started publication in 1923. Now has regular circulation of over 75,000 copies a month. Contents include audio articles and record reviews, the latter contributed by over 30 well-known specialist critics whose expertise covers all aspects of music. Price: 20p a month (£3.30 annual subscription). Published

on the first of the month by General Gramophone Publications Ltd, 177-179 Kenton Road, Kenton, Harrow, Middlesex, HA3 0HA.

## Hi-Fi Answers

Contents consist mainly of comprehensive answers by a panel of experts to questions submitted by readers on the subject of equipment, its installation and its operation. Price: 20p a month. Published by Haymarket Publishing Ltd, Gillow House, 5 Winsley Street, London, W1A 2HG.

## Hi-Fi News and Record Review

The first of the really specialist hi-fi magazines with a regular and growing readership. Contents cover the whole subject of high fidelity reproduction and records, dividing the available space approximately equally between audio material and musical/record matter. Price: 20p a month. Published on the 28th of the month before by Link House Publications Ltd, Link House, Dingwall Avenue, Croydon, CR9 2TA.

## Hi-Fi for Pleasure

A fairly recent monthly magazine for audio enthusiasts. Mainly equipment orientated but does not assume any advanced technical knowledge on the part of the reader. Includes straightforward constructional features, product reviews, record and music commentaries and interest stories from the audio scene. Price: 20p a month (£3.42 annual subscription). Published by Blakeham Productions Ltd, 23 Denmark Street, London, WC2H 8NA.

## Hi-Fi Sound

A monthly magazine for informed audio enthusiasts and those in the hi-fi retail and distribution trade. Articles include equipment reviews, technical features and news and reports on the latest developments in sound reproduction. Price: 20p a month. Published by Haymarket Publishing

Ltd, Gillow House, 5 Winsley Street, London, W1A 2HG.

### Music and Musicians

A monthly magazine for the serious music lover. Price: 35p a month (annual subscription £4.65). Published on the third Friday of the month before by Hansom Books, Artillery Mansions, 75 Victoria Street, London, SW1H 0JQ.

### Popular Hi-Fi

As the name implies this bright monthly magazine is intended to appeal to the many thousands of people who enjoy high quality music reproduction and want to know more about the subject but without venturing too far into advanced technicalities. Includes equipment reviews and articles written at a popular level. Price: 20p a month. Published by Haymarket Publishing Ltd, Gillow House, 5 Winsley Street, London, W1A 2HG.

### Records and Recording

Monthly magazine for record buyers and music lovers. Price: 25p a month (£3.60 annual subscription). Published on the 4th Friday of the month before by Hansom Books, Artillery Mansions, 75 Victoria Street, London, SW1H 0JQ.

### Studio Sound

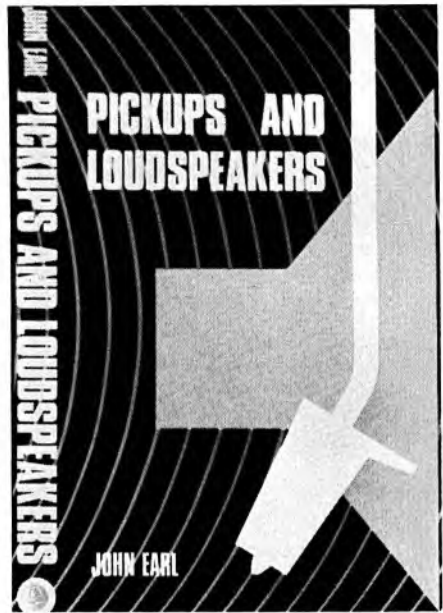
Monthly magazine produced mainly for professional sound engineers and commercial recording studios. Includes technical articles, equipment reviews, commercial news and behind-the-scenes comment on the record making industry. Price: 25p a month (£3 annual subscription). Published on the 14th of the month before by Link House Publications, Link House, Dingwall Avenue, Croydon, CR9 2TA.

### Audio Visual

A new monthly magazine (established in 1972) devoted to all aspects of the Audio-Visual scene. Intended for those in education, public relations, advertising and all forms of mass communications. Price: 25p a month (£3.25 annual subscription). Published on the first Tuesday of each month by Maclaren Group, Davis House, 69-77 High Street, Croydon, Surrey, CR9 1QH (postal address PO Box 109, Croydon, CR9 1QH).

### Public Address

Monthly journal of the APAA. Covers all aspects



of sound reinforcement equipment and practice. Single copies: 25p (£3 annual subscription). APAA, 6 Conduit Street, London, W1R 9TG.

● FOUNTAIN PRESS, Book Division, Station Road, King's Langley, Herts.

**Creative Tape Recording**—Vivian Capel. Published Autumn 1972. 8½ × 5½ in. Casebound with blocked title on spine. Profusely illustrated. Shows how a tape recorder can be used to its full advantage. Covers all aspects of sound on tape. Price: £3.50.

**Public Address Handbook**—Vivian Capel. One of the few practical books on the subject of public address that has been published in recent years. 8½ × 5½ in. 208 pages. 94 line diagrams. Casebound with gold blocked title on spine. Covers the use of sound reinforcement equipment indoors and outdoors, from small club installations to full professional stage systems. Price: £3.

**Audio Technician's Bench Manual**—John Earl. 8½ × 5½ in. 182 pages. 114 diagrams and half-tone illustrations. Casebound with gold blocked title on spine. Describes test equipment and its use, also audio standards and definitions. Price: £3.

**How to Choose and Use Pickups and Loudspeakers**—John Earl. 8½ × 5½ in. 203 pages. 156

diagrams and half-tone illustrations. Casebound with gold blocked title on spine. Provides practical help in simplifying the mass of technicalities associated with the audio field. Gives constructive advice on what to look for when buying. Price: £3.

**How to Choose and Use Tuners and Amplifiers**—John Earl.  $8\frac{1}{2} \times 5\frac{1}{2}$  in. 187 pages. 127 diagrams and half-tone illustrations. Casebound with gold blocked title on spine. Based largely on the author's practical experience of testing models in his own laboratory. Covers equipment, systems and specifications. Price: £2.10.

**How to Choose and Use Tape Recorders**—H. W. Hellyer.  $8\frac{1}{2} \times 5\frac{1}{2}$  in. 239 pages. 254 diagrams and half-tone illustrations. Casebound with gold blocked title on spine. Comprehensive guide for purchasers of tape recorders on what to look for in facilities and specifications. Also assists owners to use and maintain their tape equipment to best advantage. Price: £2.25.

**Manual of Sound Recording**—John Aldred.  $8\frac{1}{2} \times 5\frac{1}{2}$  in. 269 pages. 125 diagrams, tables and sketches. Casebound with gold blocked title on spine. Strikes happy balance between theory and practice. Originally published in 1963 this second enlarged edition brings the contents up-to-date. Price: £3.50.

**Stereo Sound**—H. W. Hellyer.  $8\frac{1}{2} \times 5\frac{1}{2}$  in. Profusely illustrated. Published spring 1973. Takes reader through the nature of sound, audio reproduction, its limitations and the effect of room acoustics. Stereo radio is described and there is a section on stereo installations. Price: £3.50.

**Improving Your Hi-Fi**—John Earl. No details available at time of going to press. Price: £3.50.

● **PETER PEREGRINUS LTD**, Southgate House, Stevenage, Herts, SG1 1HQ.

**Acoustics for Radio and Television Studios**—C. L. S. Gilford. A5 size. 304 pages. 112 line drawings, 13 half-tones. Review of studio acoustic design. Covers theoretical and practical requirements at every stage. Price: £6.

● **McGRAW-HILL BOOK CO (UK) LTD**, Shoppenhangers Road, Maidenhead, Berks. SL6 2QL.

**Magnetic Recording**—Charles E. Lowman.  $9 \times 6$  in. 320 pages. Primarily a practical book presenting the basic fundamentals and a wide variety of equipment. 12 chapters, two appendices of audio and instrumentation terms. USA orientated. Price: approximately £5.80.

● **MULLARD LTD**, Mullard House, Torrington Place, London. WC1E 7HD.

**Transistor Audio and Radio Circuits**— $8\frac{1}{2} \times 6$  in. 204 pages. Fully illustrated. A manual of tested circuits for all types of equipment from portable radios to high quality FM tuners and audio amplifiers. Price: £1.50 (plus 15p by post).

● **PRINT AND PRESS SERVICES LTD**, 7 Alvestone Avenue, Barnet, Herts. EN4 8DP.

**Tape Recorders for Education**—Derek J. Chatterton. Booklet covering recorders, maintenance and editing. 30 pages. Price: 30p.

**Advice on Buying a Tape Recorder**—J. F. Ling. Provides help when buying a recorder for the first time and describes what to listen and look for during a demonstration. Price: 18p.

**Tape and Cine**—John Aldred. Introduction to this popular branch of the tape scene. Price: 15p.

**Introduction to the Tape Recorder**—Charles Langton. Gives newcomers a working knowledge of the instrument and includes information for apprentices studying for the RTEB certificates. Price: 18p.

**How to Record Weddings**—Paul Addinsell. All aspects of recording this important event are



covered, including preparatory work and positioning microphones, etc. Price: 15p.

**Sound Effects on Tape**—Alan Edward Beehy. How to achieve realistic sound effects. Covers everything from storms at sea to car crashes, and ghosts to rifle fire. Price: 18p.

**Hi-Fi for the Music Lover**—Edward Greenfield. Sets out to help music lovers to cope with the technicalities of recorded sound. Aims to provide know-how to help the reader become a hi-fi enthusiast but not a hi-fi maniac. Price: 15p.

**Tapes and Slides**—Derek J. Chatterton. Covers tape/slide synchronisation and making film strips and slides. Price: 18p.

**The Law and Your Tape Recorder**—Andrew Phelan. Interprets the complicated legal situation concerning the use of recorders. Explains what owners may or may not do. Price: 18p.

**Which Microphone?**—Derek J. Chatterton. Describes the different types of microphone and their advantages and disadvantages. Price: 18p.

**How to Make Money with your Tape Recorder**—Henry Woodman. Tells how to get assignments and the way to turn domestic recordings into hard cash. Useful for competition work. Price: 18p.

**Technical Terms Explained**—Derek J. Chat-

terton. A-Z of useful technical terms explained in everyday language. Price: 18p.

**Documentary Programmes on Tape**—Peter Baston. How to prepare a script and conduct interviews. The mechanics of recording and equipment required for the studio. Price: 25p.

● **BUTTERWORTH & CO (Publishers) LTD**, 88 Kingsway, London. WC2B 6AB.

**Radio, Television and Audio Test Instruments (Second Edition)**—Gordon J. King. Fully illustrated with circuits, line diagrams and half-tones. 208 pages. Practical guide to test instruments and applications. Concerned largely with the oscilloscope. Has been updated to include instruments for colour television and high class audio equipment. Book is intended for service technicians, students and amateur enthusiasts. Price: £3.80.

**Transistor Audio Amplifiers**—P. Tharma. Technical book based on work done by the audio application group of Mullard's Central Application Laboratory. Covers all aspects of design. Intended to assist electronic engineers and designers. 422 pages. Fully illustrated. Price: £6.

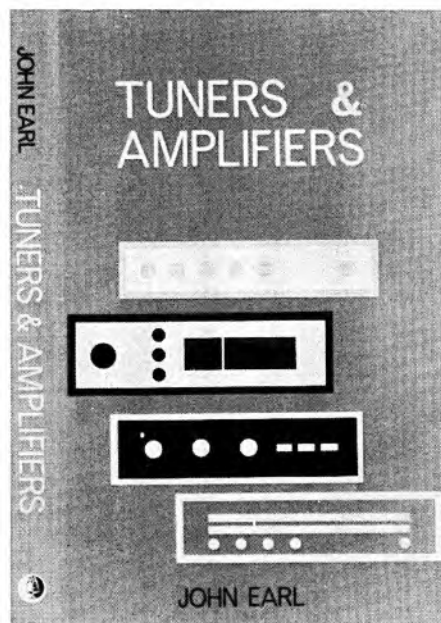
**FM Radio Servicing Handbook (Second Edition)**—Gordon J. King. Fully revised and includes latest techniques such as FET front-ends, integrated circuits and stereo decoders. Well illustrated with line drawings, circuits and half-tones. 206 pages. Equally valuable to service technicians and home constructors. Price: £3.

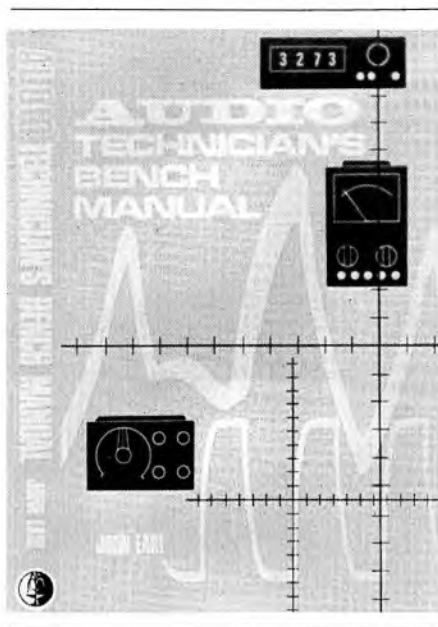
**Radio and Audio Servicing Handbook (Second Edition)**—Gordon J. King. Practical guide to fault tracing, repair, adjustment and alignment of tuners, amplifiers, tape recorders, radiograms, etc. Covers latest circuit techniques including ICs and stereo multiplex operation. 284 pages. Price: £3.

**Microphones (Second Edition)**—A. E. Robertson. Intended for the microphone user rather than the designer. Written primarily as a training manual for BBC technicians. Mathematics are omitted from the main body of the text and gathered into a series of appendices. 360 pages. Well illustrated. Price: (cased) £3.75; (soft covers) £1.50.

● **GRUNDIG (Great Britain) LTD**, Newlands Park, London. SE26 5NQ.

**The Grundig Book**. Written specially for the beginner or amateur. Full of useful information about past and present Grundig models. Covers





accessories and how to make better recordings. Price: £1.

**Tape Recorders**—Paul Spring. Performance, analysis and service techniques explained. Covers how they work, taking measurements and what specifications mean. Invaluable to service technicians and technically interested amateurs. Price: £2-10.

● **FOCAL PRESS LTD**, 31 Fitzroy Square, London, W1P 6BH.

**Teaching with Tape**—J. Graham Jones. Thoroughly revised second edition. Guide to the many ways a tape recorder can help all those concerned with teaching. Shows how to plan radio-type programmes and explains how to teach children to write their own scripts and be their own producers and engineers. 174 pages. 22 diagrams. Price: £1-50.

**Fun with Tape**—J. G. Staab. Suggests many different uses for a tape recorder in town and country. Includes correspondence, dialogues, reports, interviews, plays, parties, games and collecting sounds and noises. 284 pages. 59 diagrams. Price: £1-05.

**The All-in-One Tape Recorder Book**—Joseph M. Lloyd. Tells how a tape recorder works and how to choose the best one for your needs. Tenth edition. 210 pages. 150 diagrams. Price: £1.

**The Dramatape Guide**—H. Woodman. Explains how to record plays by introducing sound effects, music, etc. Covers script-making and acting style. 92 pages. 29 diagrams. Price: 37p.

**The Philips Tape Recording Book**—Frederick Purves. Comprehensive guide to the present range of Philips tape recorders, their operation and accessories. Simple, clear text is practical and informative. Pays special attention to the many uses of the various models. Third edition. 244 pages. 171 diagrams. Price: 97p.

**Sound: Facts and Figures**—John Borwick. Describes every aspect of recording and reproduction of sound. Practical do-it-yourself hints, data, formulae, etc at your fingertips. 160 pages. 218 diagrams. Price 63p.

**How to produce magnetic sound for amateur films**—J. Chittock. Shows the amateur cine enthusiast what can be done and how to provide proper sound accompaniment. Covers every aspect of magnetic recording for the amateur film maker. 150 pages. Well illustrated. Price: 75p.

● **ASSOCIATION OF PUBLIC ADDRESS ENGINEERS LTD**, 6 Conduit Street, London, W1R 9TG.

**PA Engineer's Handbook**. Published annually. Directory of manufacturers, traders and professional members of the APAE. Contains useful information on public address equipment, official addresses, etc. Price: 50p (including post).

● **BLANDFORD PRESS LTD**, 167 High Holborn, London, WC1.

**Hi-Fi in the Home**—John Crabbe. A music lover's guide to high quality sound reproduction. Deals with the whole subject from the nature of musical sounds to the latest refinements in their reproduction. Contains much practical information for those who wish to progress beyond the limitations of the conventional record player and radiogram. Considered by some reviewers to be a standard work on the subject of hi-fi. 327 pages. Hardcased. Illustrated with line diagrams and half-tones. Price: £2.

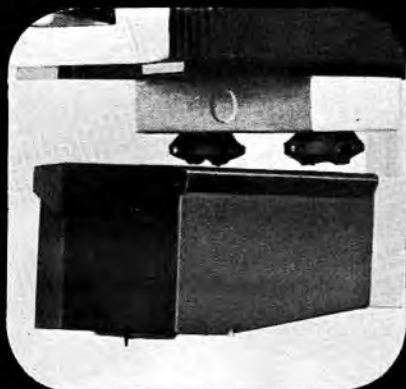
*Prices quoted in this feature are recommended retail prices for over the counter purchase at bookshops and hi-fi retailers. In cases of difficulty most publishers will supply direct but remittances must be sent with order and an additional amount should be included to cover packing and postage (about 10-15 per cent of the book price).*

# Abbreviations

A	- ampere	m	- metres	VAT	- Value added tax
A-B	- comparison test	M	- megohms (millions of ohms)	VHF	- very high frequency (VHF radio approx 88-108MHz, VHF TV approx 174-216MHz)
AC	- alternating current	mA	- milliamps (0.001A)	V	- volts or voltage
AFC	- automatic frequency control	mag	- magnetic	VA	- volt/ampere
AGC	- automatic gain control	ME	- magic eye	vci	- voice coil impedance
AM	- amplitude modulation	MC	- moving coil	VU	- volume units
ASA	- Acoustical Society of America	mg	- milligram	W	- watts
aux	- auxiliary	MHz	- megahertz (see Hz)	W and F	- wow and flutter
BAF	- bonded acetate fibre	mic	- microphone	xtl	- crystal (pickup or microphone)
CCIR	- International Radio Consultative Committee	MOS	- metal oxide semiconductor	Z	- impedance
char	- characteristic	mpx	- multiplex	<b>Miscellaneous</b>	
cm	- centimetre	mV	- millivolts (0.001V)	%	- per cent
c/o	- cut-off frequency	MW	- medium waves (approx 185-570m)	>	- greater than
coax	- coaxial	N	- newton (SI unit of force).	>	- less than
dB	- decibel	NAB	- National Association of Broadcasters (see also NARTB)	±	- plus or minus
dBm	- decibel/milli watt	NARTB	- National Association of Radio and Television Broadcasters (USA)	≅	- equal to or greater than
DC	- direct current	NL	- noise level	≅	- equal to or less than
deg	- degrees	Pat	- power available for tuner	μ	- mu (micro or millionth)
det	- detector	PPM	- peak programme meter	μA	- microamp
DIN	- Deutscher Industrie Normen (German audio standards)	Psn	- power supply needed	μV	- microvolt
disc	- discriminator	PU	- pickup cartridge	μBar	- microbar (air pressure equal to 1 dyne/cm <sup>2</sup> )
FET	- field effect transistor	Pw	- playing weight		
ffss	- full frequency stereo sound (Decca)	Q	- Q-factor (quality of tuned circuit)		
fl oz	- fluid oz	rcf	- recommended crossover frequency		
FM	- frequency modulation	rec load	- recommended load		
FR	- frequency response	Replay			
gm	- gramme	char	- replay characteristic		
HC	- handling capacity	RIAA	- Record Industry Association of America		
HD	- harmonic distortion	RMS	- root mean square (0.707 peak value of AC)		
HF	- high frequency	rpm	- revolutions per minute		
H & N	- hum and noise	sec	- second (time)		
Hz	- hertz (cycles per second)	sel	- selector switch		
IC	- integrated circuit	S/N	- signal-to-noise ratio		
IEC	- International Electro-technical Commission	SW	- short waves (approx 10-60m)		
IF	- intermediate frequency	THD	- total harmonic distortion		
IHF	- Institute of High Fidelity (USA)	thou	- thousandths of an inch (0.001 in)		
imp	- impedance	tpi	- turns per inch (screw threads)		
in	- inches	UHF	- ultra high frequency (approx 470-854MHz)		
ind	- indicator				
i/s	- inches per second				
K	- kilohms (thousands of ohms)				
kHz	- kilohertz (see Hz)				
lb	- pound (weight)				
L/C	- inductance/capacitance				
LP	- long play (records or tape)				
LW	- long waves (approx 1100-2000m)				

# Two World Leaders.

## The London Cartridge



Just three examples of international critical acclaim for the London Cartridge :

### *The Washington Post* —

"... I listened very carefully to the new Decca (London Cartridge). It cannot be faulted on any count. Indeed it strikes me as one of the very best phono pickups I have ever heard."

### *High Fidelity Magazine* —

"... There is a sense of utterly hair-trigger transient response... The Mark 5 merits serious audition by anyone interested in discovering how great records really can sound."

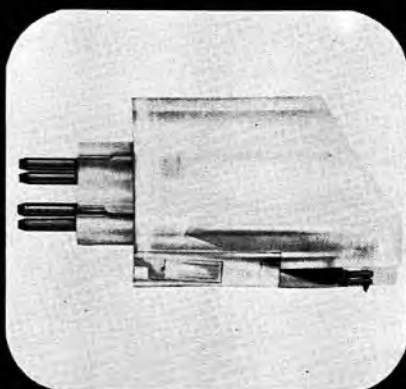
### *Canadian Stereo Guide* —

"... if you can get your hands on one you owe yourself a listening trial... you'll discover your records all over again."

*For full details write to:*

Decca Special Products, (H.F. 74), Ingate Place,  
Queenstown Road, London SW8 3NT.

## The Deram Cartridge



Over ten years old and still in front the Deram is now regarded as the outstanding ceramic cartridge. It gives a freedom from high frequency distortion comparable to the most expensive pick-ups available.

The Deram cartridge can be fitted with either a spherical or an elliptical stylus and is remarkable value for money. Remember too that the initial cost of a cartridge is not the whole story—the replacement diamond stylus cost (either spherical or elliptical) makes purchase of a Deram cartridge real economic sense.

Recognise the Deram throughout the world by its unique shape and superlative sound.



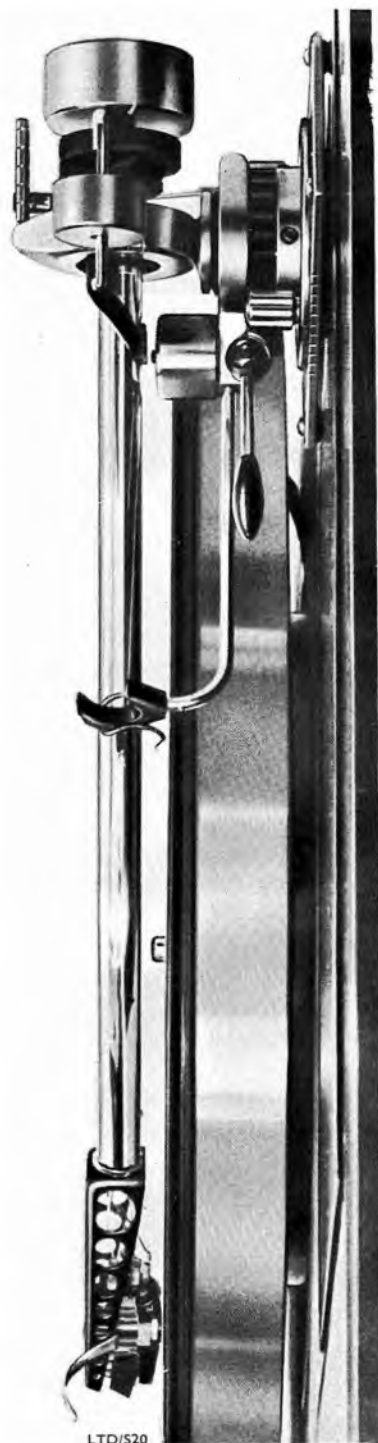


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# Directory of Pickups and Arms

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOS

Cosmocord Ltd, Eleanor Cross Road, Waltham Cross, Herts, EN8 7NX.  
Tel: Waltham Cross 27331. Telex: 24294.

### GP91-1 SC ★

Mono/stereo compatible crystal cartridge. Turnover dual stylus. Pw: 3-6gm. Tip mass 2.5mg (sapphire), 2.8mg (diamond). Dynamic compliance: vertical  $2 \times 10^{-6}$ cm/dyne, lateral  $4 \times 10^{-6}$ cm/dyne. FR: 50Hz-12kHz. Output: 178 mV. Min load 1M. Price: (diamond/sapphire) £1.51 (plus VAT).

### GP92-1 SC

Mono ceramic cartridge. Turnover stylus assembly. Stereo/LP 0.6/0.8 thou diamond or sapphire, 78 2.5 thou sapphire. Pw: 4-10gm. Tip mass 2.5mg dynamic. Compliance:  $2.5 \times 10^{-6}$ . FR: 150Hz-16kHz  $\pm 3$ dB, 12dB down at 30Hz relative to 1kHz. Output: 100mV. Load impedance 1M. Low temperature coefficient. Price: (diamond/sapphire) £1.63 (plus VAT).

### GP93 ★

Retro crystal cartridge. Turnover dual stylus. Stylus 0.6/0.8 thou diamond or sapphire, 2.5 thou sapphire. Pw: 4-8gm. Tip mass 2.5mg dynamic. Compliance: vertical  $2.2 \times 10^{-6}$ cm/dyne, lateral  $2.2 \times 10^{-6}$ cm/dyne. FR: flat 250 Hz-18kHz 3dB down at 100Hz relative to 1kHz. Output: 250mV. Rec load 1M. Low temperature coefficient. Price: (diamond/sapphire) £2 (plus VAT).

### GP94

Stereo ceramic cartridge. Turnover dual stylus. Stylus 0.6/0.8 thou diamond or sapphire, 2.5 thou sapphire. Pw: 2-4gm. Tip mass 2.5mg dynamic. Compliance: lateral  $5 \times 10^{-6}$ cm/dyne, vertical  $6 \times 10^{-6}$ cm/dyne. FR: flat 100Hz-12 kHz, 7-8dB at 30Hz relative to 1kHz. Separation 20dB at 1kHz, 8dB at 10kHz, minimum. Output: 80mV average. Load impedance: 1M each channel. High capacity ceramic elements (1000pF). Low temperature coefficient. Price: (diamond/sapphire) £2.57 (plus VAT).

### 104 ★

Stereo ceramic cartridge. Two versions; turn-

over and single-sided. Stylus: 0.5/0.7 thou and 2.5/3 thou. Sapphire or diamond. Pw: 3-4gm. Tip mass: 2-3mg. Compliance: (static) lateral  $20 \times 10^{-6}$ , vertical  $17 \times 10^{-6}$ ; (dynamic) lateral  $6 \times 10^{-6}$ , vertical  $5 \times 10^{-6}$ . Separation: 20dB at 1kHz, 7dB at 10kHz. FR: 70Hz-15kHz  $\pm 5$ dB. Output: 100mV. Rec load minimum 1M. Prices: (sapphire/sapphire) £2.48 (plus VAT); (diamond/sapphire) £2.84 (plus VAT).

### 104 Transcription ★

Stereo ceramic cartridge. Single sided. Diamond stylus 0.5/0.7 thou. Pw: 2-5gm. Tip mass 1.6-2.6gm. Compliance: (static) lateral  $20 \times 10^{-6}$ cm/dyne, vertical  $17 \times 10^{-6}$ cm/dyne; (dynamic) lateral  $6 \times 10^{-6}$ cm/dyne, vertical  $5 \times 10^{-6}$ cm/dyne. FR: 70Hz-12kHz  $\pm 5$ dB. Channel separation not less than 20dB at 1kHz. Output: 100mV. Rec load: 1M. Price: £3.05 (plus VAT).

### M6

Stereo magnetic cartridge. Sensitivity: 1.25mV at 1cm/sec. Rec load: 47K. Separation:  $> 15$ dB at 1kHz. FR: 20Hz-20kHz. Stylus: 0.5/0.7 thou. Pw:  $1\frac{1}{2}$ - $2\frac{1}{2}$ gm. Price: £4.90 (plus VAT).

### M6E

Stereo magnetic cartridge. Sensitivity: 1.25mV at 1cm/sec. Rec load: 47K. Separation:  $> 18$ dB at 1kHz. FR: 10Hz-25kHz. Stylus: 0.25  $\times$  0.8 thou. Pw:  $1\frac{1}{4}$ -2gm. Price: £10.96 (plus VAT).

### M6EX

Stereo magnetic cartridge. Sensitivity: 0.8mV at 1cm/sec. Rec load: 47K. Separation:  $> 18$ dB at 1kHz. FR: 10Hz-30kHz. Stylus: 0.25  $\times$  0.8 thou. Pw: 1-2gm. Price: £13.95 (plus VAT).

### Lustre

Transcription pickup arm with headshell. Magnetic bias compensation. Easy height and over-hand adjustment. Direct reading stylus pressure gauge with  $\frac{1}{2}$ gm calibration marks. Machine finish. Supplied with two headshells. Price: £24.51 (plus VAT).

## ■ AUDIO DEVELOPMENTS

UK distributors: B. H. Morris & Co (Radio) Ltd, Trio House, The Hyde Industrial Estate, London, NW9 6JP. Tel: 01-205 6441.

### AD76K

Moving magnet stereo cartridge for stereo and LP only. FR: 20Hz-20kHz. Sensitivity 5mV at 1kHz. Diamond stylus. Channel balance within 2dB. Separation 20dB. Compliance:  $10 \times 10^{-6}$ cm/dyne. Tracking force 0.5gm. Weight: 5gm. Dimensions: 30  $\times$  10  $\times$  16mm with standard  $\frac{1}{2}$ in centres. Price: £3.50 (plus VAT). Replacement stylus JS-PI £1.70 (plus VAT).

### AD76KE

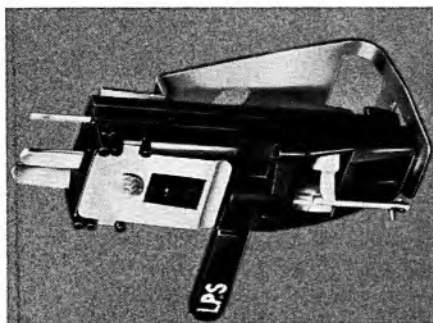
Similar specification to AD76K but fitted with elliptical diamond stylus. Price: £5.50 (plus



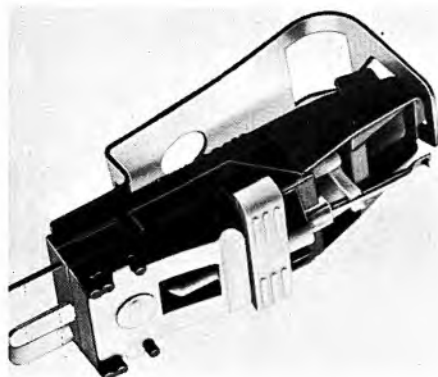
Acos GP91-ISC



Acos GP93 Crystal Stereo



Acos 104



Acos 104 Transcription

VAT); replacement stylus AA25E £4.50 (plus VAT).

## ■ AUDIO DYNAMICS CORPORATION

Sole UK agents: Hisonic Ltd, Tovil, Maidstone, Kent. Tel: Maidstone 57258.

### ADC 25 ★

Stereo cartridge. Induced magnet. Sensitivity: 4mV at 5.5cm/sec. Separation: 30dB, 50Hz-15kHz. FR: 10Hz-24kHz  $\pm$  2dB. Vertical tracking angle 15°. Pw:  $\frac{1}{2}$ -1 $\frac{1}{2}$  gm. Cartridge weight: 8.3gm. Stylus: 0.3  $\times$  0.7 or 0.3  $\times$  0.9 or 0.6 thou spherical. Compliance: 50  $\times$  10<sup>-6</sup>cm/dyne. Price: £69.95 (plus VAT).

### ADC 26

Stereo cartridge. Induced magnet. Sensitivity: 4mV at 5.5cm/sec. Separation: 30dB, 50Hz-15kHz. FR: 10Hz-24kHz  $\pm$  2dB. Vertical tracking angle 15°. Pw:  $\frac{1}{2}$ -1 $\frac{1}{2}$  gm. Cartridge weight: 8.3gm. Stylus: 0.3  $\times$  0.7 thou. Compliance: 50  $\times$  10<sup>-6</sup>cm/dyne. Price: £49.95 (plus VAT).

### ADC 10E Mk IV

Stereo cartridge. Induced magnet. Sensitivity: 4mV at 5.5cm/sec. Separation: 30dB from 50Hz-12kHz. FR: 10Hz-20kHz  $\pm$  2dB. Vertical tracking angle 15°. Pw:  $\frac{1}{2}$ -1 $\frac{1}{2}$  gm. Stylus: 0.3  $\times$  0.7 thou. Compliance: 35  $\times$  10<sup>-6</sup>cm/dyne. Price: £29.95 (plus VAT).

### ADC 550XE

Stereo cartridge. Induced magnet. Sensitivity: 5mV at 5.5cm/sec. Separation: 25dB, 50Hz-12kHz. FR: 10Hz-20kHz  $\pm$  2dB. Vertical tracking angle 15°. Pw:  $\frac{3}{4}$ -2 $\frac{1}{2}$  gm. Cartridge weight: 8.0gm. Stylus: 0.3  $\times$  0.7 thou. Compliance: 35  $\times$  10<sup>-6</sup>cm/dyne. Price: £14.95 (plus VAT).

### ADC 220XE ★

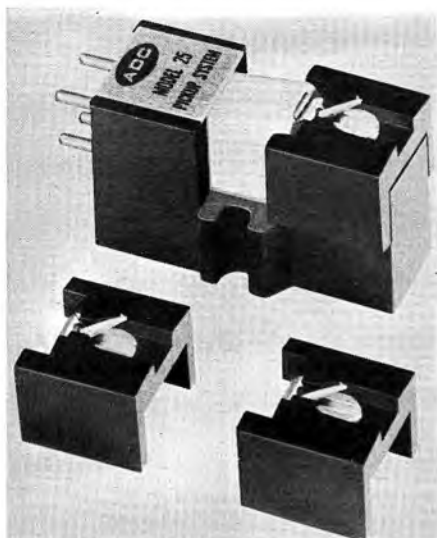
Stereo cartridge. Induced magnet. Sensitivity: 6.0mV at 5.5cm/sec. Separation: 20dB, 50Hz-10kHz. FR: 10Hz-18kHz  $\pm$  3dB. Vertical tracking angle 15°. Pw: 1 $\frac{1}{2}$ -3gm. Stylus: 0.3  $\times$  0.7 thou. Compliance: 20  $\times$  10<sup>-6</sup>cm/dyne. Price: £8.95 (plus VAT).

### ADC XLM ★

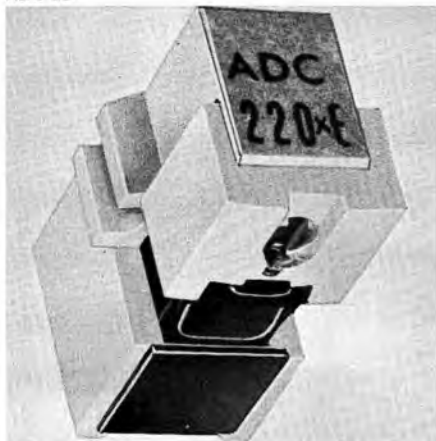
Stereo cartridge. Induced magnet with controlled electrodynamic damping. Sensitivity: 4mV at 5.5cm/sec. Separation: 30dB 50Hz-25kHz. FR: 10Hz-25kHz  $\pm$  2dB. Vertical tracking angle 15°. Pw: 0.4-1gm. Stylus: 0.3  $\times$  0.7 thou. Rec load: 47K. Compliance: 50  $\times$  10<sup>-6</sup>cm/dyne. Price: £28.40 (plus VAT).

### ADC VLM ★

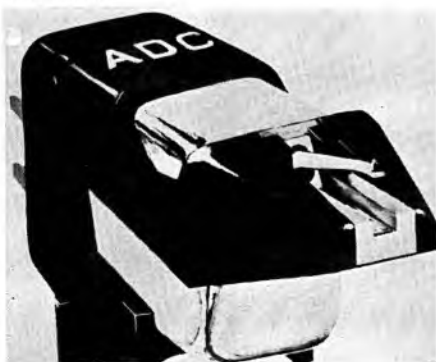
Stereo cartridge. Induced magnet with controlled electrodynamic damping. Sensitivity: 4mV at 5.5cm/sec. Separation: 30dB 50Hz-25kHz. FR: 10Hz-22kHz  $\pm$  2.5dB. Vertical tracking angle 15°. Pw: 0.75-1.5gm. Stylus: 0.3  $\times$  0.7 thou. Rec load: 47K. Compliance: 40  $\times$  10<sup>-6</sup>cm/dyne. Price: £23.20 (plus VAT).



ADC 25



ADC 220XE



ADC XLM/VLM

**ADC Q36**

Stereo cartridge. Induced magnet with controlled electrodynamic damping. Sensitivity: 4.5mV at 5.5cm/sec. Separation: 25dB. FR: 20Hz-20kHz  $\pm$  3dB. Vertical tracking angle 15°. Pw: 1-1.5gm. Stylus: 0.3  $\times$  0.7 thou. Rec load: 47K. Compliance: 30  $\times$  10<sup>-6</sup>cm/dyne. Price: £13.95 (plus VAT).

**ADC Q32**

Stereo cartridge. Induced magnet with controlled electrodynamic damping. Sensitivity: 4.5mV at 5.5cm/sec. Separation: 20dB. FR: 10Hz-18kHz  $\pm$  3dB. Vertical tracking angle 15°. Pw: 1-2gm. Stylus: 0.3  $\times$  0.7 thou. Rec load: 47K. Compliance: 25  $\times$  10<sup>-6</sup>cm/dyne. Price: £10.30 (plus VAT).

**ADC Q30**

Stereo cartridge. Induced magnet with controlled electrodynamic damping. Sensitivity: not quoted. Separation: 20dB. FR: 10Hz-18kHz  $\pm$  3dB. Vertical tracking angle 15°. Pw: 1-2gm. Stylus: 0.7 thou spherical. Rec load: 47K. Compliance: 25  $\times$  10<sup>-6</sup>cm/dyne. Price: £7.50 (plus VAT).

**■ AUDIO TECHNICA**

Distributors: Shriro (UK) Ltd,  
42 Russell Square, London, WC1B 5DF.  
Tel: 01-580 6995.

**AT21**

Stereo magnetic cartridge. Stylus: 0.7 thou (compatible) or 0.5 thou (stereo only). Also available with 0.7  $\times$  0.3 elliptical stylus. All diamond. Pw: (0.7 and 0.5) 1-2gm, (elliptical) 1/2-2gm. Effective tip mass: 0.6mg. Compliance: 30  $\times$  10<sup>-6</sup>cm/dyne. FR: 20Hz-25kHz  $\pm$  2dB. Channel separation: 31dB at 1kHz. Output: 1.6mV/cm/sec. Price: (0.7 and 0.5 thou stylus) approximately £11 (including VAT); (elliptical) approximately £17 (including VAT).

**AT66**

Stereo magnetic cartridge. Stylus: (diamond) 0.5, 0.7, 2.5 or elliptical. Pw: 1-2.5gm. Effective tip mass: 0.6mg. Compliance: 30  $\times$  10<sup>-6</sup>cm/dyne. FR: 20Hz-20kHz  $\pm$  2dB. Channel separation: better than 25dB at 1kHz. Output: 1mV/cm/sec. Price: (0.5, 0.7 and 2.5 thou stylus) approximately £6.50 (including VAT); (elliptical) approximately £15.90 (including VAT).

**AT1005 Mk II**

Tubular counter-balanced pickup arm. Length 12 3/4 in. Effective length: 9 1/2 in. Bias compensation. Calibrated weight adjustment. Hydraulic lift and lowering. Tracking error: < 1.5 deg. Price: £16.25 (plus VAT).

**■ BANG & OLUFSEN UK LTD**

Eastbrook Road, Gloucester, GL4 7DE.  
Tel: Gloucester 21591.

★ Indicates entry is illustrated

### SP10, SP12

Stereo cartridges. Standard  $\frac{1}{2}$  in centres. Moving iron. Pw: 1-1.5gm. Compliance:  $25 \times 10^{-6}$  cm/dyne. FR: 15Hz-24kHz  $\pm$  3dB. Separation:  $>25$  dB at 1kHz. Output: 5mV per channel (1mV/cm/sec). Rec load 47K. Effective tip mass  $<1$  mg. SP10: 0.6 thou diamond. SP12: 0.7  $\times$  0.2 thou diamond (interchangeable). Price: (SP10) £13.10, (SP12) £16.95 (inc VAT).

### SP10A, SP12A

Plug-in versions of the SP10 and SP12, for use with Beogram 3000. Price: (SP10A) £13.10, (SP12A) £16.95 (inc VAT).

### SP14, SP14A

Identical to SP10 and SP10A respectively except for compliance which is  $15 \times 10^{-6}$  cm/dyne. Price: £9.43 (inc VAT).

### SP15 ★

Stereo magnetic integrated cartridge. Factory sealed assembly and therefore no replacement stylus available. Exchange cartridge available at half price. Stylus: 0.2  $\times$  0.65 thou diamond. Pw: 1gm. Compliance:  $30 \times 10^{-6}$  cm/dyne. FR: 50Hz-20kHz  $\pm$  1.5dB. Separation: 24-30dB at 1kHz, 20dB at 500Hz-10kHz. Output: 0.6mV. Rec load: 47K. Price: £38.40 (inc VAT).

### ■ COLTON

Musonic Ltd, 34-38 Verulam Road, St Albans, Herts. Tel: St Albans 50611/2.

### MC-101

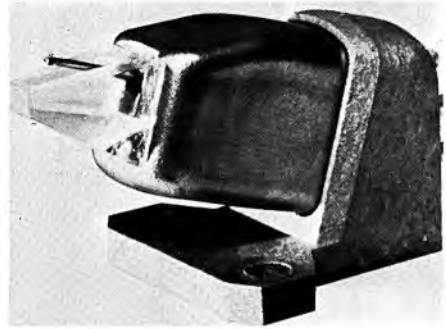
Precision pickup arm. Length: (overall) 13in, (effective) 9 $\frac{3}{8}$ in. Overhang:  $\frac{3}{8}$ in approximately. Tracking error:  $+1.5^\circ - 0.5^\circ$ . Stylus pressure: adjustable 0.4gm. Recommended cartridge weight: 3-18gm. Headshell: light alloy 1mm thick four-pin universal. Anti-skating bias. Lateral balance. Direct reading stylus pressure control. Hydraulic lift device. Precision ground pivot bearings. Price: £18 (plus VAT).

### ■ CONNOISSEUR

A. R. Sugden & Co (Engineers) Ltd, Connoisseur Works, Atlas Mill Road, Brighouse, Yorks, HD6 1ES. Tel: Brighouse 2142. Cables: Connoisseur, Brighouse.

### SCUI ★

Stereo ceramic cartridge with  $\frac{1}{2}$  in fixing centres. Stylus diamond 0.5-0.6 thou or 1 thou for mono. Pw: 2.4gm. Tip mass 1mg. Compliance: lateral  $12 \times 10^{-6}$  cm/dyne; vertical  $8 \times 10^{-6}$  cm/dyne. Range: 25Hz-18kHz  $\pm$  3dB. Separation (1kHz) 25-30dB; (10kHz) 18dB. Output with rec load of 100K, 50mV per channel. RIAA equalisation required. Output with 2 megohm load, 150mV per channel, no equalisation required. Features: Four-terminal output, easily replaceable diamond stylus. Price: £5.25 (plus VAT).



Bang & Olufsen SP15

### SAU2

Pickup arm with gimbal mountings on ball bearings set at 45/45. Automatic bias compensator. Hydraulic lowering device. Decoupled counterbalance weight. Additional weight supplied to accommodate different cartridges. Single hole fixing. Height adjustable from 1in to 2in. Lightweight shell with  $\frac{1}{2}$  in fixing centres. Five-pin plug connection to base of pickup. Low resistance self-cleaning contacts. New head shell allows backward-forward horizontal adjustment so that minimum tracking error is obtained with all cartridges. Alignment protractor provided. Supplied with set of leads and separate precision balance with range 0-6gm. Price: £12.60 (plus VAT). Extension stem for use with high turntables. Price: 30p (plus VAT).

### ■ DECCA

Decca Special Products, Ingate Place, Queenstown Road, London, SW8 3NT. Tel: 01-622 6677.

### Deram ceramic (New series)

Stereo/mono cartridge. White shell transcription quality. Pw: 2.5gm; Tip mass 0.6mg. Compliance:  $9 \times 10^{-6}$  lateral,  $5 \times 10^{-6}$  vertical. FR: 18Hz-18kHz  $\pm$  3dB. Separation better than -20 dB at 1kHz. Output: 200mV at 5cm/sec. Rec load impedance 2 megohms. Stylus: diamond. Price: (spherical stylus) £4.31 (plus 43p VAT); (elliptical stylus) £5.17 (plus 51p VAT).

### Deram ceramic ★

Mono cartridge. Stylus 1 thou diamond. All other details as for stereo/mono cartridge. Price: £4.31 (plus 43p VAT).

### NOTE

All Deram cartridges are of transcription quality, the black shell range intended primarily for cheaper auto-changers is discontinued.

Deram heads are suitable for use with amplifiers having a sensitivity of 100mV.

Diamond styli for all Deram pickup heads, in-

cluding 78 heads, are £1.25 (plus 12p VAT): Replacement Deram elliptical styli are now available at £2.15 (plus 21p VAT).

#### **ffss Mk 4 cartridge 78C**

Mono magnetic cartridge. Diamond stylus 2.8 thou. Pw: 3.5gm. Tip mass less than 1 milligram. Compliance:  $15 \times 10^{-6}$ cm/dyne lateral. FR: 30 Hz-16kHz  $\pm 3$ dB. Output: 1.5mV cm/sec. Rec load: 47K. Available to special order only. Price: £8.75 (plus 87p VAT).

#### **London**

Stereo magnetic cartridge. *ffss* sum-and-difference system. Stylus: 0.6 thou spherical diamond. Pw: 3gm. Effective tip mass: < 1mg. Compliance: (lateral)  $12 \times 10^{-6}$ cm/dyne, (vertical)  $5 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Channel separation: better than 20dB. Output: 7.5mV for 5cm/sec. Rec load: 47K. Price: £23.27 (plus £2.32 VAT).

#### **London cartridge adaptors**

Type A. Simple slide-on adaptor for use with *ffss* arms (Mk I, Mk I Super and Professional) to accommodate the London cartridge. Automatically adjusts playing weight. Price: £1.29 (plus 12p VAT). Type B. Simple slide-on adaptor for use with International arm to accommodate the London cartridge. Collar arrangement to

adjust for correct playing weight. Price: 21p (plus 2p VAT).

#### **ffss 'International' Arm ★**

Stereo pickup arm. Jewelled uni-pivot. Pw:  $\frac{1}{2}$ - $3\frac{1}{2}$  gm. Constantly variable magnetic bias compensation. Suspended on magnetic cushion. Provision for damping lateral and vertical resonances. Price: £21.97 (plus £2.19 VAT).

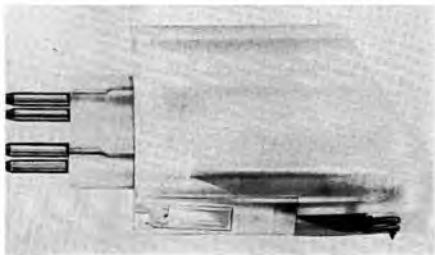
Decca *ffss* pickup heads can be inspected for a charge of 70p (plus 7p VAT). When the stylus is worn on a Decca *ffss* head it must be returned to the maker for replacement. The service offered is complete replacement of the head with a reconditioned head having a new stylus. Performance is guaranteed to be as new. Prices for this service are as follows: Mk III elliptical styli £7.70 (plus 77p VAT); Mk I and Mk II spherical styli £6.20 (plus 62p VAT); mono LP and 78 styli £6 (plus 60p VAT); Mk 4 H4E and C4E elliptical styli £8.50 (plus 85p VAT); Mk 4 SH4E and SC4E elliptical styli £11 (plus £1.10 VAT); Mk 4 78C spherical styli £5.50 (plus 55p VAT).

#### **■ EAGLE INTERNATIONAL**

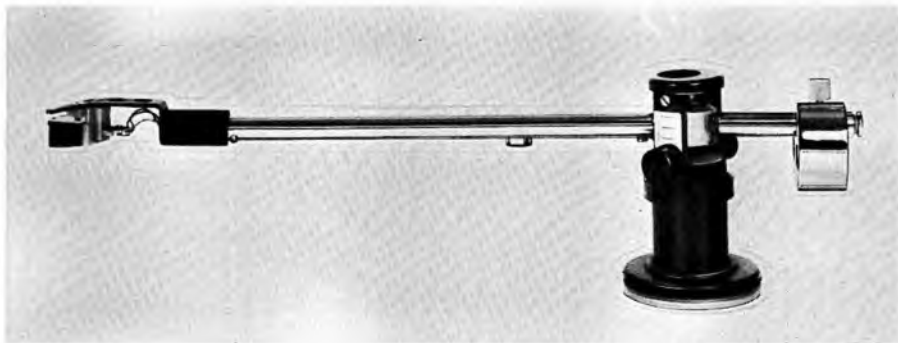
Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.



Connoisseur SCU



Decca Deram Cartridge



Decca International Arm

★ Indicates entry is illustrated

### LC05

Stereo cartridge. Moving magnet. FR: 30Hz-18 kHz. Compliance:  $9 \times 10^{-6}$ cm/dyne. Separation: 20dB at 1kHz. Output: 6mV per channel. Rec load: 47K. Price: £4.83 (plus VAT).

### LC07

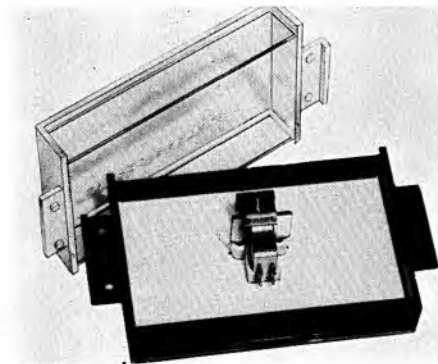
Stereo cartridge. Moving magnet. LP and stereo. FR: 20Hz-21kHz. Compliance:  $12 \times 10^{-6}$ cm/dyne. Separation: 28dB at 1kHz. Output: 7mV per channel. Rec load: 47K. Price: £6.30 (plus VAT).

### FF12E ★

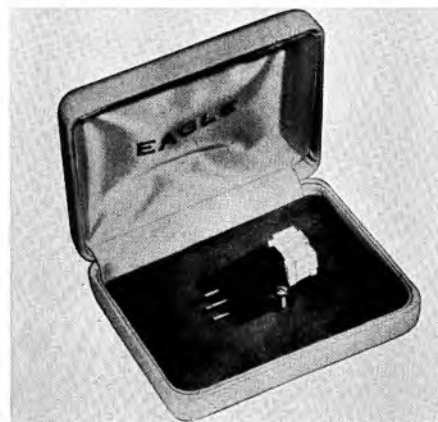
Stereo cartridge. Magnetic.  $\frac{1}{2}$ in fixing centres. Elliptical diamond stylus. Pw: 2gm. Compliance:  $15 \times 10^{-6}$ cm/dyne. FR: 20Hz-22kHz. Separation: 28dB at 1kHz. Output: 5mV at 5cm/sec. Rec load: 47K. Price: £8.40 (plus VAT).

### FF20E ★

Stereo cartridge. Magnetic.  $\frac{1}{2}$ in fixing centres. Elliptical diamond stylus. Pw: 1.5gm. Compliance:  $15 \times 10^{-6}$ cm/dyne. FR: 20Hz-25kHz.



Eagle FF12E



Eagle FF20E

Separation: 30dB at 1kHz. Output: 5mV at 5cm/sec. Rec load: 47K. Price: £11 (plus VAT).

### ■ EMPIRE SCIENTIFIC

Empire Scientific Corporation, U.S.A.  
Distributors: Rank Audio Visual Ltd,  
PO Box 70, Great West Road,  
Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.

### 90EE/X

Stereo magnetic cartridge. Elliptical diamond stylus, 0.4 × 0.7 thou. Compliance:  $15 \times 10^{-6}$ cm/dyne. FR: 15Hz-25kHz. Separation: 30dB. Output: 8mV. Price: £8.55 (plus 86p VAT).

### 909E/X

Stereo magnetic cartridge. Elliptical diamond stylus, 0.4 × 0.7 thou. Compliance:  $15 \times 10^{-6}$ cm/dyne. FR: 12Hz-25kHz. Separation: 30dB. Output: 8mV. Price: £11 (plus £1.10 VAT).

### 999E/X

Stereo magnetic cartridge. Elliptical diamond stylus, 0.3 × 0.7 thou. Pw:  $\frac{3}{4}$ -2gm. Compliance:  $25 \times 10^{-6}$ cm/dyne. FR: 10Hz-30kHz. Separation: 35dB. Output: 8mV. Price: £14.07 (plus £1.40 VAT).

### 999SE/X

Stereo magnetic cartridge. Elliptical diamond stylus, 0.2 × 0.7 thou. Pw:  $\frac{1}{2}$ -1 $\frac{1}{2}$ gm. Compliance:  $30 \times 10^{-6}$ cm/dyne. FR: 8Hz-32kHz. Separation: 35dB. Output: 8mV. Price: £16.16 (plus £1.60 VAT).

### 999TE/X

Stereo magnetic cartridge. Elliptical diamond stylus, 0.2 × 0.7 thou. Pw:  $\frac{1}{2}$ -1 $\frac{1}{2}$ gm. Compliance:  $30 \times 10^{-6}$ cm/dyne. FR: 6Hz-36kHz. Separation: 35dB. Output: 6mV. Price: £22.48 (plus £2.25 VAT).

### 999VE/X

Stereo magnetic cartridge. Hand polished elliptical diamond stylus. Tip: 0.2 × 0.7 thou. Pw:  $\frac{1}{4}$ -1 $\frac{1}{4}$ gm. Compliance:  $35 \times 10^{-6}$ cm/dyne. FR: 4Hz-40kHz. Separation: 35dB at 1kHz, 25dB at 20kHz. Output: 5mV per channel. Price: £38.23 (plus £3.82 VAT).

### 1000ZE/X

Stereo magnetic cartridge. Hand-polished diamond stylus. Tip: 0.2 × 0.7 thou. Pw:  $\frac{1}{4}$ -1 $\frac{1}{4}$ gm. Compliance:  $35 \times 10^{-6}$ cm/dyne. FR: 4Hz-40 kHz. Separation: 35dB at 1kHz, 25dB at 20kHz. Output: 5mV per channel. Price: £53.52 (plus £5.35 VAT).

### ■ EXCEL SOUND CORPORATION

Mathers Photographic Ltd, 35 John Dalton Street, Manchester 2. Tel: 061-834 6133.

### ES70S

Stereo magnetic cartridge.  $\frac{1}{2}$ in mounting centres.



Goldring L75 pickup arm

Stylus: 0.6 thou spherical diamond. Pw: 2gm. Compliance:  $10 \times 10^{-6}$ cm/dyne. FR: 15Hz-25kHz. Separation: >20dB at 1kHz. Output: 5mV at 1kHz at 5cm/sec. Price: £5 (including VAT); (replacement styli) £1.95 (including VAT).

#### ES70E

Stereo magnet cartridge.  $\frac{1}{2}$ in mounting centres. Stylus: 0.2 x 0.8 thou elliptical diamond. Pw: 1.25gm. Compliance:  $15 \times 10^{-6}$ cm/dyne. FR: 10Hz-30kHz. Separation: >20dB at 1kHz. Output: 5mV at 1kHz at 5cm/sec. Price: £8 (including VAT); (replacement styli) £4.25 (including VAT).

#### ES70EX

Stereo magnetic cartridge.  $\frac{1}{2}$ in mounting centres. Stylus: 0.2 x 0.8 thou diamond elliptical. Pw: 0.7-2gm. Compliance:  $20 \times 10^{-6}$ cm/dyne. FR: 10Hz-35kHz. Separation: 30dB at 1kHz. Output: 3mV at 1kHz at 5cm/sec. Effective tip mass: 0.5 milligram. Price: £20 (including VAT); (replacement styli) £11 (including VAT). Cartridge supplied in presentation box with cleaning brush, stylus guard and two sets of mounting screws.

#### ■ EXPERT PICKUPS LTD

PO Box No. 3, Ashted, Surrey.

Tel: Ashted 76604.

See entry in Pickup Accessories Section.

#### ■ GOLDRING LTD

10 Bayford Street, London, E8 3SE.

Tel: 01-985 1152.

#### Goldring/Lenco L75 ★

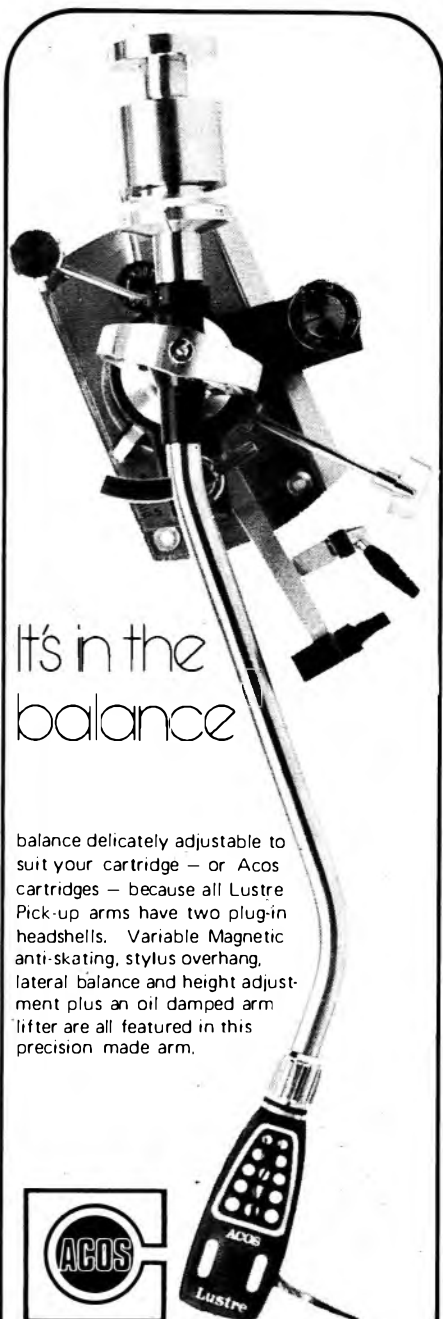
Transcription pickup arm. Calibrated stylus pressure adjustment. Removable plug-in shell with adjustable stylus position. Anti-skating bias compensator. Price: £12.60 (plus VAT).

#### Goldring/Lenco L69

Pickup arm. Stereo. Low mass tubular arm. Removable plug-in shell with stylus position adjustment. Sliding counterweight stylus pressure adjustment, height adjustment. Price: £9.60 (plus VAT).

#### CS90

Stereo ceramic cartridge. Stylus 0.5 or 0.7 thou diamond. Pw: 2gm. Compliance:  $8 \times 10^{-6}$ cm/dyne. FR: 30Hz-20kHz. Separation: 20dB at 1kHz, 10dB at 10kHz. Output: 80mV. Rec load: 1-2 megohms. Price: £4.20 (plus VAT).



It's in the  
balance

balance delicately adjustable to suit your cartridge – or Acos cartridges – because all Lustré Pick-up arms have two plug-in headshells. Variable Magnetic anti-skating, stylus overhang, lateral balance and height adjustment plus an oil damped arm lifter are all featured in this precision made arm.



## COSMOCORD

Cosmocord Ltd., Eleanor Cross Road, Waltham Cross, Hertfordshire.  
Telephone: Waltham Cross 27331





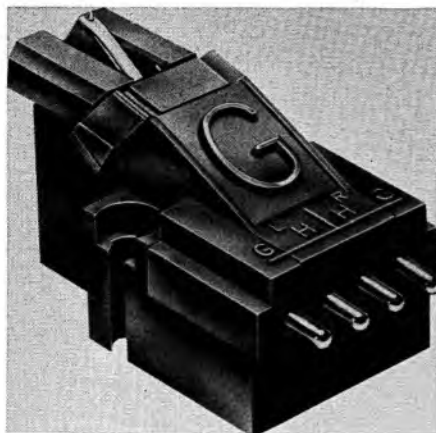
Goldring 800



Goldring 850



Goldring 820



Grado F series

### CS91E

Stereo/LP ceramic cartridge. Stylus: elliptical diamond. Pw: 1-3gm. Tip mass 1mg. FR: 30Hz-20kHz. Separation: 20dB. Output: 30mV. Rec load: 1-2 megohms. Price: £6.30 (plus VAT).

### '800' ★

Stereo magnetic cartridge. Stylus 0.5 thou diamond. Pw:  $1\frac{1}{2}$ - $2\frac{1}{2}$ gm. Tip mass less than 1mg. Compliance:  $20 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz  $\pm$  3dB. Separation: 20dB at 1kHz, 15dB at 10kHz. Output: 1mV. Rec load: 47K. Price not quoted.

### G800E

Stereo magnetic cartridge. Stylus: 0.3 x 0.7 diamond. Pw:  $\frac{3}{4}$ - $1\frac{1}{2}$ gm. Tip mass: less than 1mg. Compliance:  $30 \times 10^{-6}$ cm/dyne lateral and vertical. FR: 10Hz-23kHz. Separation: 20dB at 1kHz, 15dB at 10kHz. Output: 1mV. Rec load: 47K-100K. Price not quoted.

### G800E Super E

Stereo magnetic cartridge. Single-sided with elliptical diamond, 0.3 x 0.7 thou replaceable. Pw:  $\frac{1}{2}$ - $1\frac{1}{2}$ gm. Tip mass less than 1mg. Compliance  $35 \times 10^{-6}$ . FR: 10Hz-23kHz. Channel separation: 25dB (1kHz) and better than 15dB (10kHz). Output voltage: 0.8mV. Rec load: 47K. Price not quoted.

### Goldring G800/H

Magnetic stereo cartridge. Single-sided with 0.7 thou tip radius diamond. Replaceable. Pw:  $2\frac{1}{2}$ - $3\frac{1}{2}$ gm. Tip mass 1.2mg. Compliance:  $18 \times 10^{-6}$ . FR: 20Hz-20kHz. Separation: 20dB at 1kHz, 10dB at 10kHz. Output: 1.6mV. Rec load: 47K. Price not quoted.

### Goldring 850 ★

Magnetic stereo cartridge. Single-sided,  $\frac{1}{2}$  in fixing centres. Stylus: 0.7 thou diamond, replaceable. Pw: 2.4gm. FR: 20Hz-18kHz. Separation: 20dB at 1kHz. Output: 1.6mV. Rec load: 47K-100K. Price: £5.25 (plus VAT).

### 820 ★

Stereo magnetic cartridge.  $\frac{1}{2}$  in fixing centres. Diamond spherical stylus. Pw: 2gm. Tip mass: 1mg. Compliance:  $20 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 20dB. Output: 1mV. Rec load: 47K-100K. Price: £10 (plus VAT).

### 820E

Stereo magnetic cartridge.  $\frac{1}{2}$  in fixing centres. Diamond elliptical stylus. Pw: 1.5gm. Tip mass: < 1mg. Compliance:  $25 \times 10^{-6}$ cm/dyne. FR: 10Hz-23kHz. Separation: 20dB. Output: 1mV. Rec load: 47K-100K. Price: £15 (plus VAT).

### 820E Super

Stereo magnetic cartridge.  $\frac{1}{2}$  in fixing centres. Diamond elliptical stylus. Pw: 1.25gm. Tip mass: < 1mg. Compliance:  $30 \times 10^{-6}$ cm/dyne. FR: 10Hz-23kHz. Separation: 25dB. Output: 0.8mV. Rec load: 47K-100K. Price: £20 (plus VAT).

**■ GRADO**

Distributors: Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

**F3E ★**

Stereo magnetic cartridge. Stylus:  $0.7 \times 0.3$  thou diamond. Pw:  $1\frac{1}{2}$ - $3\frac{1}{2}$ gm. FR: 10Hz-35kHz. Output: 3mV. Price: £15 (plus £1.50 VAT).

**F2 ★**

Stereo magnetic cartridge. Stylus:  $0.6 \times 0.3$  thou diamond. Pw: 1-2gm. FR: 7Hz-60kHz. Output: 3mV. Price: £25 (plus £2.50 VAT).

**F1R ★**

Stereo magnetic cartridge. Stylus: 0.6 thou spherical diamond. Pw:  $1\frac{1}{2}$ - $3\frac{1}{2}$ gm. FR: 10Hz-35kHz. Output: 3mV. Price: £7 (plus 70p VAT).

**F1E ★**

Stereo magnetic cartridge. Stylus:  $0.7 \times 0.3$  thou diamond. Pw:  $1\frac{1}{2}$ - $3\frac{1}{2}$ gm. FR: 10Hz-35kHz. Output: 3mV. Price: £11 (plus £1.10 VAT).

**F1**

Stereo magnetic cartridge.  $\frac{1}{2}$ in fixing centres. Twin spherical diamond. Pw: 1-2gm. FR: 7Hz-60kHz. Channel separation: 25dB. Output: 3mV. Rec load: greater than 10K. Price: £32 (plus £3.20 VAT).

**■ G. F. C. HADCOCK**

Audio Division, The Old Vicarage, Doveridge, Derby, DE6 5NN. Tel: Uttoxeter 2452.

**GH Unipoise Series 2 ★**

Precision pickup arm featuring a new bearing assembly offering friction of less than 6mg at the pivot. Finely engineered tubular aluminium arm with slotted headshell. Accepts all lightweight cartridges down to 0.5gm. Standard  $\frac{1}{2}$ in fixing centres. Easy operation due to simplicity of unipivot design. Bias compensation assembly included. Easily adjusted calibrated weight 0.3gm. GH Unilift lowering device available separately (see pickup accessories section). Size: Length  $12\frac{1}{2}$ in, height 2.4in, pivot to stylus tip 9in, pivot to centre of turntable  $8\frac{3}{8}$ in. Offset angle 23°. Rear overhang 3in. Price: £18.15 (including VAT).



Hadcock GH Unipoise

**■ HOWLAND-WEST LTD**

3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

**G20 B/L ★**

Transcription pickup arm with headshell but less cartridge. Provision for accommodating cartridges with  $\frac{1}{2}$ in fixing centres. Lowering device. Bias compensation. Adjustable counterbalance weight. Lightweight headshell. Tubular polished metal arm. Adjustable height. Price: £16.50 (including VAT).

**■ JVC-NIVICO**

Denham & Morley (Overseas) Ltd, Denmark House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

**4MD20X**

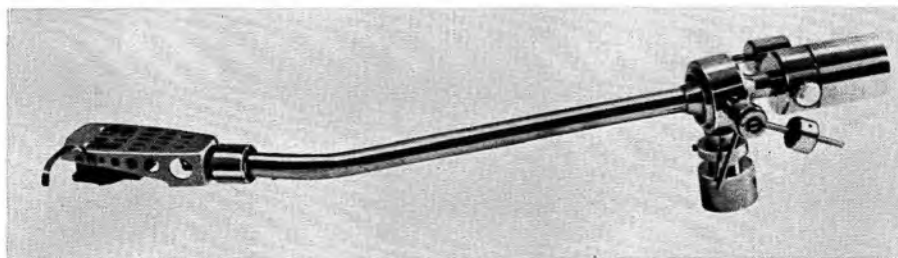
Four-channel stereo cartridge. Developed for playing discrete four-channel records. Shibata diamond stylus. FR: 20Hz-60kHz. Pw:  $1\frac{1}{2}$ gm. Output: 2mV. Price: £32.01 (including VAT).

**■ MICRO**

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

**VF3200/6**

Stereo variable flux cartridge.  $\frac{1}{2}$ in fixing centres. Stylus: 0.6 spherical diamond. Pw: 1.5gm. Compliance:  $30 \times 10^{-6}$ cm/dyne. FR: 5Hz-35kHz. Separation: 30dB at 1kHz. Output: 3mV at 1kHz at 3.54cm/sec. Rec load: 47-50K. Price: £6.60 (including VAT).



Howland-West G20B/L

★ Indicates entry is illustrated

#### **VF3200XE**

Stereo variable flux cartridge.  $\frac{1}{2}$ in fixing centres. Stylus:  $0.3 \times 0.8$  thou diamond. Pw: 1.5gm. Compliance:  $30 \times 10^{-6}$ cm/dyne. FR: 5Hz-35kHz. Separation: 30dB at 1kHz. Output: 3mV at 1kHz at 3.54cm/sec. Rec load: 47-50K. Price: £11 (including VAT).

#### **VF3200E ★**

Stereo variable flux cartridge.  $\frac{1}{2}$ in fixing centres. Stylus:  $0.3 \times 0.8$  thou low-mass diamond. Pw: 1.5gm. Compliance:  $30 \times 10^{-6}$ cm/dyne. FR: 5Hz-35kHz. Separation: 30dB at 1kHz. Output: 3mV at 1kHz at 3.54cm/sec. Rec load: 47-50K. Price: £13.20 (including VAT).

#### **MA101 Mk II ★**

Transcription pickup arm without cartridge. Damped cueing device. Spring-loaded adjustable bias compensation. Revolving dual counterweight. Tracking error  $< 1.5^\circ$ . Stylus pressure: adjustable 0-3gm. Price: £33 (including VAT).

#### **■ N. MIERS & CO LTD**

28 Piercing Hill, Theydon Bois, Epping, Essex, CM16 7LE. Tel: 037-881 2611.

#### **SX6M**

Stereo crystal cartridge. LP/78 diamond stylus. Pw: 4-6gm. Output: 280mV. Price: £2.60 (plus VAT).

#### **SX6H**

Stereo crystal cartridge. LP/78 diamond stylus. Pw: 7gm. Output: 700mV. Price: £2.60 (plus VAT).

#### **SC5M**

Stereo ceramic cartridge. LP/78 diamond stylus. Pw: 2-6gm. Output: 110mV. Price: £3.13 (plus VAT).

#### **SC5H**

Stereo ceramic cartridge. LP/78 diamond stylus. Pw: 5-7gm. Output: 190mV. Price: £3.13 (plus VAT).

#### **SC8M**

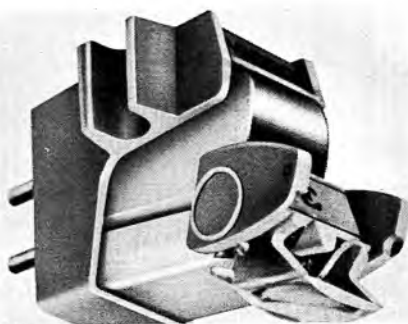
Stereo ceramic cartridge. LP/78 diamond stylus. Pw: 2-6gm. Output: 110mV. Price: £3.62 (plus VAT).

#### **■ KEITH MONKS (Audio) LTD**

26-30 Reading Road South, Fleet, Aldershot, Hants. Tel: Fleet (02514) 7316 and 3566.

#### **Laboratory 9 ★**

9in pickup arm designed for low-mass ultra-high compliant cartridges tracking at very low stylus pressures. Damped unipivot arm with no lead-out wires. Bias correction and lifting device incorporated. Optional extra: lathe base all fully adjustable by finger locking levers. Price: (Mark II fixed base) £25 (plus £2.50 VAT); (Mark III sliding adjustable base) £30.50 (plus £3.05 VAT).



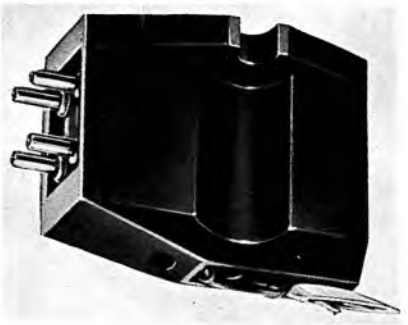
Micro VF 3200/E



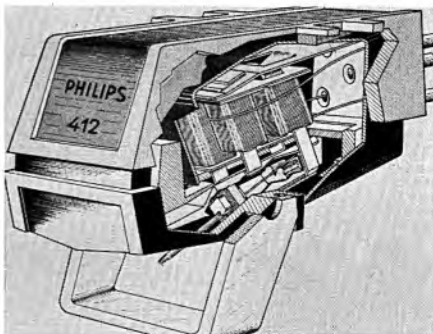
Micro MA101 Mk II



Keith Monks Laboratory 9



Ortofon SL 15/E



Philips GP412

**ORBIT**

Distributors: Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

**NM22**

Stereo magnetic cartridge. Diamond stylus. FR: 20Hz-20kHz. Channel separation: 20dB at 1kHz. Output: 5mV. Rec load: 50K-100K. Playing weight: 2-3gm. Price: (complete cartridge) £4 (plus VAT); (replacement stylus) £2.40 (plus VAT).

**ORTOFON**

Distributed in the UK by Metrosound (Sales) Co Ltd, Cartersfield Road, Waltham Abbey, Essex, EN9 1JF. Tel: Waltham Cross 31933.

**SL15/E ★**

Moving coil stereo cartridge. Pw: 1-2gm. Tip mass: 0.9mg. Compliance:  $25 \times 10^{-6}$ cm/dyne. FR: 10Hz-40kHz. Separation: 20-30dB. Output: 0.04mV/cm/sec (loaded). Output impedance 2 ohms. Matching transformer required for most amplifiers (see transformer below). Stylus diamond 0.6  $\times$  0.3 thou. Tracking angle: 15°. Price: £26.50 (plus VAT).

**SL15**

Similar specification to SL15/E but with spherical 0.6 thou diamond stylus. Price: £19 (plus VAT).

**Transformer module**

Primary impedance: 2 ohms. Secondary impedance: 15K. Load: 10K to 50K without change in frequency response. FR: 20Hz-40kHz. Price: £8 (plus VAT).

**M15E Super**

Moving magnet stereo cartridge. Compliance: (horizontal)  $50 \times 10^{-6}$ cm/dyne; (vertical)  $30 \times 10^{-6}$ cm/dyne. Trackability: 80µm. Output: 0.8 mV. FR: 20Hz-20kHz. Pw:  $\frac{3}{4}$ -1½gm. Separation: better than 25dB at 1kHz. Price: £30 (plus VAT).

**M15 Super**

Moving magnet stereo cartridge. Compliance: (horizontal)  $50 \times 10^{-6}$ cm/dyne; (vertical)  $30 \times 10^{-6}$ cm/dyne. Trackability: 80µm. Output: 0.8 mV. FR: 20Hz-20kHz. Pw:  $\frac{3}{4}$ -1½gm. Separation: better than 25dB at 1kHz. Price: £25.50 (plus VAT).

**MF15E**

Stereo cartridge. Price: £20 (plus VAT).

**MF15**

Stereo cartridge. Price: £16 (plus VAT).

**F15E**

Stereo cartridge. Compliance: (horizontal and vertical)  $25 \times 10^{-6}$ cm/dyne. Trackability: 60µm. Output: 1mV. FR: 20Hz-20kHz. Separation: better than 25dB at 1kHz. Pw: 1-2gm. Price: £12.50 (plus VAT).

**F15**

Stereo cartridge. Compliance: (horizontal and vertical)  $25 \times 10^{-6}$ cm/dyne. Trackability: 60µm. Output: 1mV. FR: 20Hz-20kHz. Separation: better than 25dB at 1kHz. Pw: 1-2gm. Price: £10 (plus VAT).

**FF15E**

Stereo cartridge. Compliance: (horizontal and vertical)  $20 \times 10^{-6}$ cm/dyne. Trackability: 60µm. Output: 1mV. FR: 20Hz-20kHz. Separation: better than 25dB at 1kHz. Pw: 1-3gm. Price: £12.50 (plus VAT).

**FF15**

Stereo cartridge. Compliance: (horizontal and vertical)  $20 \times 10^{-6}$ cm/dyne. Trackability: 60µm. Output: 1mV. FR: 20Hz-20kHz. Separation: better than 25dB at 1kHz. Pw: 1-3gm. Price: £10 (plus VAT).

**Replacement styli**

SL15E elliptical diamond. Price: £9.50 (plus VAT); SL15 0.6 thou spherical diamond. Price: £7 (plus VAT); M15E Super elliptical diamond stylus. Price: £17 (plus VAT); M15 0.6 thou spherical diamond. Price: £12.50 (plus VAT); MF15E elliptical diamond. Price: £12 (plus VAT); MF15 0.6 thou spherical diamond. Price: £8 (plus VAT); F15. Price: £5 (plus VAT); F15E. Price: £6.50 (plus VAT); FF15. £5 (plus VAT); FF15E. Price: £6.50 (plus VAT).

Note: SL15 Series styli are factory-replaceable only and the charge includes reconditioning the cartridge.

**RMG/309**

16in pickup arm for stereo and mono cartridges. Playing weight adjustable from 0-12gm. Price: £22 (plus VAT).

**AS212**

12in pickup arm for stereo and mono cartridges. Playing weight: adjustable 0-3gm. Magnetic anti-skating device. Hydraulic lifting, lowering and cueing. Easy to mount. Arm base to turntable centre: 8 $\frac{3}{8}$ in. Height adjustable: 1 $\frac{1}{4}$ -2 $\frac{5}{8}$ in. Effective length: (stylus to pivot) 9in. Optimum overhang:  $\frac{3}{8}$ in. Maximum tracking error: 0.16 deg/cm. Price: £29 (plus VAT).

**M Shell**

Type M metal shells for 15 Series cartridges. Price: £1.50 (plus VAT).

**PHILIPS ELECTRICAL LTD**

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

**GP412 ★**

Stereo magneto dynamic cartridge. 45/LP only. Standard  $\frac{1}{2}$ in mounting centres. Stylus: 0.3  $\times$  0.7 thou bi-radial diamond. Pw: 0.75-1.5gm. Effective tip mass <0.75mg. Compliance lateral >25

★ Indicates entry is illustrated

typical 30; vertical >15 typical 20. FR: 20Hz-20kHz  $\pm$  2dB. Channel separation: >25dB at 1kHz, >16dB at 10kHz. Output: 1.2mV/cm/sec. Rec load: 47K. Net weight: 7gm. Price: £35.08 (including VAT).

#### GP400

Stereo magneto dynamic cartridge. 45rpm and LP only.  $\frac{1}{2}$ in fixing centres. Pw: 1.5-3gm. Sensitivity: 1.2mV/cm/sec. Stylus: 0.6 thou diamond. Compliance: 20mm/N lateral, 16mm/N vertical. Rec load: 47K. Separation: >20dB at 1kHz. Dynamic mass: <0.8mg. FR: 20Hz-20kHz  $\pm$  3dB. Net weight: 7gm. Price: £17.06 (including VAT).

#### GP401

Specification as for GP400 but fitted with elliptical stylus 0.7  $\times$  0.3 thou diamond. Price: £22.28 (including VAT).

#### GP213

Stereo ceramic cartridge.  $\frac{1}{2}$ in fixing centres. Stylus: 0.6 thou diamond LP, 3 thou sapphire 78 (turnover assembly). Pw: 3-7gm. Sensitivity: 65mV/cm/sec at 1kHz. Compliance: >5mm/N. Rec load: 1M. Separation: >18dB at 1kHz. Net weight: 2.5gm. Price: £2.65 (including VAT).

### ■ PICKERING

Distributors: Highgate Acoustics,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

#### XV-15 DCF Series ★

With Dustamatic. Stereo magnetic cartridges all with 35dB channel separation. Series comprises the following:

##### 1200E

Price: £42.50 (plus VAT).

##### 750E

Output: 4.4mV. FR: 10Hz-25kHz. Pw:  $\frac{1}{2}$ -1gm. Stylus: 0.2  $\times$  0.9 thou. Price: £32.50 (plus VAT).

##### 400E

Output: 4.5mV. FR: 10Hz-25kHz. Pw:  $\frac{3}{4}$ -1 $\frac{1}{2}$ gm. Stylus: 0.3  $\times$  0.9 thou. Price: £21 (plus VAT).

##### 140E

Output: 8mV. FR: 10Hz-20kHz. Pw: 3-5gm. Stylus: 0.4  $\times$  0.9 thou. Price: £16.85 (plus VAT).

##### 350

Output: 6mV. FR: 10Hz-25kHz. Pw: 1-3gm. Stylus: 0.7 thou spherical. Price: £16 (plus VAT).

##### 150

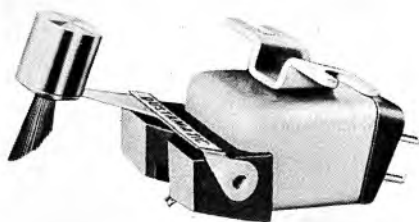
Output: 8mV. FR: 10Hz-25kHz. Pw: 2-5gm. Stylus: 0.7 thou. Price: £13.50 (plus VAT).

##### 100

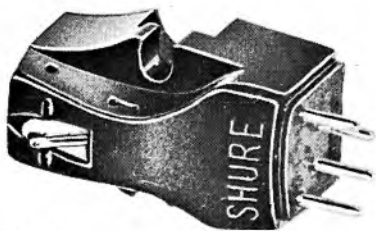
Output: 8mV. FR: 10Hz-20kHz. Pw: 3-7gm. Stylus: 0.7 thou. Price: £11.50 (plus VAT).

#### V15 Micro IV AME

Stereo magnetic cartridge. Stylus: 0.3  $\times$  0.7 thou elliptical diamond. Pw: 1-2gm. FR: 20Hz-



Pickering V-15 Series



Shure M3D

20kHz. Channel separation: 30dB. Output: 5-5mV. Rec load: 47K. Price: £17 (plus VAT).

#### V15 Micro IV AM

Stereo magnetic cartridge. Stylus: 0.7 thou spherical diamond. Pw: 1-3gm. FR: 20Hz-20kHz. Channel separation: 30dB. Output: 6-5mV. Rec load: 47K. Price: £13.50 (plus VAT).

#### V15 Micro IV AT

Stereo magnetic cartridge. Stylus: 0.7 thou spherical diamond. Pw: 2-4gm. FR: 20Hz-18kHz. Rec load: 47K. Price: £11.50 (plus VAT).

#### V15 Micro IV ACE

Stereo magnetic cartridge. Stylus: 0.4  $\times$  0.9 thou elliptical diamond. Pw: 3-5gm. FR: 20Hz-17kHz. Channel separation: 26dB. Output: 7-5mV. Rec load: 47K. Price: £11.50 (plus VAT).

#### V15 Micro IV AC

Stereo magnetic cartridge. Stylus: 0.7 thou spherical diamond. Pw: 4-6gm. FR: 20Hz-17kHz. Channel separation: 26dB. Output: 7-5mV. Rec load: 47K. Price: £10.25 (plus VAT).

#### P Series P/ATE

Stereo magnetic cartridge. Stylus: 0.5  $\times$  1.0 thou elliptical diamond. Pw: 2-5gm. FR: 20Hz-20kHz. Channel separation: 35dB. Output: 5-5mV. Rec load: 47K. Price: £10.25 (plus VAT).

#### P Series P/AT

Stereo magnetic cartridge. Stylus: 0.7 thou spherical diamond. Pw: 2-5gm. FR: 20Hz-20kHz. Channel separation: 35dB. Output: 6-9mV. Rec load: 47K. Price: £8 (plus VAT).

**P Series P/AC**

Stereo magnetic cartridge. Stylus: 0.7 thou spherical diamond. Pw: 3.7gm. FR: 20Hz-20kHz. Channel separation: 35dB. Output: 7.5mV. Rec load: 47K. Price: £6.50 (plus VAT).

**■ RONETTE**

Condor Electronics Ltd. 100 Coombe Lane. London. SW20 AOY. Tel: 01-946 0033.

**SM500/7**

Stereo magnetic cartridge.  $\frac{1}{2}$ in fixing centres. Stylus: 1.5micron diamond (0.7mil radius). Pw:  $1\frac{1}{2}$ -2 $\frac{1}{2}$ gm. Compliance:  $12 \times 10^{-6}$ cm/dyne. FR: 10Hz-20kHz. Output: 6mV at 5cm/sec at 1kHz. Rec load: 47K. Price: £6.50 (plus VAT).

**■ SHURE ELECTRONICS LTD**

Ecclestone Road. Maidstone. ME 6AU. Tel: Maidstone (0622) 59881.

**M3D ★**

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$ in fixing centres. Stylus: 0.7 thou diamond. Pw: 3-6 gm. Compliance:  $4 \times 10^{-6}$ cm/dyne. FR: 20Hz-15kHz. Separation: 20dB at 1kHz. Output: 1mV. Load impedance: 47K. Price: £5.61 (including VAT).

**M44C**

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$ in fixing centres. Stylus: 0.7 thou diamond (1 thou and 3 thou styli available). Pw: 3-5gm. Compliance:  $7.5 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 25dB at 1kHz. Output: 1.8mV. Load impedance: 47K. Price: £7.26 (including VAT).

**M44E**

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$ in fixing centres. Stylus: 0.7 x 0.4 thou bi-radial diamond (3 thou stylus available). Pw:  $1\frac{1}{2}$ -4gm. Compliance:  $15 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: >25dB at 1kHz. Output: 1.8 mV. Rec load: 47K. Price: £7.92 (including VAT).

**M44G**

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$ in fixing centres. Stylus: 0.6 thou diamond (1 thou and 3 thou styli available). Pw:  $\frac{3}{4}$ -1 $\frac{1}{2}$ gm. Compliance:  $25 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 25dB at 1kHz. Output: 1.4mV. Load impedance: 47K. Price: £7.59 (including VAT).

**M44-7**

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$ in fixing centres. Stylus: 0.7 thou diamond (1 thou and 3 thou styli available). Pw:  $1\frac{1}{2}$ -3gm. Compliance:  $20 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 25dB at 1kHz. Output: 2.2mV. Load impedance: 47K. Price: £7.26 (including VAT).

# Let your ears be the judge

Just close your eyes and listen to the latest in record sound reproduction from Acos.

Our new M6 range of magnetic cartridges can replace your old model and revitalise your Hi Fi system.

A range of stylus tips and tracking weights are available to suit your pick-up arm and your choice of sound.

Acos have produced crystal and ceramic pick-up cartridges and piezo-electric devices for over 30 years.

These new moving magnet types are offered with confidence and will stand comparison with any in the same price range and many higher priced equivalents. Ask for an Acos magnetic cartridge then judge for yourself.



*Acos for sound enjoyment.*



## COSMOCORD

Cosmocord Ltd, Eleanor Cross Road, Waltham Cross, Hertfordshire.  
Telephone: Waltham Cross 27331

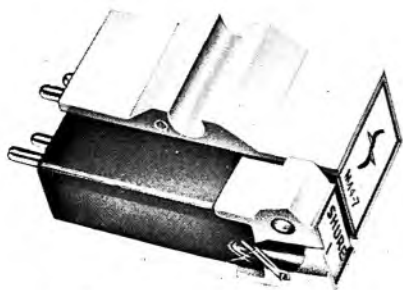
★ Indicates entry is illustrated

### M55E ★

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$  in fixing centres. Stylus:  $0.7 \times 0.2$  thou elliptical diamond (3 thou stylus available). Pw:  $\frac{3}{4}$ -2gm. Compliance:  $15 \times 10^{-6}$ cm/dyne. Output: 1.3mV. Load impedance: 47K. Price: £8.91 (including VAT).

### M75B Type 2

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$  in fixing centres. Stylus: 0.6 thou conical diamond (3 thou stylus available). Pw:  $1\frac{1}{2}$ -3gm. Trackability (see note at end) at 2gm in SME 3009 arm: 400Hz 28cm/sec, 1kHz 35cm/sec, 10kHz 20cm/sec. FR: 20Hz-20kHz. Separation: >25dB at 1kHz. Output: 1mV. Rec load: 47K per channel. Price: £12.54 (including VAT).



Shure M55E



Shure M75ED Type 2



Shure V15-III

### M75ED Type 2 ★

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$  in centres. Stylus:  $0.7 \times 0.2$  thou elliptical diamond (3 thou stylus available). Pw:  $\frac{3}{4}$ - $1\frac{1}{2}$ gm. Trackability (see note at end) at 1gm in SME 3009 arm: 400Hz 22cm/sec, 1kHz 33cm/sec, 5kHz 28cm/sec, 10kHz 19cm/sec. FR: 20Hz-20kHz. Separation at 1kHz: 25dB. Output: 5mV. Rec load: 47K per channel. Price: £17.49 (including VAT).

### M75G Type 2

Stereo Dynetic cartridge. Moving magnet.  $\frac{1}{2}$  in fixing centres. Stylus: 0.6 thou conical diamond (3 thou stylus available). Pw:  $\frac{3}{4}$ - $1\frac{1}{2}$ gm. Trackability (see note at end) at 1gm in SME 3009 arm: 400Hz 20cm/sec, 1kHz 28cm/sec, 10kHz 18cm/sec. FR: 20Hz-20kHz. Separation: >25dB at 1kHz. Output: 1mV. Rec load: 47K per channel. Price: £13.53 (including VAT).

### M75EJ Type 2

Stereo Dynetic cartridge. Stylus:  $0.7 \times 0.4$  thou bi-radial diamond. Pw:  $1\frac{1}{2}$ -3gm. Trackability at 2gm in SME 3009 arm: 400Hz 28cm/sec, 1kHz 35cm/sec, 10kHz 20cm/sec. Price: £14.19 (including VAT).

### V15-Type III ★

Stereo dynetic cartridge. Moving magnet.  $\frac{1}{2}$  in fixing centres. Stylus:  $0.7 \times 0.2$  thou bi-radial diamond (0.6 thou and 2.5 thou spherical tips also available). Pw:  $\frac{3}{4}$ - $1\frac{1}{2}$ gm. Trackability (see note at end) at 1gm in SME3009 arm: 400Hz 26cm/sec, 1kHz 38cm/sec, 5kHz 35cm/sec, 10kHz 26cm/sec. FR: 10Hz-25kHz. Separation: 25dB at 1kHz, 20dB at 10kHz. Output: 3.5mV at 1kHz (5cm/sec peak recorded velocity). Rec load: 47K. Price: £39.60 (including VAT).

### NOTE

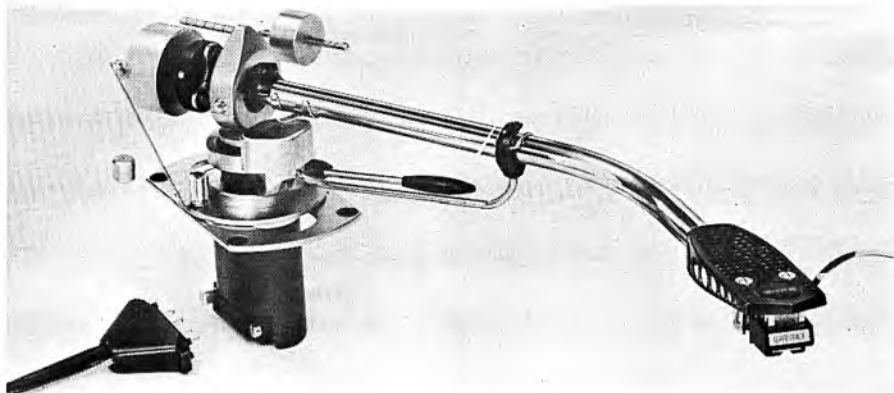
Trackability is a term introduced by Shure to give a measure of the total performance of a cartridge. It takes into account the mechanical design parameters of tip mass, inertia, compliances throughout the system, tracking pressure, recorded velocity, etc. Explanatory leaflet available on request.

### ■ SME LTD

Steyning, Sussex, BN4 6GY.  
Tel: Steyning (0903) 814321

### Model 3009 (Series II Improved) ★

Precision pickup arm. Non-detachable shell. Pivot to stylus 9 in nominal. Effective mass 5.5gm. Low-friction pivots. Vertical axis: high precision fully protected ballraces. Horizontal axis: knife edges. Less than 0.02gm applied at the stylus will deflect the arm in either plane. Fixed elements of the balance system are light, the movable elements are heavy and close to the fulcrum. Low distortion geometry. Bias adjustable to correspond with tracking force. Base



SME3009 (Series II Improved)

slides on bedplate for tracking adjustment with protractor. Arm mass divided by elastic coupling. Tracking force adjustable 0-1.5gm, applied precisely without the use of a gauge. Lever-operated hydraulically damped lowering and raising control. Shell accepts all cartridges with  $\frac{1}{2}$  in (12.7mm) fixing centres and weighing 4-9gm. Supplied with 4ft (1.22m) low-capacity audio lead for magnetic cartridges. Fitted with SME phone plugs as standard, DIN five-pole plug supplied to order. Finish: satin chrome, gun black, anodised alloy and polished stainless steel. SME 3009 pickup arm is supplied complete with mounting template, alignment protractor, shell hardware, fixing screws and fully illustrated instruction book. Price: £31.50 (plus VAT).

#### Model 3009/S2 (Series II improved)

Precision pickup arm. Detachable head shell. Effective mass 9.5gm. All other details as for the 3009 above. Price: £34.50 (plus VAT).

#### Accessories

S2 shell for use with Model 3009/S2 Series II Improved and Series II arm. Price: £2.52 (plus VAT).

#### ■ SONOTONE

Vernitron Ltd, Thornhill, Southampton, Hants, SO9 5QF.

Tel: Southampton 44811; Telex: 47138.

#### 2T

Monaural ceramic cartridge with turnover stylus. Stylus sapphire 2.5 thou (78), 0.7 thou (LP). Pw: 8-10gm. Compliance:  $1 \times 10^{-6}$ cm/dyne. Output: 180mV/cm/sec at 1kHz. Capacitance: 650pF. Serviceable under all climatic conditions and compatible for 33 $\frac{1}{3}$ , 45 and 78rpm records. Price: £1.37 (including VAT).

#### 8T4A

Stereo ceramic cartridge with turnover stylus.

Sapphire, 2.5 thou (78), 0.7 thou (LP). Pw: 4-6 gm. Compliance:  $1.4 \times 10^{-6}$ cm/dyne. Separation: 24dB at 1kHz. Output: 90mV/cm/sec at 1kHz. Capacitance: 650pF. Price: £1.92 (including VAT).

#### 9TA

Stereo turnover ceramic cartridge. Sapphire stylus. Pw: 2-4gm. Tip mass: 3.5mg. Compliance:  $5.3 \times 10^{-6}$ cm/dyne. FR: 30Hz-15kHz  $\pm 3$ dB. Separation: 27dB. Output voltage: 80-120mV. Load imp 2 megohm. Price: £2.75 (including VAT).

#### 9TA-G

As 9TA but for single-hole slim fitting head shells.

#### 9TAD

Similar specification to 9TA but with diamond stylus. Price: £3.57 (including VAT).

#### 9TAHC

Stereo turnover ceramic cartridge. Choice of both sapphire styli or sapphire 78/diamond stereo LP. FR: 20Hz-20kHz  $\pm 3$ dB from 1kHz. Rec load: 2M. Sensitivity: 55-85mV/cm/sec at 1kHz. Lateral compliance:  $8.5 \times 10^{-6}$ cm/dyne. Separation: 25dB at 1kHz. Pw: 1-3gm. Tip mass: 2.5mg. Capacitance: 800pF. Price: (with sapphire stylus) £2.75 (including VAT); (with diamond stylus) £3.57 (including VAT).

#### 9TAHC-G

As 9TAHC but for single-hole slim fitting head shells.

#### 2109

Mono Rochelle cartridge. Output at 1kHz 700 mV/cm/sec. Capacitance: 1000pF. Compliance:  $1.5 \times 10^{-6}$ cm/dyne. Tracking: +12dB at 6gm. FR: 100Hz-8kHz  $\pm 3$ dB. Rec stylus force: 6-8 gm. Price: £1.52 (including VAT).

#### 2509

Stereo Rochelle cartridge. Output at 1kHz:



# Alba-Twin Success Story

After the outstanding success of the ALBA UA 700 Amplifier, acclaimed by the Audio Press, we just had to introduce a Stereo Tuner to match and complement it.

The ALBA UA 800 Stereo Tuner is a fully integrated AM/FM Radio Receiver with multiplex (decoder). Features include solid state circuitry, push button switching for waveband selection AFC and QT and a novel directional VHF tuning indicator.



ALBA UA 700 Amplifier  
Recommended Price £43.67.



ALBA UA 800 Stereo Tuner  
Recommended Price £37.84.

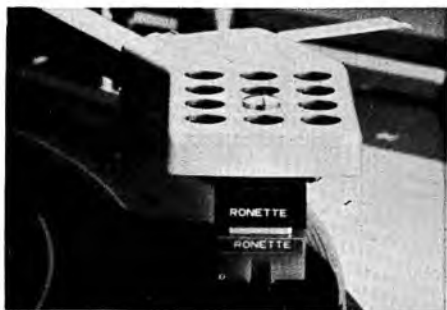
## ALBA

Please write for full descriptive literature to  
ALBA (Radio & Television) Ltd., Tabernacle Street, London E.C.2.

## A cartridge of this quality must cost a lot of money, right? Wrong.

In the hi-fi business, it generally follows that a cartridge costing £15 is better than one costing £10 which is better than one costing £5.

Now and again there comes a product that although prepared to an advanced specification, can be offered at a price which is, by all standards, very reasonable indeed.



Such a cartridge is the Ronette.

It is available with:  
SM500/5 (.0005 Stylus. Blue.),  
SM500/7 (.0006 Stylus. Red.),  
SM500/STD (78 rpm. Green.) and  
SM500/E (Elliptical. Yellow.).

The recommended retail price is only £7.95 including VAT. (£12.95 for the SM500/E Model.)

We think that adds up to a bargain.

What do you think.

### Condor

The fastest bird in the business.

Technical Specification (SM500/7).  
Freq. Res.: 10-20,000 Hz  
Output: 6 mV/5 cm/sec  
Compliance: 12 x 10<sup>-6</sup> cm/syne  
Channel Separation: 25 db at 1000 Hz  
Tracking Force: 1½-2½ grams.

Write now for further details:

Condor Electronics Limited, 100 Coombe Lane, London SW20 0AY. Telephone: 01-946 0033 (4 lines).  
Distributors of cartridges, styli, condenser microphones and headphones. Guaranteed 24 hour delivery.

★ Indicates entry is illustrated

340mV. Capacitance: 1000pF. Channel difference less than 3dB. Separation at 1kHz better than 12dB. Pw: 7gm. FR: 50Hz-8kHz  $\pm$  3dB. Price: £2.15 (including VAT).

**2539**

Stereo Rochelle cartridge. Output at 1kHz 550 mV/cm/sec. Capacitance: 1000pF. Channel difference less than 3dB. Separation at 1kHz better than 12dB. Tracking: +12dB at 9gm. FR: 100Hz-8kHz. Rec stylus force 8-10gm. Price: £2.15 (including VAT).

**3509**

Stereo ceramic cartridge. Output at 1kHz: 140 mV/cm/sec. Channel difference less than 3dB. Separation at 1kHz: better than 15dB, typically 20dB. Capacitance: 600pF. Tracking: +12dB, typically +15 at 5gm. FR: 100Hz-10kHz  $\pm$  3dB. Rec stylus force: 5-7gm. Price: (with sapphire stylus) £2.75 (including VAT); (with diamond stylus) £3.13 (including VAT).

**3549**

Ceramic stereo cartridge with stylus. Pw: 2½-4gm. FR: 20Hz-12kHz. Separation: better than 15dB at 1kHz. Output: 70mV/cm/sec nominal. Rec load: 2 megohms and 100pF. Price: (sapphire stylus) £2.75 (including VAT); (with diamond stylus) £3.13 (including VAT).

**3549**

Ceramic stereo cartridge with stylus: Pw: 3-5gm. FR: 30Hz-10kHz. Separation: better than 15dB at 1kHz. Output: 100mV/cm/sec nominal. Rec load: 2 megohms and 100pF. Price: (sapphire stylus) £2.75 (including VAT); (with diamond

stylus) £3.13 (including VAT).

**V100**

Stereo magnetic cartridge. ½in fixing centres. Diamond styli with 0.6 thou spherical tip. Pw: 2-2½gm. Tracking: +18dB at 2½gm (CBS STR111-band 4B). FR: 20Hz-20kHz. Separation: better than 20dB at 1kHz. Output: 1.4mV at 1cm/sec at 1kHz. Rec load: 200mH per channel. Price: £8 (including VAT).

**V200S**

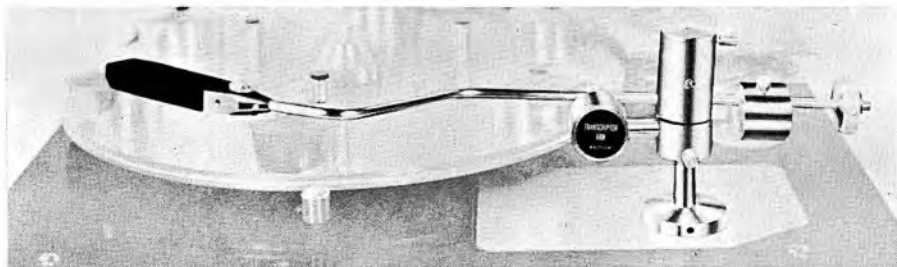
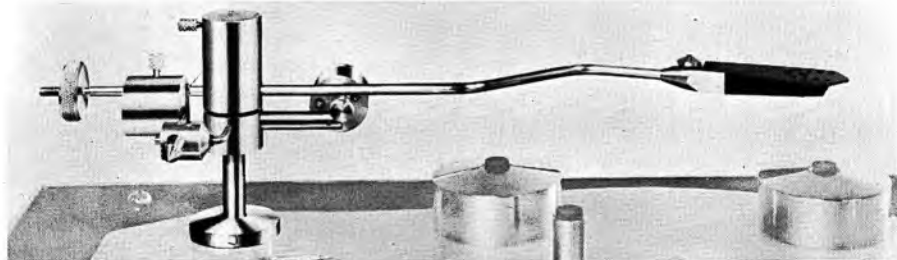
Stereo magnetic cartridge. ½in fixing centres. Diamond stylus with 0.6 thou spherical tip. Pw: 2-2.8gm. Tracking: +18dB at 2.4gm (CBS STR111-band 4B). FR: 15Hz-25kHz. Separation: better than 20dB at 1kHz. Output: 1mV at 1cm/sec at 1kHz. Rec load: 360mH per channel. Price: £10 (including VAT).

**V200E**

Stereo magnetic cartridge. ½in fixing centres. Diamond stylus with 0.8 x 0.3 tip. Pw: 2-2.8gm. Tracking: +18dB at 2.4gm (CBS STR111-band 4B). FR: 10Hz-30kHz. Separation: better than 20dB at 1kHz. Output: 1mV at 1cm/sec at 1kHz. Rec load: 360mH per channel. Price: £15 (including VAT).

**V200EX**

Stereo magnetic cartridge. ½in fixing centres. Diamond stylus with 0.8 x 0.2 tip. Pw: 2-2.5gm. Tracking: +18dB at 2.2gm (CBS STR111-band 4B). FR: 10Hz-35kHz. Separation: better than 20dB at 1kHz. Output: 0.6mV at 1cm/sec at 1kHz. Rec load: 360mH per channel. Price: £20 (including VAT).



*Transcriptors Fluid Arm*

**■ TANNOY PRODUCTS LTD**

Norwood Road, West Norwood, London,  
SE27 9AB. Tel: 01-670 1131. Cables: Tannoy,  
London.

**Variluctance**

Turnover cartridge. Output voltages: LP: 10-12mV; 78 18-20mV. Range: 20Hz-16kHz  $\pm$  2dB. Pw: 5-6gm (less with professional arms). Load imp: 50K ohms. Price (with 2 diamonds): £12 (plus VAT); (with 1 diamond and 1 sapphire): £9.50 (plus VAT); (with 2 sapphires): £7 (plus VAT). Compatible styli available £3 (plus VAT). Lightweight stereo/mono styli assembly. Price: £3 (plus VAT).

Single stylus version of Variluctance for LP also available. Price (with diamond): £6.75 (plus VAT).

**■ TRANSCRIPTORS LTD**

2 Theobald Street, Boreham Wood, Herts.  
Tel: 01-953 0771.

**Transcriptors fluid arm ★**

Stereo or mono low-mass arm with fluid Uni-pivot mount. Modular counter-weight system with fine balance adjustment. Suitable for all cartridges with compliance of  $20 \times 10^{-6}$ cm/dyne or above, tracking at not more than 2.5gm. Hydraulic lowering device with manual override control. Incorporates precise cueing system. Single hole fixing. Integrated leads. Plug-in head shell. Roller-action adjustable bias compensation. British made. Price: approximately £25 (plus VAT).

**■ T.T.C.**

Joint distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288. E.R. (Factors) Ltd,  
373-378 Harrow Road, Paddington, London,  
W9. Tel: 01-286 0361.

**J2203**

Moving magnet stereo cartridge. Stylus: 0.7 thou diamond. Pw:  $1\frac{1}{2}$ -2.2gm. Compliance:  $12 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 20dB. Balance: within  $\pm$  1dB. Output: 5mV. Rec load: 2 megohms. Price: £4.40 (including VAT); (replacement stylus) £2.90 (including VAT).

**J2203E**

Moving magnet stereo cartridge. Stylus: 0.8  $\times$  0.3 thou diamond. All other details as per J2203 above. Price: £8.50 (including VAT); (replacement stylus) £6.27 (including VAT).

**J3000E**

Moving magnet stereo cartridge. Stylus: 0.8  $\times$  0.3 thou diamond. Pw:  $1\frac{1}{2}$ -2.2gm. Compliance:  $12 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 20dB. Balance: within  $\pm$  1dB. Rec load:

2 megohms. Output: 5mV. Supplied in presentation case with spare stylus. Price: (including spare elliptical diamond stylus) £14.30 (including VAT).

**J1111**

Complete pickup arm with moving magnet stereo cartridge. Stylus: 0.7 thou diamond. Pw:  $1\frac{1}{2}$ -2.2gm. Compliance:  $12 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 20dB. Balance: within  $\pm$  1dB. Overall length: 11.4in. Effective length: 8.2in. Output: 5mV. Precision turned stainless steel arm. Weight/bias adjustment. Tracking error: 5°. Self-lubricating ball bearings. Supplied with J2203 cartridge but will accept most other makes. Price: £10.56 (including VAT).

**PU402**

Complete pickup arm with moving magnet stereo cartridge. Stylus: 0.7 thou diamond. Pw:  $1\frac{1}{2}$ -2.2gm. Compliance:  $12 \times 10^{-6}$ cm/dyne. FR: 20Hz-20kHz. Separation: 20dB. Balance: within  $\pm$  1dB. Output: 5mV. Overall length: 12.4in. Effective length: 8.2in. Chrome finished transcription arm. Bias compensation. Weight adjustable 0.25-14gm. Adjustable mounting pillar. Tracking error: +4 to -1°. Fitted with J2203 cartridge but will accept most other makes. Price: £18 (including VAT).

**PLAY-FAIR**

Record Accessories,  
Stylus Timers, Stylus Cleaners, Antistatic Cleaning Pads,  
Antistatic Fluid, Discodas, Discodusters (Record Changer  
and Single Player models), Tape Cassettes and Cartridges,  
Cassette and Cartridge Cleaners, Record Cleaners.

**MICRO-DIAMOND  
MICROSAPPHIRE**

Replacement Styli. Most comprehensive range, best  
quality, reliable service, keen prices; also MICRO-  
DIAMOND retipping service.

**DRY-SPLICE  
TAPE ACCESSORIES**

(Plugs and sockets and assemblies)

**WOELKE - Tape Heads**  
(formerly Miniflux).

Manufacturers and Distributors:

**LENNARD DEVELOPMENTS LTD**

206, CHASE SIDE,  
ENFIELD, Middx. EN2 0QX.  
Tel. (01) 363 8238



## IT'S A GOOD THING PEOPLE DON'T BUY CARS THE WAY THEY BUY HI-FI.

If the average motorist put together his 'perfect' car, he'd wind up with a joke.

Because one car maker doesn't design his parts to match other makers' parts.

For the same reason, the average music lover isn't equipped to put together hi-fi.

And he gets little help from leaflets and ads so technical as to need a glossary to explain themselves.

So, for those of you without electronic engineering degrees, Sony makes what we call Family Two.

It's made up of a constant speed auto/manual stereo turntable. Two faithful speakers. A dual capstan drive stereo cassette deck.

And at the heart of it all a tuner amplifier.

(A fully integrated amplifier combined with a perfectly matching AM/FM built in tuner, giving a solid

12 watts per channel output RMS.)

Family Two is a complete system in itself, but is also compatible with all other Sony equipment.



**SONY**

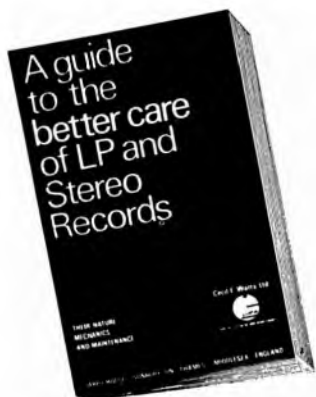
For details contact your nearest Sony dealer or write to Sony (UK) Ltd, Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex.



# TAKE CARE OF YOUR RECORDS

*Use the world's best cleaning  
and maintenance devices.*

**WATTS EQUIPMENT CARES FOR YOUR  
RECORDS IN ALL CONDITIONS OF USE**



Only the user knows the local conditions in which his records will be played. A study of the Booklet "A GUIDE TO THE BETTER CARE OF YOUR L.P. & STEREO RECORDS" will, it is hoped supply the necessary information to enable him to choose the appropriate device to suit his particular requirements.

**SEND IMMEDIATELY *15p* POST FREE**

**CECIL E. WATTS LIMITED  
DARBY HOUSE · SUNBURY ON THAMES · MIDDLESEX**

# Pickup Accessories

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOS

Cosmocord Ltd, Eleanor Cross Road, Waltham Cross, Herts, EN8 7NX.  
Tel: Waltham Cross 27331. Telex: 24294.

### Dust Jockey

Record cleaner comprising brush to sweep the grooves and a plush pad to lay a film of anti-static solution. Suction base for easy fitting. Automatic action. Designed to fit most single playing units and auto-changers when used manually. Price: 87p (plus VAT).

## ■ ADASTRA ELECTRONICS LTD

Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288 (answering service 01-452 6289).

### Imp-Verta ★

Matches low impedance PU cartridges, microphones and tape heads into high impedance amplifier inputs. Solid state printed circuit device using silicon transistor. Automatically switched internal 9V battery. Negligible drain. Conversion factor approximately 20 (depending on load). Virtually no hum or signal loss. Metal case, black crackle finish. Size:  $5 \times 1\frac{1}{2} \times 1\frac{1}{2}$  in. Price: £3.90 (including VAT).

## ■ AUDIO PACKS

Audio Packs Ltd, 206-210 Ilderton Road, London, SE15 1NS. Tel: 01-639 7844.

### Audio Packs

Pre-packed spares and audio accessories.

### Connecting cords

Cables of various types with plugs, sockets and other terminations covering all equipment in use for domestic radio.

### Adaptors

Convert from any type of plug or socket termination to any other type.

### Audio spares

Plugs, sockets, chassis mounted components, fuses and audio accessories. Pre-packed for counter or showroom display.

## Mains units

Three different 6-12V battery eliminators complete with connecting leads for use with all standard battery-operated tape recorders and radios. Full specifications on request.

## Sound selector units

A range of five units for routing signals to phones, speakers and amplifiers. Four of the units provide for the selection of up to three pairs of stereo headphones or up to three pairs of speakers. The fifth unit, model HZ793, provides facilities for connecting any three signal sources to any three amplifiers. Particularly suitable for demonstration purposes in showrooms and for comparative tests. Prices on request.

## ■ BIB

Bib Sales, PO Box 78, Hemel Hempstead, Herts.  
Tel: Hemel Hempstead 3636. Ext 100.

### Stylus and turntable cleaning kit

Includes: cleaning cloth, non-inflammable anti-static cleaning fluid and small nylon brush applicator. Brush can be fastened to board by small suction pad. Price: 32p (plus VAT).

### Anti-static cleaner

Non-inflammable anti-static fluid with cleaning cloth. Does not smear or scratch. Suitable for instrument panels, plastic, chrome, glass and exteriors of electronic equipment. Price: 28p (plus VAT).

### Record sleeve protectors

Made from strong clear plastic to fit over record sleeve and keep like new. Price: pack of five 38p (plus VAT).

### Stylus balance ★

Made from non-magnetic material and fitted with non-scratch base. Measures from  $\frac{1}{4}$  to 5gm and calibrated to be accurate to within  $\frac{1}{4}$  gm. Simple to use and supplied with full instructions. In presentation case. Price: £1.24 (plus VAT).

### Groov-Kleen Model 42 ★

Automatic record cleaner in the form of a miniature pickup arm equipped with brush to loosen the dust and a non-revolving roller which sets the height and collects the dirt. Self-adhesive base for fitting to motor board. Finished in anodised aluminium with chromium-plated adjustable pillar. Swivelling armrest provided for use when cleaner is not traversing a record. Designed to fit any make and model of turntable, including the Garrard SP25 Mk III. Packed in transparent plastic box. Price: £1.67 (plus VAT). Replacement roller and brush 18p (plus VAT).

### Record and stylus cleaning kit

Comprises two record cleaning cloths and special stylus cleaning brush which stands up-

★ Indicates entry is illustrated

right to keep clear of dirt. Price: 25p (plus VAT).

**Record cue and swinger detector ★**

Identifies selected items on records. Comprises graduated scale that swings across record. Moves clear for changing record. Self-adhesive base to fit all turntables. Detects 'swinger' records. Price: £1-24 (plus VAT).

**Spirit level**

Intended for use with record deck to obtain accurate level for correct tracking and minimum stylus and record wear. Packed in plastic container. Price: 56p (plus VAT).

**Record Dust-off Size 48**

Record cleaning pad mounted on plastic handle. Size: 3½in long, 1in wide. Velvet cleaning pad with foam backing. Is applied to record on turntable while rotating to remove dust and dirt. Price: 20p (plus VAT).

**Hi-fi stereo hints and tips**

Book for hi-fi enthusiasts describing how to make the most of audio equipment. Contains 54 illustrations, diagrams and reference tables. 48 pages. Written by John Borwick B.Sc. Price: 32p (plus VAT).

**Record Care Kit Ref 43**

Contains Groov-Kleen in special chrome finish, record dust-off, spirit level, stylus and turntable cleaner. Price: £2-14 (plus VAT).

**Popular Record Care Kit Ref 59**

Contains standard Groov-Kleen, two record handlers, stylus cleaning brush. Price: £1-17 (plus VAT).



Adastra Imp-Verta



Colton Times-Fifty Stylus Viewer

**Indexa Record Ref A**

Gramophone record filing and index system. Finds 1-100 instantly. Padded index book. 100 pairs numbered sleeve labels. Pad of coded printed pages. Price: £1-33½ (plus VAT).

**Record Handlers Ref 25**

For removing records from sleeves easily and protecting records from finger prints and dirt. Price: 38p (plus VAT).

**Hi-Fi Maintenance Electrical Kit Ref C/4**

Handy kit for plug connections and hi-fi repairs. Contains wire stripper and cutter, two flex tides, match solder, screwdriver and insulating tape in PVC wallet. Price: 72p (plus VAT).

■ **BLACK KNIGHT RUMBLECURE**

Bank Top, Currier Lane, Ashton-under-Lyne, Lancs, OL6 2TA.

Tel: 061-330 2836 (open 7 days).

Specialists in curing rumble due to acoustic feedback through floors and cabinets (Patent 15493/71).

Plinths fitted with Rumblecure equipment available. Details on request. Many standard items now available and more being added all the time. Quotations on receipt of full details of equipment. Prices from £30 (with kits). Kits not available separately. (Patent 28949/69.)

■ **BSR McDONALD**

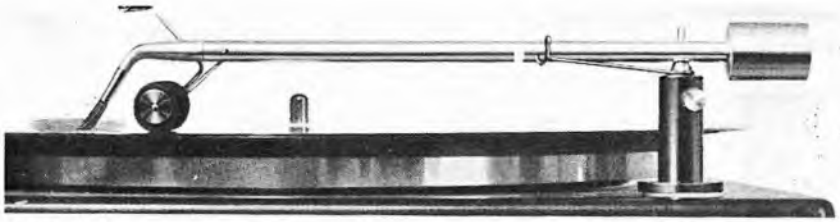
(McDonald Division) BSR Ltd, Cradley Heath, Warley, Worcs. Tel: Cradley Heath 69272.



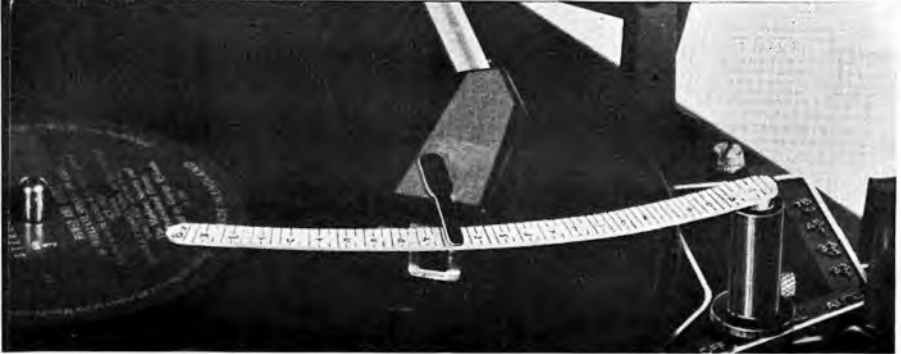
Black Knight anti-vibration system



Colton Magnalift



Bib Groov-Kleen



Bib Cue and Swinger Detector

**Cartridge carrier**

Quick-change slide-in carrier. Permits changing or inspecting cartridge easily and quickly without interfering with wiring. Models to suit all BSR McDonald pickup arms (except 210 mini-changer). Price: 40p (plus VAT).

**■ CLENDISC (Mail Order) LTD**

7 Trinity Court, Gray's Inn Road, London, WC1X 8JX. Tel: 01-837 9088.

**Clendisc**

An anti-static cleaner and preservative for records, photographic and optical lenses, copying machines, tape heads and computers. 4 fl oz bottles. Price: 25½p (including VAT).

**Clendisc Cleaning Pad**

Pad impregnated with Clendisc fluid which assists in the removal of dust and dirt and also neutralises any electrostatic charges present. Price: 15½p (including VAT).

**■ COLTON**

Musonic Ltd, 34-38 Verulam Road, St Albans, Herts. Tel: St Albans 50611/2.

**Varilift Mk III**

Fluid damped pickup lifting and lowering device. Price: £4.27 (plus VAT).

**Precision Turntable level**

Circular bubble-type spirit level in white plastic

case 1⅜in diameter, ½in high. Three fixing holes provided or it may be fixed with adhesive. Ensures accurate levelling in all directions. Price: 40p (plus VAT).

**Antistatimat**

All-rubber 12in turntable mat. Accurately balanced and moulded with guard edge recess. Introduction of certain materials into the rubber renders it conductive to static charges on micro-groove records. When a record is placed on the mat static charges are dispersed freeing the record from induced noises without use of sprays, etc. Price: 75p (plus VAT).

**Times-Fifty ★**

Miniature pocket microscope with stylus locating slot and adjustable focus. Gives clear picture of stylus tip at X50 magnification. 4½in long and fitted with pen clip. Price: £1 (plus VAT).

**Magnalift Mk II ★**

Centre lift-off device. Fixes beside pickup and automatically lifts arm off record at end of playing cycle. Price: £2.77 (plus VAT).

**Variscale ★**

Tracking force indicator. Simple and accurate stylus balance measuring from ½ to 6gm. Finish: black wrinkle and satin chrome. Price: 97p (plus VAT).

**Precise Lift ★**

Manually operated pickup lifting device. Simple

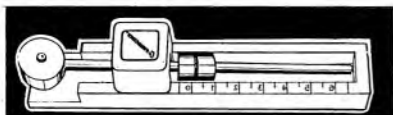




Colton Precise lift



Colton Variscale



Connoisseur stylus balance



Decca Microlift

precise movement. Single hole mounting. Finish: satin chrome. Price: £2.62 (plus VAT).

#### **Gripex**

Anti-slip dressing. A spirit suspended solution supplied in 1 fl oz bottles with brush. Applied thinly to drive surfaces of belts or friction wheels, it dries in 10-15 minutes. Price: 25p per bottle (plus VAT).

#### ■ **CONNOISSEUR**

A. R. Sugden & Co (Engineers) Ltd,  
Connoisseur Works, Atlas Mill Road,  
Brighouse, Yorks, HD6 1ES.  
Tel: Brighouse 2142. Cables: Connoisseur,  
Brighouse.

#### **Connoisseur Stylus Balance** ★

Precision stylus balance with sliding weight adjustment. Scale calibrated 0-6gm. Simple operation giving accurate stylus pressure settings. Price: 95p (plus VAT).

#### ■ **DECCA**

Decca Special Products, Ingate Place,  
Queenstown Road, London, SW8 3NT.  
Tel: 01-622 6677.

#### **Magnetic bias compensator**

Neat, simple, unobtrusive device using magnetism precisely to neutralise the forces which draw a pickup towards the centre of the turntable. Type A for Mk I and Mk I 'Super' *ffss* arms, and for Deram ARI arm. Price: £1.03 (plus 10p VAT).

#### **Centre locator**

Fits on *ffss* arm like *ffss* head. Pickup arm is correctly positioned when the locator moulding fits the turntable centre spindle. Price: 26p (plus 2p VAT).

#### **Decca Microlift** ★

A device for raising and lowering a manual pickup arm at any point on the record for minimising risk of damage either to record or stylus through handshake. Easy to fit to most types of back-pivoted pickup. It does not hinder record handling by overlapping the turntable. Price: £1.47 (plus 14p VAT).

#### **Deccalift**

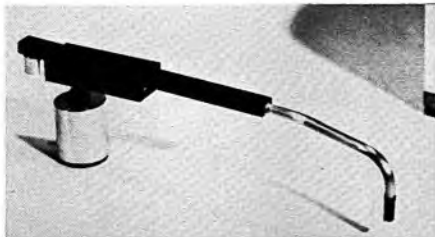
Motorised lifting and lowering device which can be controlled at the turntable and/or remotely. Requires 6-3V AC. Transformer optional extra. Price: £7.07 (plus 70p VAT).

#### **London cartridge adaptors**

Type A. Simple slide-on adaptor for use with *ffss* arms (Mk I, Mk I Super and Professional) to accommodate the London cartridge. Automatically adjusts playing weight. Price: £1.29 (plus 12p VAT). Type B. Simple slide-on adaptor for use with International arm to accommodate the London cartridge. Collar arrangement to



Eagle PRE402 pickup preamp



Groovac

adjust for correct playing weight. Price: 21p (plus 2p VAT).

■ **EAGLE INTERNATIONAL**

Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

**PRE 402 ★**

Mains powered stereo pickup preamplifier for magnetic cartridges including Eagle LC 05 and LC 07. Provided with dual phono sockets. Price: £6.30 (plus VAT).

■ **EXPERT PICKUPS LTD**

PO Box No. 3, Ashted, Surrey.  
Tel: Ashted 76604.

**Expert moving coil pickups serviced**

Full details on request.

**Replacement stylus service**

For detachable cantilever systems using client's own stylus assembly. Radius to choice; from 0.5 thou (stereo) to 4 thou (78 oversize). Ellipticals where suitable. Radius checked using X 500 magnification.

**Grade A transcription diamond stylii**

Finest quality, highly polished, giving minimum background noise and optimum results. Spherical or elliptical tip.

**Grade B**

Commercial standard, 0.5 thou to 2.5 thou only. Oversize sapphires and diamonds (Grade A only) for Pathe and Edison reproducers formed and fitted. Expert Pickup diamonds are manufactured only to customers' specifications.

Special quotations and prospectus on request.

**To collectors of 78rpm records**

Advice available as to the best method of reproducing from old 78rpm records.

**Replacement stylii**

Complete range of replacement stylii in sapphire and commercial diamond, also professional Grade A diamonds of our own manufacture.

**Disc-cutting stylii**

Cutters to CBS specification. Development to other specifications carried out.

**Leak pickup servicing**

Sole agents for the servicing of Leak Mk I and Mk II pickups.

**EMI pickup servicing**

Sole agents for the repair of the EMI EPU100 pickup head and arm.

■ **GOLDRING LTD**

10 Bayford Street, Hackney, London, E8 3SE.  
Tel: 01-985 1152.

**Lenco STB.2**

Stylus pressure balance. A simple and accurate device, not relying on springs. Price: 96p (plus VAT).

**Lencoclean**

Record cleaning device mounted on turntable. Tracks in front of the pickup, dispensing a narrow band of special fluid. Leaves no deposit on record, cleans the groove and cools the point contact. Keeps stylus point clean. Price: £3.60 (plus VAT).

**Lencoclean super refill**

Price: 81p (plus VAT).

**Goldring/Lenco VV7**

Stereo preamplifier for magnetic cartridges. Input: 1mV 47K. Noise level: -60dB. Output: 100mV RMS. Mains: 200-240V 50Hz. Size: 4 3/4 x 2 x 1 1/2 in. Price: £10.20 (plus VAT).

■ **GROOVAC**

R.J. Audio, Kernick Road, Penryn, Cornwall.  
Tel: Penryn (032-67) 2753.

**Vacuum record cleaner ★**

Consists of a precision lightweight arm and a suction unit acoustically isolated in a special enclosure. Fitted with mains switch and indicator (unit inaudible at a distance of 2 metres). Tracking force 0.7gm. Fine hairs incorporated in nozzle to facilitate removal of dust from bottom of grooves. Counterbalanced. Fixes by magnetic base. Adjustable height. Integral rest. Price: £6.90 (plus VAT).

■ **G. F. C. HADCOCK**

Audio Division, The Old Vicarage, Doveridge, Derby, DE6 5NN. Tel: Uttoxeter 2452.

★ Indicates entry is illustrated

### GH Uni-lift Mk III ★

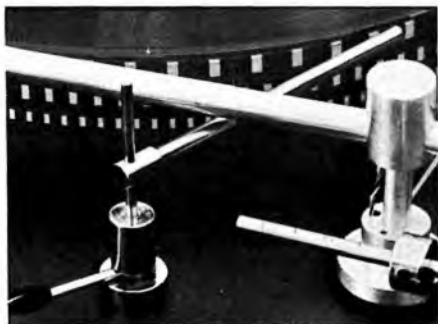
Raising and lowering device suitable for most pickup arms. Two-hole fixing for stability. Allen key provided for height adjustment and for controlling rate of descent. Suitable for sprung pick-up mounting boards. Damped adjustable rate of descent ensures accurate lowering and cueing. Price: £4.67 (including VAT).

### JOHN HORWITZ (IMPORT)

305 Kenton Road, Kenton, Harrow, Middlesex, HA3 0HP. Tel: 01-907 6667.

#### Stereo stamp

Rubber stamp to enable record collectors to



Hadcock GH Uni-lift



Howland-West Protractor

label stereo discs to make them immediately visible. Price: 40p including postage.

### HOWLAND-WEST LTD

3-5 Eden Grove, London, N7 8EQ.

Tel: 01-609 0293/4/5.

#### Howland-West Alignment Protractor ★

Made in laminated Perspex. Provides facilities for checking: (1) vertical tracking angle, (2) lateral tracking angle and (3) channel balance and separation. Price: 44p (including VAT).

#### Discduster ★

Record cleaning instrument comprising light-weight arm equipped with brush and cylindrical pad. Balance and height adjustable. Heavy stand permits full operation without need for permanent fixing to motor board. Supplied with two spare brushes and two spare cylinders. Polished tubular arm with black base. Price: £1.98 (including VAT).

### IMPEX

McArdle & Brainsby (Import & Export) Ltd, PO Box 2BB, Newcastle upon Tyne, NE99 2BB.

#### MS7

Stereo magnetic pickup amplifier. Input: 3mV 47K. Output: 100mV 470 ohms at 1kHz. FR: RIAA equalised  $\pm 1.5$ dB (bass roll-off from 30dB at 12dB/octave). Distortion:  $< 0.03\%$  at 100mV output at 1kHz. Overload margin:  $> 28$ dB on rated input. S/N ratio:  $> 60$ dB (unweighted);  $> 75$ dB (weighted to CCIF curve). Separation:  $> 80$ dB at 1kHz,  $> 60$ dB at 10kHz. Connectors: (input) dual phono sockets; (output) jack plugs on flying leads; (power) DIN connector suitable for Impex power supply unit PS50 or for direct connection to Ferrograph Series Seven tape recorder. Will also operate from any supply of approximately 50V DC at 7mA. British made. Price: £9 (plus VAT).

#### MS24

Similar specification but designed to operate from supply of 22-25V DC at 6-7.5mA.

Other models available for earlier Ferrograph recorders, different amplifiers and special supply voltages. Details on request.

### LENNARD DEVELOPMENTS LTD

206 Chase Side, Enfield, Middlesex, EN2 0QX.

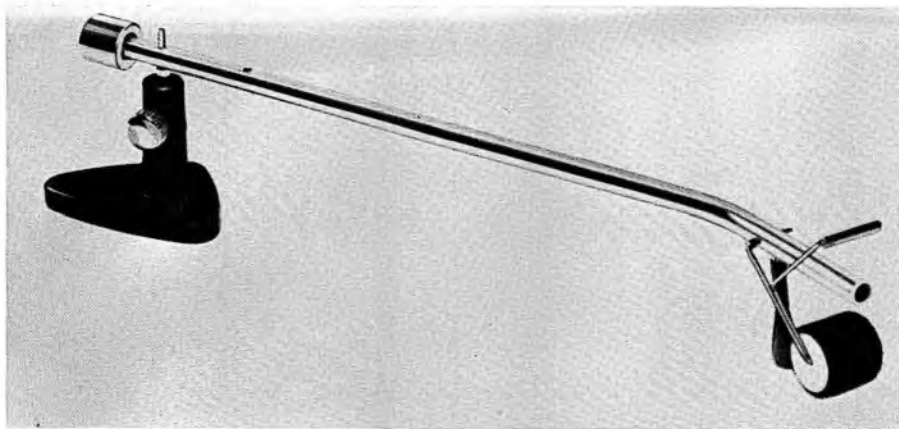
Tel: 01-363 8238.

#### Play-fair Stylus Timer

Manually operated device which indicates when stylus is due for replacement. Self-adhesive to attach to motor board if desired. Swiss mechanism. Neat plastic case with instructions. Two models: one for sapphires, one for diamonds. Price (either model): 80p (plus VAT).

#### Play-fair Cleaning Pad

Anti-static. Price: 10p (plus VAT).



Howland-West Discduster

**Play-fair Stylus Cleaner**

Cleaning fluid with separate brush. In presentation case. Price: 30p (plus VAT).

**Play-fair Antistatic Cleaning Fluid**

30cc polythene bottle. Price: 23p (plus VAT).

**Play-fair Discoda**

Record sleeve indexing device for quick identification of records. Price: 3 for 13p, 12 for 40p (plus VAT).

(Bulk prices on application).

**Micro-Diamond replacement styli**

Comprehensive range. Also retipping service. Price: on application.

**Micro-Sapphire replacement styli**

Comprehensive range. Also retipping service. Price: on application.

**Play-fair Discoduster**

Record cleaning device. Two models; one for single play record decks, one for autochangers. Price: to be announced.

■ **MAC**

Modular Audio Components Ltd,  
Canterbury Road, Nottingham, NG8 1PQ.  
Tel: Nottingham 79797.

**Manual Groovy Clean**

A record cleaner brush designed for use on discs that do not respond to normal cleaning methods. Micro-fibre brush penetrates to bottoms of the grooves. Stands up to continued use in record cleaning solutions and water. Brush mounted in extruded plastic section. Price: 25p (plus VAT).

**AAU-3**

Audio adaptor unit for connecting three pickups to a common amplifier input, also suitable for microphones, tuners, tapes, etc. Two phono inputs at rear alternately switched to front DIN

sockets for feeding other equipment. Fitted with 24in leads with phono plugs, or with DIN plug (AAU-3Q). Provision for fitting attenuator or load resistors internally. Dimensions: 3 x 3 x 3in. Finish: jaguar silver. Price: £4.40 (plus VAT).

All MAC AAU units are available in solid teak case at an additional cost of £1.32. See Tape Accessory, Constructional Kits, Speaker Accessory and Headphone Sections for details of other models.

■ **METROSOUND**

Metrosound Audio Products Ltd,  
Cartersfield Road, Waltham Abbey,  
Essex, EN9 1JF. Tel: Waltham Cross 31933.

**M.2 Record Cleaning Sponge**

Special soft texture for cleaning of records. Price: 15p (plus VAT).

**M.3 Record Care Kit**

Comprising bottle of Metro-Spray spirit-based anti-static record cleaning fluid; special texture sponge applicator with moulded handle; and soft stylus cleaning brush. Price: 37½p (plus VAT).

**M.10 Metro Mat**

Ribbed rubber full transcription size anti-static turntable mat, complete with separate stroboscope. Price: 65p (plus VAT).

**M.11 Hi-Fi Stylus Cleaning Kit**

Bottle of specially developed mild solvent fluid. Moulded plastic retaining clip on bottle for soft nylon cleaning brush. Price: 36p (plus VAT).

**M.24 Lubricating Kit**

Suitable for transcription turntables and mechanical moving parts. Comprises small bottle each of R.O.B. and R.O.G. oil and container of Starfax. Price: 40p (plus VAT).

★ Indicates entry is illustrated

### M.26 Ioniser

High-fidelity record cleaner. Permanently anti-static, humid soft velvet enclosed in plastic moulding. Price: 37½p (plus VAT).

### M.43 Super Groovemaster

Record tracking cleaning arm. Price: £1.50 (plus VAT).

### M.44 Groovemaster spares

Replacement kit for Super Groovemaster. Price: to be announced.

### M.45 Percy Wilson Discmaster

Record renovating and cleaning arm. Arm tracks record during play. Supplied with bottle of cleaning fluid and cleaning brush. Heavy base. Price: £2.50 (plus VAT).

### ■ MICRO

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

### MSB-1 ★

Micro shock absorber. Microsorber employs air-damped high efficiency materials to eliminate acoustic feedback to the record playing deck. Adjustable for height to equalise unbalanced weight of turntable. Price: (set of four) £4.95 (including VAT).

### ■ KEITH MONKS (Audio) LTD

26-30 Reading Road South, Fleet, near Aldershot, Hants.  
Tel: Fleet (02514) 7316 and 3566.

### Professional Record Cleaning Machine ★

Used by broadcasting companies, sound studios, record retailers and gramophone libraries.

Special washing, scrubbing and suction action leaves record clean and dry. Retail price: (single) £253.33 (plus £25.33 VAT); (double) £366.66 (plus £36.67 VAT).

### Record Cleaning Service

The following dealers offer a record-cleaning service to the public using Keith Monk's equipment. The list is not necessarily comprehensive and other shops with the equipment installed are invited to submit details for publication in future issues of the Year Book.

Curtiss Records, Sheffield.

Grahams, Pentonville Road, London, N1.

Ken Rose, Fleet, Hants.

Marble Arch Cameras, Edgware Road, London.

Sound Incorporated, Wimbledon, London, SW19.

Sound Studios, Crawley, Sussex.

Audio T, London, NW6.

Lasky's Radio, London, W1.

Sound Incorporated, Brighton.

Complete Audio, Eastbourne.

Audio Systems, Dorking.

Lloyds & Keyworth, Farnham.



Micro MSB1



Keith Monks Professional Record Cleaning Machine



Musonic super-active cleaner

Fox Radio, Swindon.  
 House of Sound, Bristol.  
 Gears, Falmouth.  
 Peter Scott, Exeter.  
 Peter Scott, Torquay.  
 Oxford Audio Visual, Heddington, Oxford.  
 Audio Impressions, Dunstable.  
 Grimsby Audio Centre, Grimsby.  
 Southport Hi-Fi Centre, Southport.  
 Gerald Carter, Garstang.  
 Fred Benfell, Blackpool.  
 Hampshire Audio, Chandlers Ford,  
 Southampton.  
 Anglia Audio, Bury St Edmunds.  
 Garnet, Settle, West Riding.  
 Avargarde Galleries, Manchester.  
 James Kerr, Glasgow.  
 Hi-Fi Corner, Edinburgh.  
 Sound Centre, Aberdeen.  
 J. B. Windows, Newcastle-upon-Tyne.  
 Wireless Supplies Unlimited, Bournemouth.

■ **MUSONIC LTD**

34-38 Verulam Road, St Albans, Herts.  
 Tel: St Albans 50611/2.

**DisClens**

Soft cloth impregnated with anti-static solution for cleaning records. Price: 13p (plus VAT).

**DisCentres**

Record centre adaptors designed to convert 7in 45rpm records from large hole to standard spindle size. In boxes of 12. Price: (per box) 16p (plus VAT).

**DiscSleeves**

Made from 200 gauge polythene. Protect records from dust and dirt. Round bottomed. In packets of 12. Price: (7in size) 14p (plus VAT); (12in size) 28p (plus VAT).

**DisCovers**

Made from 200 gauge polythene. Protect record sleeves against rubbing and scratching. Supplied in packets of 12. Price: (12in size only) 18p (plus VAT).

**DisCase**

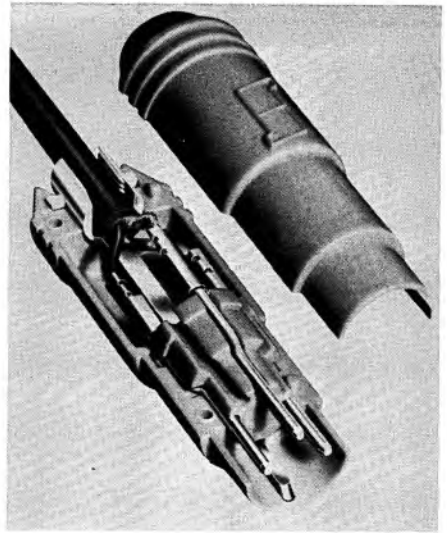
Record case finished in wood and plastic. Three sizes, 60 7in records, 30 12in records, 60 12in records. Padded. Available in black, blue, brown, green and red. Prices: (60 7in size) £1.58 (plus VAT); (30 12in size) £1.82 (plus VAT); (60 12in size) £2.33 (plus VAT).

**DiscRack**

Heavy gauge steel wire rack welded at all points and with plastic coated or plated finish. Price: from 54p (plus VAT).

**Stylus Cleaner**

A special solution which cleans and renders stylus tip anti-static. Application brush provided. Price: 30p (plus VAT).



PD Connector

**Superactive ★**

New formula anti-static fluid for cleaning and neutralising static in records and other plastic surfaces. Applied with sponge or cloth. No sticky deposit. Suitable for recharging anti-static devices. Price: (½oz) 13p (plus VAT); (1oz) 23p (plus VAT).

■ **PD CONNECTORS**

Parry Electronic Developments Ltd,  
 Assay House, 28 Greville Street, London, EC1.  
 Tel: 01-242 1100.

**DIN plugs ★**

New design of DIN plug which requires no soldering or screw connections. Pins interchangeable to match any DIN configuration. Space inside housing to accommodate matching or attenuating resistors. Ratchet-type cable clamp adjusts to all sizes of connecting lead. Designed for home constructors and hi-fi enthusiasts. Price: 28p (plus VAT).

■ **QAS**

Quality Audio Supplies, Wollaton Road,  
 Beeston, Nottingham, NG9 2PB.  
 Tel: 0602 252222 and 256141.

Wide range of individually blister-packed audio accessories including phono plugs, DIN plugs and sockets, 4mm and wander plugs, couplers, screw terminals, slider switches, connecting leads with all types of terminations, audio switching units and remote control stations.

**Dusta-Disc**

Counterbalanced arm to mount alongside turn-

★ Indicates entry is illustrated

table for cleaning records while playing. Comprises base with height adjustment, arm with counterbalance weight, super-fine brush for cleaning grooves, plus a soft fabric roller for applying anti-static fluid.

See Speaker Accessories Section for details of other QAS equipment.

### ■ SHURE ELECTRONICS LTD

Eccleston Road, Maidstone, Kent. ME15 6AU.  
Tel: Maidstone (0622) 59881.

#### SFG2 Stylus gauge ★

Accurate beam balance type gauge designed for

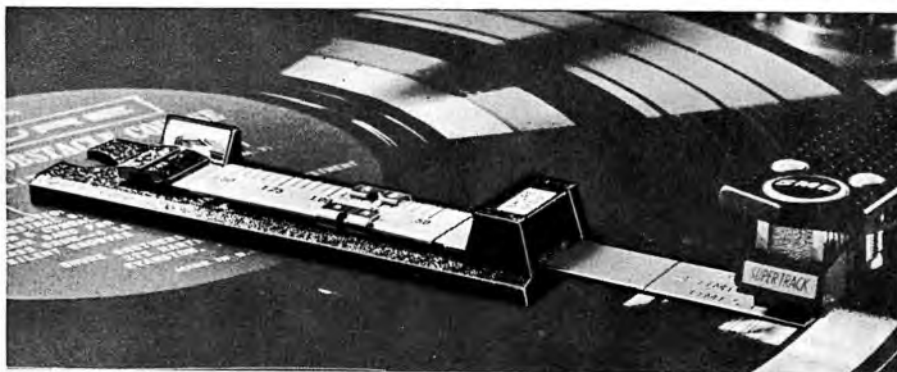
measuring tracking force in the range of 0.5gm to 3gm. Measures existing playing weight of arm, or can be used to adjust arm to a desired tracking force. Price: £3.96 (including VAT).

#### M64-2E

Preamplifier for use with magnetic pickup head and amplifier not having sensitive enough input. Full specification and price in Amplifier Section.

#### ■ TELEFI

Sound take-off adaptor for feeding hi-fi system from TV. See Tape Recorder Accessories and Radio Tuner sections.



Shure SFG2 Stylus Tracking Force Gauge



Transcriptors sweep arm and stylus brush



Watts Manual Parastat with Humid Mop



Watts Humid Mop and new formula fluid

■ **TRANSCRIPTORS LTD**

2 Theobald Street, Boreham Wood, Herts.  
Tel: 01-953 0771.

**Transcriptors Stylus Scale**

Precision scales in polished aluminium with jewelled pivot. Sensitive to less than 0.01gm. Accuracy better than 0.02gm. Measures 0-5gm in increments of 0.05gm. Bubble read-out. Supplied with reference calibration check weights. British made. Price: approximately £3.50 (plus VAT).

**Transcriptors Sweep Arm ★**

Record cleaning device for permanent fixing. Height adjustable over 3½ in. Tracks at ¼-½ gm. Balance cursor. Integrated parking device. Precision unipivot construction. Polished aluminium. British made. Price: approximately £3.50 (plus VAT).

**Transcriptors Stylus Brush ★**

For permanent installation. Comprises squirrel hair brush for cleaning stylus. Adjustable for height. Single hole fixing. Polished aluminium construction. British made. Price: approximately £2 (plus VAT).

■ **T.T.C.**

Joint Distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288.

E. R. (Factors) Ltd, 374-378 Harrow Road,  
Paddington, London, W9. Tel: 01-286 0361.

**Discoduster**

Automatic adaptable record cleaner kit. Light-weight aluminium arm and weighted base for fixed or free-standing operation. Velvet cylindrical pad and fine groove cleaning brush. Supplied with spare cylinders, fluff removing brush and two pivots. Finish: satin aluminium and black. Length: 9⅞ in. Price: £1.81 (including VAT).

■ **CECIL E. WATTS LTD**

Darby House, Sunbury-on-Thames, Middx.  
Tel: Sunbury 3252.

**Watts Dust Bag**

Claimed to be the most efficient method of removing static and dust from records as they are played. Instantly fitted, suitable for all types of records. Record quality is improved, surface noise and wear reduced. Price: £1.10 (including VAT).

**Watts Disc Preener**

For record maintenance where anti-static agents are not desirable (where stylus force is less than 2gm). Price: 38½ p (including VAT).

**Watts Manual Parastat with Humid Mop ★**

Manual model Parastat record cleaning machine. For cleaning and applying anti-static

agents to LP records. Complete with humid mop for cleaning bristles and velvet pads. Price: £2.91½ (including VAT).

**Watts Manual Parastat**

Available separately (without Humid Mop). Price: £2.64 (including VAT).

**Watts Humid Mop ★**

Available separately. Price: 27½ p (including VAT).

**Hi-Fi Parastat Model Mk 4**

Gramophone record maintenance and stylus cleaning kit. Designed for use on records in new condition which are played with pickups requiring very low tracking pressures. Price: £2.42 (including VAT).

**Watts Stylus Cleaner**

As included with Hi-Fi Parastat kit. Price: 27½ p (including VAT).

**Watts Spares and Replacements**

Dust bug nylon bristle and plush pad. Price: 11p (including VAT).

New Formula Dispenser. Price: (½ oz) 16½ p (including VAT); (1oz) 27½ p (including VAT).

Preener Wicks. Price: (packet of four) 11p (including VAT).

Manual Parastat Brush. Price: 71½ p (including VAT).

Parastat Nylon Velvet Pad Covers. Price: 22p (including VAT) a pair.

Parastat White PVC Sponge. Price: 5½ p (including VAT).

Humid Mop (sponge and four wicks). Price: 16½ p (including VAT).

Hi-Fi Parastat Distilled Water Dispenser. Price: 22p (including VAT).

Hi-Fi Parastat pad cover and ribbons. Price: 11p (including VAT).

■ **WILSON STEREO LIBRARY LTD**

104-106 Norwood High Street, London, SE27.  
Tel: 01-670 6394.

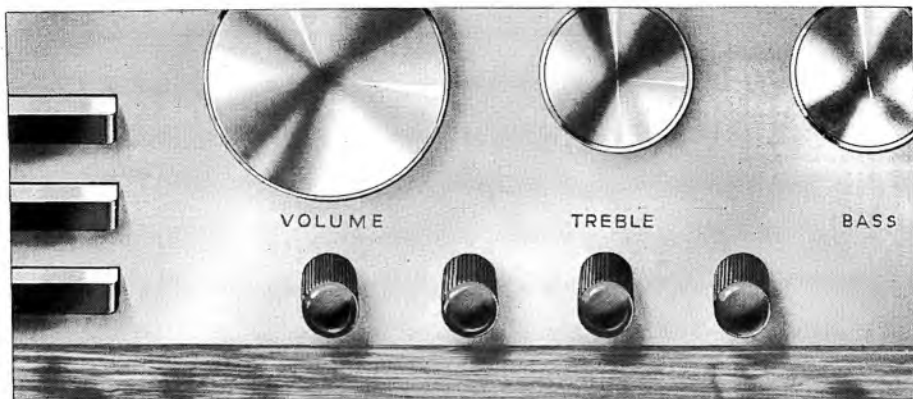
**W.S.L. Blank Disc**

Highly polished blank vinyl disc for adjusting side thrust and alignment. Indicates the amount of side thrust to be corrected. Mirror-like surface reflects underside of cartridge and stylus and assists in accurate alignment. Supplied with instructions for correcting side thrust. Price: 75p, postage and packing included.

**W.S.L. Side Thrust Corrector**

Pulley device which may be fitted to any pickup to correct side thrust. Should be used in conjunction with W.S.L. Blank Disc for precise elimination of side thrust. Price: 45p, postage and packing included.





# As well as the record shop **E.M.G.** have an exceptionally well appointed equipment department

It contains a most attractive array of products acknowledged to be the best of their kind available, and selected for their excellent performance, quality and reliability. What you will find there covers a usefully wide price range. More important, however, is the extent to which E.M.G. will willingly go to ensure customer satisfaction. Make your requirements known to E.M.G. and you can depend on receiving thorough and impartial advice. This might mean substituting a single item in an existing installation, a conversion and modern-

isation of what you have already, or a complete new installation. When you become a customer of E.M.G., you will find that service can go on long past the time of your purchase and that the Company identifies itself with your interests completely. There is no better way to ensure good listening. For a start, might we suggest, without obligation, a demonstration in our showroom? You will find our approach to high fidelity very much what you have always wanted.

There is also the record shop for records of classical and serious modern works and the E.M.G. Monthly Letter (£2-00 post free for twelve months) to inform and advise on current releases. A well organised records-by-post department serves those unable to call in person.

**E.M.G.** HANDMADE GRAMOPHONES LIMITED  
26, SOHO SQUARE, LONDON, W1V 6BB

Telephone 01-734 4311

Nearest Underground Tottenham Court Road

We've just combined with ADC, one of the world's leading cartridge makers, and produced a new range of diamond stylus magnetic cartridges specifically designed to match the world's fastest selling turntables. The BSR McDonald range.

The MP60 single player and 610 automatic changer now have an ADC K8 cartridge.

The HT70 has the ADC K7E cartridge.

The 710 transcription turntable now has the ADC K5E cartridge and our Design Council Award-winning 810 transcription model has the ADC K3E cartridge.

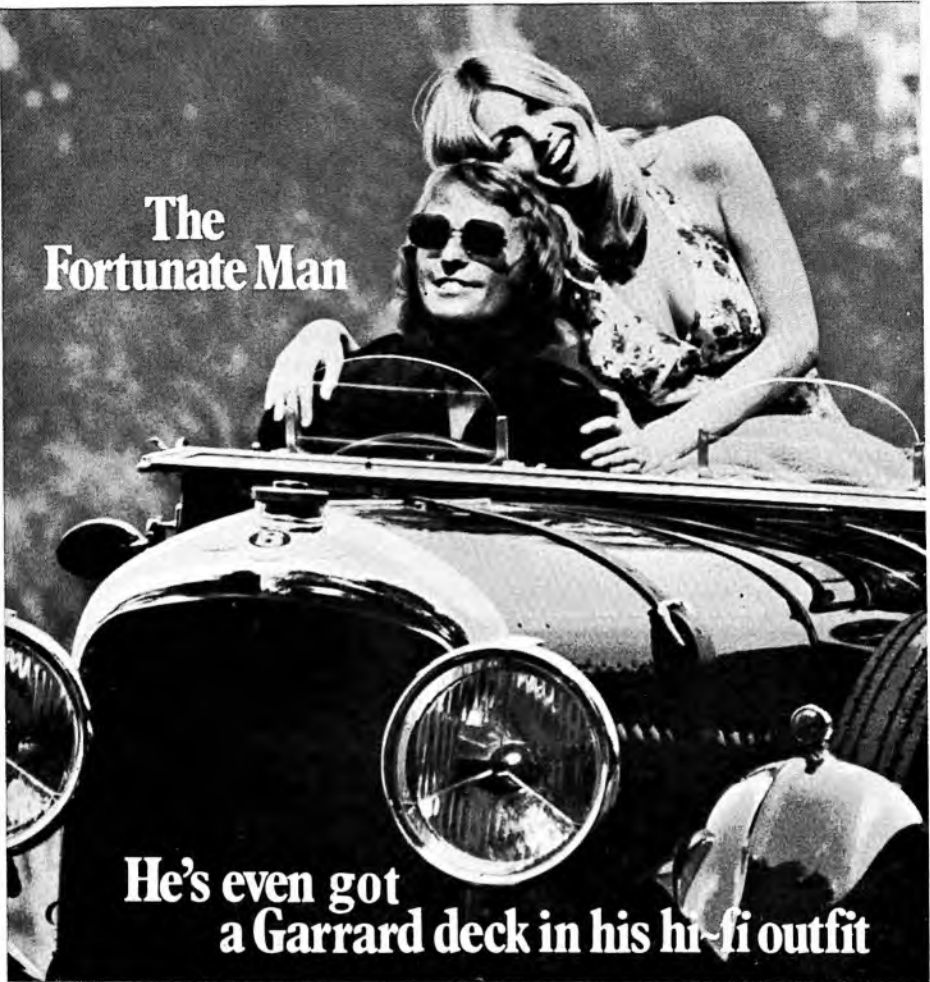
So selling BSR McDonald turntables is going to be quicker and easier now.

**BSR**  
McDONALD

**Life's  
going to be easier  
with the new  
team.**



# The Fortunate Man



He's even got  
a Garrard deck in his hi-fi outfit

Time to take a fresh look at the Garrard hi-fi deck range. These two high-quality Automatic Single Players offer advanced features plus our newly-introduced belt drive system.



86 SB Module

Zero 100 SB  
Module



**Garrard**  
A PLESSEY QUALITY PRODUCT



Garrard, Newcastle Street, Swindon, Wilts., England SW1 1DA.

# Directory of Record Decks

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOUSTIC RESEARCH—INTERNATIONAL

High Street, Houghton Regis, Beds.  
Tel: Dunstable 603151. Telex: 825467.

### AR Universal ★

Two-speed turntable, pickup arm, plug-in cartridge shell, plinth and transparent plastic cover. Speeds: 33½ and 45rpm. W and F: <0.1% (combined wow and flutter measured to NAB standards). Rumble: at least 35dB below 1cm/second (measured to NAB standards). Speed accuracy: ±0.3% of absolute speed. Turntable: 12in non-magnetic. Belt drive. Miniature synchronous motor. Adjustable playing weight. Internal adjustable viscous damping. Decoupled turntable isolated from plinth. Adjustable stylus pressure with built-in gauge. Finish: walnut. Performance guaranteed to exceed NAB broadcast equipment standard for three years after purchase. Price: £41.90 (including VAT).

## ■ ALBA (Radio & Television) LTD

Tabernacle Street, London, EC2A 4DY.  
Tel: 01-253 1322.

### UA200A

Shelf-mounting cabinet with lift-up lid containing Garrard SP25 Mk III record deck and pickup arm. Stereo magnetic cartridge. Diamond stylus. Cueing device. Teak finished cabinet. Supplied complete with leads and plugs. See Garrard entry for complete specification of motor unit. Price: £30.10 (including VAT).

## ■ A/R/D

Audio Research and Development Ltd,  
PO Box 73, Hounslow, Middlesex, TW3 1RD.  
Tel: 01-570 0471.

### 2000 ★

Contemporary table-top player unit designed to match A/R/D tuner and amplifier. Fitted with Garrard SP25 Mk III or Dual 1216/M75. Lid will lift up or lift off. Size: 12¾ × 16½ × 6¾in. Finish: stove enamel silver, solid teak sides, dark grey tinted plastic lid. Price: (cabinet only) £13 (plus VAT); (with Garrard SP25 Mk III) £25.50 (plus VAT); (with Dual 1216/M75) £59 (plus VAT).

## ■ ARISTON

Distributors: C. W. & J. Walker Ltd,  
Brentwood, Red Lane, Frodsham, Warrington,  
WA6 6RA. Tel: Frodsham (0928) 33326.

### RD11 ★

Single-speed transcription motor unit available as chassis only, with plinth and cover, and complete with plinth, cover and pickup arm. Speed: 33½rpm. W and F: below meaningful measurement. Rumble: below meaningful measurement. Turntable: 12in diameter, 9lb, made in non-ferrous alloy with single-point bearing in PTFE bushes. Belt drive. Stainless steel chassis. Felt and rubber mats supplied. Motor: 24-pole precision synchronous. Pickup arm (when fitted): Ariston model A7. Price: (chassis only RD11) £44 (plus VAT); (chassis with plinth and cover RD11PC) £54 (plus VAT); (chassis with plinth, cover and A7 arm RD11PCA) £87 (plus VAT).

## ■ BANG & OLUFSEN UK LTD

Eastbrook Road, Gloucester, GL4 7DE.  
Tel: Gloucester 21591.

### Beogram 1001

Plinth-mounted motor unit with arm and SP14A magnetic cartridge. Speeds: 45 and 33½rpm with 12% vernier adjustment. Wow: <0.15% DIN, 0.06% RMS. Rumble: better than 55dB (Din B). Belt drive. B and O ST/L15° arm with microlift. Cartridge output: 5mV average. 47K. Anti-static mat with strobe disc. Anti-microphonic suspension. Built-in 45rpm disc insert. Power supply: 110-240V AC. Price: (teak) £48.90 (including VAT); (rosewood or white) £49.90 (including VAT).

### Beogram 1202 ★

Plinth-mounted motor unit with arm, cartridge and separate dust cover. Speeds: 33½ and 45rpm. W and F: <0.15%. Rumble: better than 55dB (DIN). Turntable: 12in aluminium alloy with conical studs instead of disc mat. Belt drive. Two-pole asynchronous motor. B and O pickup arm with built-in bias compensation and stylus pressure adjustment. Fully automatic operation with single master control. Price: (teak) £59.50 (including VAT); (rosewood or white) £60.50 (including VAT).

### Beogram 3000

Plinth-mounted motor unit with arm, cartridge and hinged-detachable dust cover. Speeds: 33½ and 45rpm with ±6% fine adjustment. W and F: <0.15%. Rumble: better than 60dB (DIN). Turntable: 12in grooved aluminium. Belt drive. Two-pole asynchronous motor. 110-240V AC switchable. B and O pickup arm with built-in bias compensation. Stroboscopic disc. Fully automatic motor/arm/speed/record size action. Price: (teak) £79.90 (including VAT); (rosewood) £80.90 (including VAT).



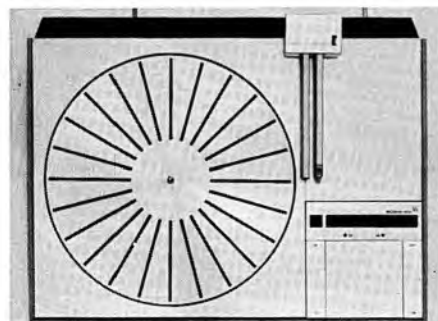
Acoustic Research Turntable



A/R/D 2000



Ariston RD11 Record Deck



Bang & Olufsen Beogram 4000

### Beogram 4000 ★

Plinth-mounted motor unit with tangential arm and SP-15 integrated cartridge. Hinged translucent dust cover. Servo-driven tone arm plus detector arm for automatic record size and speed sensing. Computer-like data unit gives completely automatic operation. Speeds:  $33\frac{1}{3}$  and 45rpm with 6% fine speed adjustment available. W and F: better than  $\pm 0.05\%$  DIN ( $\pm 0.025\%$  RMS). Rumble: better than 65dB (DIN B). Turntable: 12in aluminium alloy radially ribbed. Belt drive. Illuminated stroboscope with individual speed indicator lights. Power supply 110-130 and 220-240V AC 50-60Hz. Price: (teak) £179.60 (including VAT); (rosewood) £180.50 (including VAT).

### BLACK KNIGHT RUMBLECURE

Bank Top, Currier Lane, Ashton-under-Lyne, Lancs, OL6 2TA. Tel: 061-330 2836.

#### Complete plinth assemblies

See Hi-Fi Cabinets section for full details of the Black Knight Rumblecure ready-assembled plinths with Garrard 401 units and SME pickup arms.

### BSR McDONALD

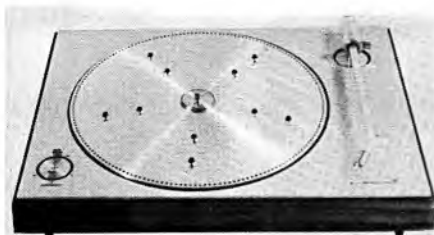
(McDonald Division) BSR Ltd, Cradley Heath, Warley, Worcs. Tel: Cradley Heath 69272.

#### HT70 ★

Four-speed single player. Wow:  $< 0.2\%$  RMS (0.4% peak). Flutter: 0.06%. Rumble: -35dB to DIN 45-500 specification. Speed constant down to 16% reduction in mains voltage. Turntable: 11in diameter diecast alloy weighing 4½lb. Pulley drive. Synchronous dynamically balanced four-pole motor. Double ball-race mounted pickup arm. Plug-in head. Counter-balanced arm. Bias compensator. Tracking control. Viscous damped cue control. Anti-skate device. Muting switch. Adjustment for playing weight. Rotating record stub spindle to combat drag. Price: (HT70 chassis) £17.72 (plus VAT); (mounted in afrormosia plinth with dust cover) £25.62 (plus VAT).

#### MP60 ★

Four-speed single player. Wow:  $< 0.2\%$  RMS (0.4% peak). Flutter: 0.06%. Rumble: -35dB to DIN 45-500 spec. Speed constant down to 16% reduction in mains volts. 11in diecast turntable. Pulley drive. Four-pole motor. Double ball-race mounted pickup arm. Plug-in head. Counterbalanced. Bias compensator. Tracking control. Viscous damped cue control. Anti-skate device. Muting switch. Price: (MP60 chassis) £12.69 (plus VAT); (mounted in black styrene plinth with dust cover) £18.56 (plus VAT); (mounted in afrormosia plinth with dust cover) £20.58 (plus VAT).



Bang &amp; Olufsen Beogram 1202



BSR McDonald HT70



BSR-McDonald MP60



BSR-McDonald 610



BSR McDonald 710

**610 ★**

Automatic four-speed changer. Wow:  $< 0.2\%$  RMS ( $0.4\%$  peak). Flutter:  $0.6\%$ . Rumble:  $-29\text{dB}$  ref  $1\text{kHz}$  recorded laterally at  $1.2\text{cm/sec}$ . Speed constant down to  $16\%$  reduction in mains voltage.  $11\text{in}$  diecast turntable. Pulley drive. Four-pole motor. Double ballrace pickup mounting. Anti-skate device. Counter-balanced. Plug-in head. Viscous damped cue control. Muting switch. Price: (610 chassis)  $\pounds 16.10$  (plus VAT); (mounted in black styrene plinth with dust cover)  $\pounds 21.97$  (plus VAT); (mounted in afrommosia plinth with dust cover)  $\pounds 23.99$  (plus VAT).

**710 ★**

Two speed transcription player with single-play or automatic facility. Capacity up to six  $7\text{in}$ ,  $10\text{in}$  or  $12\text{in}$  diameter records. Speeds:  $33\frac{1}{3}$  and  $45\text{rpm}$ . Mains:  $120$  or  $240\text{V}$   $50\text{Hz}$  or  $60\text{Hz}$  AC mains. Tracking: with high compliance cartridge will track down to  $\frac{1}{2}\text{gm}$ . Rumble: better than  $-55\text{dB}$  relative to  $1\text{kHz}$  at  $10\text{cm/sec}$ . Wow: better than  $0.1\%$ . Flutter: better than  $0.05\%$ . Pushbutton operation. Low-mass aluminium pickup arm. Pivot to stylus length  $8.562\text{in}$ . Ballrace mounting. Resiliently mounted counterweight. Stylus pressure adjustment  $0.4\text{gm}$ .  $12\text{in}$  diecast, non-ferrous turntable. Fine speed adjustment of  $\pm 3\%$ . Hydraulic viscous-damped cue and pause control. Bias compensation for spherical and elliptical styli. Slide-in cartridge carrier. Rotating manual stub spindle. Stroboscopic disc speed indicator. Automatic pickup arm lock. Size:  $15\frac{1}{2}\text{in}$  wide,  $12\frac{3}{4}\text{in}$  deep,  $5\text{in}$  above motor board,  $2\frac{3}{8}\text{in}$  below motor board. Price: (chassis)  $\pounds 29.98$  (plus VAT); (710 plinth)  $\pounds 8.50$  (plus VAT); (710 dust cover)  $\pounds 4$  (plus VAT).

**810**

Two-speed transcription motor unit fitted with pickup arm. Single player with automatic option. Available in chassis form or plinth mounted. Speeds:  $33\frac{1}{3}$  and  $45\text{rpm}$ . Fine speed control. Wow: better than  $0.1\%$ . Flutter: better than  $0.05\%$ . Rumble: better than  $-55\text{dB}$  relative to  $1\text{kHz}$  at  $10\text{cm/sec}$  (weighting curve has roll-off of  $12\text{dB/octave}$  above and below  $315\text{Hz}$ ). Diecast turntable weighing  $6\frac{3}{4}\text{lb}$ . Four-pole synchronous motor. Low-mass transcription pickup arm with concentric gimbal mounting. Stroboscopic centre disc to turntable. Rotating centre stub spindle. Dual-range anti-skate device. Stylus position gauge. Stylus brush. Stylus pressure adjustment. Automatic pickup arm lock. Slide-in cartridge carrier. Viscous damped cue and pause. Pushbutton operation. Capacity: up to six  $7\text{in}$ ,  $10\text{in}$  or  $12\text{in}$  records. Manual selection of record size and speed. Tracking: down to a minimum of  $\frac{1}{2}\text{gm}$  with high compliance cartridge. Size: (chassis)  $15\text{in}$  wide,  $12\frac{1}{4}\text{in}$  deep,  $5\text{in}$  above lower edge of baseplate,

★ Indicates entry is illustrated .

2½in below lower edge of baseplate. Mains: 100-125V or 200-250V 50 or 60Hz. Finish: Satin black mainplate, black turntable mat, brushed aluminium trim. Price: (810 chassis) £38 (plus VAT); (810 plinth) £8-50 (plus VAT); (810 dust cover) £4 (plus VAT).

#### **BSR McDonald plinths**

Afrormosia wood plinth with black baseboard. Designed for BSR MP60, HT70 and 610 turntables. Price: £4-03 (plus VAT). Smoke tinted dust cover. Price: £2-82 (plus VAT).

#### **■ BUSH-ARENA**

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### **R925**

Record deck in plinth to match Bush-Arena Systems. Garrard SP25 Mk III turntable and pickup arm. Goldring G800 Free Field magnetic cartridge. Diamond 0.5 thou stylus. Size: 15½ × 13½ × 5½in. Price: £28-24 (including VAT).

#### **R76**

Record deck in plinth to match Bush-Arena Systems. Garrard AP76 transcription deck and arm. Goldring G800 Free Field magnetic cartridge. Diamond 0.7 × 0.3 thou stylus. Size: 15½ × 15¼ × 6½in. Price: £41-43 (including VAT).

#### **■ CONNOISSEUR**

A. R. Sugden & Co (Engineers) Ltd, Connoisseur Works, Atlas Mill Road, Brighouse, Yorks, HD6 1ES. Tel: Brighouse 2142. Cables: Connoisseur, Brighouse.

#### **BD1 ★**

Two-speed motor unit supplied as motor only or plinth mounted with any Connoisseur arm. Two fixed speeds, 33½ and 45rpm. Wow: <0.1%. Flutter: <0.1%. Rumble: -50dB measured at RIAA characteristics ref 7cm/sec at 1kHz. No change in speed for 20% variation in supply voltage. 10¼in non-ferrous lathe-turned turntable. Precision ground belt drive. Unique drive arrangement eliminates transmission noise. Simple manual speed change. Low hum field. Slim line construction. Only 1½in required below mounting platform. Mains: 100-120V and 200-240V, 50 or 60Hz. Price: £14-30 (plus VAT). Price of assemblies on application.

#### **BD2 ★**

Integrated transcription unit. Includes a BD1 motor unit (mounted on a larger platform and fitted with pressbutton speed change) and a type SAU2 pickup arm. Hydraulic arm lift, operated from front. Anti-vibration springs. Supplied either chassis only or plinth mounted. Perspex cover. Size: 12¼ × 14 × 4¾in (2in below and 2¾in above the platform). Price: (chassis model) £28-20 (plus VAT); (assembly mounted on



*Connoisseur BD1*



*Connoisseur BD2*



*Decca Studio*



*Dual 1214*

plinth complete with transparent plastic cover) £35.60 (plus VAT).

### ■ DARBY INDUSTRIES

38.42 Chestnut Grove, New Malden, Surrey, KT3 3JW. Tel: 01-942 1598.

#### Slimline 1

Shelf-mounting record deck with hinged lift-off acrylic cover and stay. Fitted with Garrard SP25 Mk III deck and Audio Technica AT55 cartridge. Wired up with 6ft mains lead and DIN input socket. Finish: eggshell black, white, silver or chrome satellite. Supplied in mail order pack. Price: £22 (plus VAT).

#### Slimline 2

Similar to Slimline 1 but fitted with Garrard 2025T/C changer and Sonotone 9TA/HC cartridge. Supplied in mail order pack. Price: £16 (plus VAT).

#### Slimline 3

Similar to Slimline 1 but fitted with Garrard 6300 turntable. Supplied in mail order pack. Price: £16.75 (plus VAT).

#### Large Slimline Mk III

Record deck mounted in plinth with cover. Incorporates Garrard SP25 Mk III and Audio Technica AT55 cartridge. Wired up with 6ft mains lead and DIN input socket. Finish: eggshell black, white, silver or chrome satellite. Supplied in mail order pack. Price: £23.75 (plus VAT).

#### Large Slimline Mk II

Similar to the Large Slimline Mk III but fitted with Garrard Zero 100 single or auto-changer record deck (less cartridge). Supplied in mail order pack. Price: £48 (plus VAT).

#### Large Slimline Mk II (AP76)

Similar to the Large Slimline Mk III but fitted with Garrard AP76 single player record deck (less cartridge). Supplied in mail order pack. Price: £31 (plus VAT).

### ■ DECCA

Decca Special Products, Ingate Place, Queenstown Road, London, SW8 3NT. Tel: 01-522 6677.

#### Studio turntable ★

Combination of Decca Mk 4 *ffs* cartridge and Garrard AP75 three-speed single record playing unit. Speed: 33 $\frac{1}{3}$ , 45 and 78rpm. Automatic motor switch off and return of pickup at end of record. Cue and pause facility, calibrated pickup arm bias compensation, calibrated stylus weight adjustment. Price: £33.18 (plus £3.31 VAT).

### ■ DUAL

Audiodecks Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS1 1HR. Tel: Leeds 35111.

#### 1214 ★

Fully automatic turntable with pickup arm. Sup-



Dual 1218

plied as chassis only or with plinth (not mounted). Speeds: 33 $\frac{1}{3}$ , 45, 78rpm. Speed control: 6% variation. W and F: <math>\pm 0.15\%</math>. Rumble: (weighted) -55dB, (unweighted) -35dB (to DIN 45:500). Turntable: 10 $\frac{1}{4}$ in diameter, non-magnetic, 3 $\frac{1}{2}$ lb. Rim drive. Motor: Dual single-phase four-pole induction. Counterbalanced, torsionally rigid tubular pickup arm. Anti-skating and cue control. Three record size selector. Fitted with Shure M75D cartridge. Plinth finish: teak or walnut. Price: (1214 chassis only less cartridge) £31.95; (1214 chassis with Shure cartridge) £39.79; (1214 chassis with Shure cartridge and complete with base and cover) £59.18. All prices include VAT.

#### 1216

Fully automatic turntable with pickup arm. Supplied as chassis only or with plinth (not mounted). Speed: 33 $\frac{1}{3}$ , 45, 78rpm. Speed control: 6% variation. W and F: <math>\pm 0.12\%</math>. Rumble: (weighted) >57dB, (unweighted) >38dB. Turntable: 10 $\frac{1}{4}$ in diameter, non-magnetic, 4lb. Rim drive. Motor: Dual four-pole induction. Counterbalanced, torsionally rigid, aluminium pickup arm with low dynamic mass. Adjustable anti-skating force for spherical or elliptical tip stylus. Manual or automatic start. Fitted with Shure M75D cartridge. Plinth finish: teak or walnut. Price: (1216 chassis only less cartridge) £36.67; (1216 chassis with Shure cartridge) £43.85; (1216 chassis with Shure cartridge and complete with base and cover) £63.23. All prices include VAT.

#### 1218 ★

Fully automatic turntable with pickup arm. Supplied as chassis only or with plinth (not mounted). Speeds: 33 $\frac{1}{3}$ , 45, 78rpm. Speed control: 6% variation. W and F: <math>\pm 0.09\%</math>. Rumble: (weighted) >59dB, (unweighted) >39dB. Turntable: 10 $\frac{1}{4}$ in diameter, non-magnetic, 4lb. Rim drive. Motor: Dual four-pole synchronous.





Dual 1229



Eagle AA18B & AA18W



EMT 930st



Dynatron P100 teak

Counterbalanced gimbal mounted pickup arm. Selector on cartridge carrier for maintaining correct vertical tracking. Continuously variable anti-skating device. Fitted with Shure M91D cartridge. Plinth finish: teak or walnut. Price: (1218 chassis only) £52.34; (1218 chassis with Shure cartridge) £63.34; (1218 chassis with Shure cartridge and complete with base and cover) £82.74. All prices include VAT.

**1229 ★**

Fully automatic turntable with pickup arm. Supplied as chassis only or with plinth (not mounted). Speeds: 33½, 45, 78rpm. Speed control: 6% variation. W and F: ±0.06%. Rumble: (weighted) > 63dB, (unweighted) > 42dB. Turntable: 12in diameter, non-magnetic, 6¼lb. Rim drive. Motor: Dual synchronous, continuous pole. Counterbalanced, gimbal mounted pickup arm. Auto or single play mode selector to maintain correct tracking angle. Illuminated strobe. Continuously variable anti-skating device. Fitted with Shure DM103ME cartridge. Plinth finish: teak or walnut. Price: (1229 chassis only) £74.95; (1229 chassis with Shure cartridge) £90.35; (1229 chassis with Shure cartridge and complete with base and cover) £115.89. All prices include VAT.

**701**

Semi-automatic turntable with pickup arm and cartridge. Professional performance. Speeds: 33½, 45rpm. Speed control: 8% variation. Turntable: 12in diameter, non-magnetic. Direct drive. Gimbal mounted arm with resonance re-

duction. Fitted with Ortofon cartridge. Supplied with plinth and cover. Provisional specification. Due to be introduced after this edition of the Year Book closes for press. Price: £150 approximately (including VAT).

■ **DYNATRON RADIO LTD**

St Peter's Road, Maidenhead, SL6 7QY, Berks. Tel: Maidenhead 23331.

**Dynatron P.100 Teak ★**

Plinth unit comprising Goldring-Lenco GL75 mechanism with Goldring G800 cartridge. Four speeds, fully variable. Fitted with mains lead and plug, also audio lead and DIN plug. Price: £54.50 (including VAT).

■ **EAGLE INTERNATIONAL**

Heather Park Drive, Wembley, HA0 1SU. Tel: 01-903 0144.

**AA18B and AA18W ★**

Three-speed record deck in plinth with cover. Pickup arm wired for mono or stereo. Motor unit Garrard SP25 Mk III. Speeds: 33½, 45 and 78rpm. Rim drive. Four-pole screened motor. Counterbalanced tubular aluminium arm. Price: £21.74 (plus VAT).

■ **EMI**

Franz Vertriebsgesellschaft mGH. Sole UK agents: F. W. O. Bauch Ltd. 49 Theobald Street, Boreham Wood, Herts. Tel: 01-953 0091.

**EMT 930st ★**

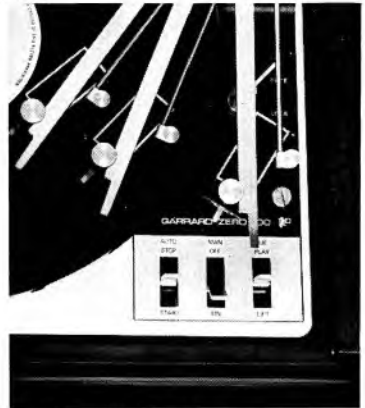
Professional transcription turntable fitted with pickup arm and equaliser amplifier, chassis construction. Speeds:  $33\frac{1}{3}$ , 45 and 78rpm with fine speed control. W and F max: 0.07%. Rumble: referred to a peak velocity  $V=10\text{cm/s}$  at 1kHz 58dB (weighted) (0dB=0.775V). Speed constancy: max  $\pm 0.15\%$ . Turntable: 13in dia heavy cast non-magnetic with light plastic auxiliary turntable on top. Drive: pulley. Motor: EMT manufacture with artificially aged shaft. Pickup arm: EMT type 929. Features: stroboscope, quick start, remote start, pickup illumination, scratch filter and equalisation control on deck, headphone sockets, pickup lowering device. Price on application.



EMT 928

**EMT 928 ★**

Professional transcription turntable fitted with pickup arm and equaliser amplifier. Speeds:  $33\frac{1}{3}$ , 45 and 78rpm with  $\pm 2\%$  fine speed control. Rumble: better than  $-65\text{dB}$  weighted (to DIN 45 539). Turntable:  $11\frac{1}{2}$ in. Belt drive. Three-phase synchronous motor fed by electronic three-phase generator. EMT 929 pickup arm. Statically and dynamically balanced in all directions. Stroboscope. Quick start with muting relay. Pickup illumination. Equaliser amplifier with headphone outlet. Price on application.



Garrard Zero 100 Pickup arm

**■ GARRARD ENGINEERING LTD**

Swindon, Wiltshire, England.

Tel: Swindon 5381. Cables: Garrard, Swindon.

**Zero 100 ★**

Two-speed transcription record unit with tangential pickup arm. Speeds:  $33\frac{1}{3}$  and 45rpm. Fine speed adjustment giving  $\pm 3\%$ . Stroboscopic neon speed indicator. W and F: better than 0.1% RMS. Rumble: better than  $-51\text{dB}$  relative to 1.4cm/sec at 100Hz. Garrard Synchro-Lab two-section motor. Tangential pickup head incorporating an automatic pivoting device that keeps the cartridge in precisely the correct attitude and so virtually eliminates tracking error. Stylus angle adjustable for single records or for playing a number of discs on automatic. Provided with gauge for exact positioning of cartridge in head. Magnetic bias compensation calibrated for spherical and elliptical stylus. Adjustable playing weight calibrated in  $\frac{1}{2}\text{gm}$  steps from 0.3gm over 3in. Non-magnetic  $11\frac{1}{2}$ in turntable. Pulley drive. Three brass tab keys for controls. Functions provide automatic operation, manual operation, cue, pause and stop. Fluid damped lowering device. Price: £46.88 (plus VAT)



Garrard Zero 100S module

**Zero 100S ★**

Single play version of Zero 100. Price: (un-mounted) £43.13 (plus VAT); (mounted) £50.63 (plus VAT); (fitted with Shure M93 cartridge) £61.13 (plus VAT).



Garrard SP25 Mk III

★ Indicates entry is illustrated

#### Model 401

Transcription motor. Three speeds:  $33\frac{1}{3}$ , 45, 78rpm. Adjustable by eddy current brake. 6lb machined aluminium turntable with gear-cut illuminated strobe markings on rim. Statically balanced. Die-cast aluminium unit plate. Completely screened spring-mounted shaded-pole motor. Styled by Eric Marshall and finished in metallic charcoal with chrome relief. W and F: less than 0.05% RMS. Rumble almost non-existent. Mains: 110-125V and 220-250V, 50 or 60Hz according to pulley fitted. Size:  $13\frac{3}{4}$ in wide,  $14\frac{5}{8}$ in front to rear,  $2\frac{3}{8}$ in above and  $3\frac{1}{8}$ in below lower edge of unit plate. Price: £36.75 (plus VAT).

#### SP25 Mk III ★

High quality single record playing unit with performance to DIN 45-500. Non-magnetic turntable. Three-speed. Four-pole screened motor. Cueing device to raise or lower pickup arm where required. Counter-balanced tubular aluminium arm. Slide-in cartridge carrier. Integral calibrated stylus pressure adjustment. Bias compensator. Automatic play of single records. Wired for stereo and mono. Mains: 100-125V, 220-250V, 50 or 60Hz according to pulley. Size:  $15\frac{1}{16}$ in wide,  $12\frac{1}{2}$ in front to rear,  $2\frac{7}{8}$ in above,  $2\frac{3}{8}$ in below lower edge of unit plate. Plus clearances. Price: (unmounted) £13.86 (plus VAT); (mounted) £20.13 (plus VAT); (fitted with

Shure 75/6/SM cartridge) £27.33 (plus VAT).

#### SL95B

Transcription turntable with autochange facility and automatic single record play. Combined record size and speed selector.  $11\frac{1}{2}$ in aluminium turntable. Weight-counterbalanced wood and aluminium pickup arm with gimbal type pivots. Calibrated fine stylus force adjustment. Calibrated bias compensator. Slide-in cartridge carrier accepts most makes and types. Cue and pause facility. Wired for mono and stereo. Synchro-Lab constant speed motor. Size (including rear and side overhang of pickup arm):  $15\frac{5}{16}$ in wide,  $14\frac{7}{8}$ in front to rear,  $4\frac{1}{8}$ in above,  $2\frac{1}{2}$ in below edge of unit plate. Plus clearances. Price: £42.18 (plus VAT).

#### AP96

Single-play version of the Garrard SL95B. Price: (mounted) £37.50 (plus VAT); (fitted with Shure 75/6/SM cartridge) £44.70 (plus VAT).

#### SL72B

Transcription turntable with autochange facility and automatic single record play. Combined record size and speed selector. Non-magnetic turntable. Aluminium pickup arm is weight counterbalanced, fitted with slide-in cartridge carrier and features gimbal type pivots. Calibrated stylus force adjustment. Calibrated bias



Garrard AP76 module



Goldring-Lenco GL72/P



Goldring GL75/P



Goldring GL78/P/C



■ **RUSSCO ELECTRONICS**

Distributors: Lamb Laboratories,  
Lamb House, Church Street, Chiswick,  
London, W4 2PB.

Tel: 01-995 4551.

**Russco Studio Pro ★**

Professional 2-speed (45 and 33 $\frac{1}{3}$ rpm) Turntable. Start-up times:  $\frac{1}{2}$ rev 33 $\frac{1}{3}$ rpm,  $\frac{1}{2}$ rev 45rpm. Wow and Flutter: <0.2%. Rumble: NAB-38dB. Illuminated speed indicators and electric start – suitable for remote operation. Removeable tone arm mounting plate. Neutral position for cueing – felt slip mat.

Dimensions: 15 $\frac{1}{2}$ " x 15 $\frac{1}{2}$ " x 7 $\frac{1}{2}$ " below chassis. Weight: 20lbs. 50Hz 115v synchronous motor. Price: (incl shrouded 115/240v transformer) £127 retail + V.A.T.

**Russco Cue Master**

As studio pro, except: –  
3-speed (78, 45 and 33 $\frac{1}{3}$ rpm). Start-up at 78rpm

$\frac{1}{2}$ rev. – Wow and Flutter: <0.3%. Rumble: NAB-36dB. No speed indicators or mtg plate. Depth below chassis: 6 $\frac{1}{2}$ ". Weight: 16lbs. Price: (incl transformer) £115 retail + V.A.T.

**Russco RA 12**

Professional 12" tone arm. Direct reading pressure – anti skate – single hole mtg. Plugged head and lead – std. cartridges. Viscous lift (removeable). Price: £40 retail + V.A.T.

**Gray Micro-Trak 303**

Professional D.J. 12" tone arm. Plug-in head, laminated wood arm. Tamper-proof stylus pressure. Price: £55 retail + V.A.T.

**Stanton 500 AL**

Professional D.J. Cartridge. Suitable for back-cueing.  $\pm 2\frac{1}{2}$ dB 20Hz – 17kHz. 1.0mV/Cm/Sec. Diamond stylus. Price: £13 retail + V.A.T.

**LAMB LABORATORIES**

# FIVE WAYS TO GET



Lenco GL85 P/C



Goldring-Lenco GL75 P/C



Goldring G101

# THE BEST OUT OF HI-FI.



Goldring-Lenco GL72P/C

Goldring-Lenco GL78P/C

Five high-quality turntables from Goldring-Lenco, designed to meet the needs of the Hi-Fi enthusiast at every stage of his development, and at every level of expenditure. All designed with the precision, skill and care associated with Goldring-Lenco.

**GL101** A two-speed integrated turntable with a pick-up arm of transcription quality. Its many features include belt drive, bias compensation, elegant cabinet.

**GL72P/C** A mid-price unit, providing variable speed control over a wide range from 30 to 86, with preset click stops at 16.2/3, 33.1/3, 45 and 78 r.p.m. An extremely reliable unit.

**GL75P/C** This turntable has become the yardstick of comparison for transcription-quality turntables. It has the well-proven constant velocity 4 pole motor which permits infinitely variable speed adjustment, a dynamically balanced turntable and precision balanced L75 arm.

**GL78P/C** A brand new addition to the range. Based on the famous GL75, this turntable features a lightweight headshell and, most important, a shut-off mechanism which automatically stops the turntable and lifts the arm from the record at the end of play.

**GL85P/C** Top of the Goldring-Lenco range. A superb specification includes a low speed 16 pole synchronous motor, belt drive, built-in stroboscope, press button control panel and an automatic electronically operated shut-off, which stops the turntable and lifts arm from record at end of play.

With these turntables Goldring offer a matched range of magnetic cartridges, including the new 820 series.

Full details from Goldring Ltd, 10 Bayford Street, Hackney E8 3SE.

## Goldring

The more you know about Hi-fi, the more you'll appreciate Goldring-Lenco.

# Simplicity!



- \* Single Point Bearing
- \* 24 Pole Synchronous Motor
- \* Belt Drive
- \* 9lb (4.1 Kg) Non-magnetic Platter
- \* Precision Engineering
- \* Stainless Steel Chassis

Simplicity itself... that's the Linn Sondek LP12 (Patents Pending)

Available through Authorised Stockists



LINN  
SONDEK

LINN PRODUCTS LIMITED

Sondek Division, 235 Drakemire Drive, Glasgow G45 9SZ, UK  
Tel: 041-634 3860 Cables: EURODECK

compensator. Cue and pause facility. Wired for stereo and mono. Size (including rear and side overhang of pickup arm):  $14\frac{9}{16}$ in wide,  $12\frac{11}{16}$ in front to rear,  $4\frac{1}{16}$ in above and  $2\frac{1}{8}$ in below lower edge of unit plate, plus clearances. Price: £27.94 (plus VAT).

#### AP76 ★

Single record playing unit complying with DIN 45-500 standards. Manual or automatic play of single records. Combined record size and speed selector.  $11\frac{1}{2}$ in diameter aluminium turntable. Aluminium pickup arm. Counterbalanced. Calibrated fine stylus force adjustment. Calibrated bias compensator. Slide-in cartridge carrier accepts most makes and types. Cue and pause facility. Wired for stereo and mono. Four-pole induction motor. Size (including rear and side overhang of pickup arm):  $14\frac{9}{16}$ in wide,  $12\frac{11}{16}$ in front to rear,  $2\frac{5}{8}$ in above,  $2\frac{1}{8}$ in below edge of unit plate. Plus clearances. Price: (unmounted) £24.38 (plus VAT); (mounted) £31.88 (plus VAT); (fitted with Shure cartridge) £39.08 (plus VAT).

#### ■ GOLDRING LTD

10 Bayford Street, Hackney, London, E8 3SE.  
Tel: 01-985 1152.

#### Goldring-Lenco GL75 ★

Integrated turntable and pickup arm. Four speeds, infinitely variable. Wow:  $<0.2\%$ . Flutter:  $<0.2\%$ . Speed change less than 1% for 13% voltage change. 12in diameter diecast zinc turntable, 8lb. Vertical pulley drive. Four-pole 15W induction motor. L75 pickup arm. Counter-balance weight adjustment, knife-edge bearing, plug-in shell. Hydraulic lowering device. Price: £39.90 (plus VAT). Available on plinth as GL75/P £51.60 (plus VAT). Dust cover £4.80 (plus VAT).

#### Goldring G99

Transcription motor only. Infinitely variable speeds 30-80rpm. Wow:  $0.1\%$ . Speed remains constant with 13% voltage change. Turntable 12in diecast zinc. Vertical idler wheel with provision for disengagement. Four-pole motor. Built-in illuminated strobe. Pushbutton on/off. Price: £28.50 (plus VAT).

#### G101 P/C Mk II

Two-speed motor unit on plinth with pickup arm. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F:  $0.2\%$  (DIN). Rumble: (weighted)  $-60$ dB. Turntable: steel 10in diameter,  $2\frac{1}{2}$ lb. Belt drive. 16-pole synchronous motor. Counter-balanced pickup arm. Removable shell. Bias compensation. Viscous damped lowering device. Price: £28.50 (plus VAT).

#### Goldring-Lenco GL72 ★

Turntable unit with pickup. Available in chassis form or with plinth and cover. Speeds: 30-86rpm continuously variable with 'click' stops at  $16\frac{2}{3}$ ,



Goodmans TD100

$33\frac{1}{3}$ , 45 and 78rpm. W and F:  $0.12\%$ . Speed variation:  $0.3\%$  for 10% change in mains voltage. Pulley drive. Four-pole motor. Viscous damped lowering device. Removable shell. PU arm type L69. Bias compensation. Price: (motor unit) £31.50 (plus VAT); (motor unit on plinth) £41.70 (plus VAT); (dust cover) £4.20 (plus VAT).

#### Lenco GL85/P/C ★

Two-speed motor unit with pickup arm on plinth with cover. Speeds:  $33\frac{1}{3}$  and 45rpm. Electronic fine speed adjustment  $\pm 3\%$ . W and F: (linear)  $\pm 0.16\%$ , (weighted)  $\pm 0.08\%$  (DIN). Rumble: (linear)  $-45$ dB, (weighted)  $-60$ dB. Turntable: 12.4in alloy,  $3\frac{1}{2}$ lb. Belt drive. 16-pole synchronous motor. Viscous damped lowering device. Electronic switch-off and pickup raising at end of record. Counter-balanced arm. Bias compensation. Removable shell. Illuminated stroboscope. Price: £89.40 (plus VAT).

#### GL78P/C

Four-speed turntable and pickup arm fitted in plinth with cover. Speeds:  $16\frac{2}{3}$ ,  $33\frac{1}{3}$ , 45, 78rpm (continuously variable between 30-80rpm with click stops). W and F:  $\pm 0.11\%$ , (unweighted)  $\pm 0.06\%$  (weighted to DIN 45507). Rumble:  $-60$ dB (weighted to DIN 45 539). Speed constancy:  $\pm 0.2\%$  for 10% change in mains voltage. Turntable:  $12\frac{3}{8}$ in diameter, diecast zinc,  $8\frac{3}{4}$ lb. Idler wheel drive. Motor: four-pole with conical spindle. Pickup arm: Goldring L75 with counterweight, bias adjuster and detachable head shell. Mechanical shut-off at end of record which raises arm, may be disconnected if not required. Price: £69.90 (plus VAT).

#### ■ GOODMAN LOUDSPEAKERS LTD

Downley Road, Havant, Hants, PO9 2NL.  
Tel: Havant 6344. Telex: 86296.

#### TD100 ★

Record deck in plinth with lid. Goldring GL75 motor unit. Infinitely variable speed adjustment with click stops for  $16\frac{2}{3}$ ,  $33\frac{1}{3}$ , 45 and 78rpm. W



★ Indicates entry is illustrated

and F: <0.2%. Speed constancy: <1% change for 13% variation in mains voltage. Turntable: 12in diecast zinc platter. Weight: 8lb. Vertical pulley drive. Four-pole motor. Counter-balanced pickup arm. Plug-in head shell. Hydraulic lowering device. Anti-skate device. Price: (teak) £64.63 (plus VAT); (white) £67.22 (plus VAT).

#### ■ HITACHI

Hitachi Sales (UK) Ltd, New Century Road, Park Royal, London, NW10 7QN.  
Tel: 01-965 9861.

#### PS33

Two-speed belt-drive turntable in plinth with arm and cartridge. 12in aluminium alloy turntable. Four-pole outer rotor motor. Speeds: 33½, 45rpm. W and F: <0.1%. Plug-in headshell. Magnetic cartridge. Pw: 0.4gm. FR: 20 Hz-20kHz. Stylus: 0.7 thou diamond. Finish: walnut veneer. Size: 19¼ × 7¼ × 15¾ in. Price: £94 (including VAT).

#### PS77

Two-speed belt/idler drive turntable in plinth with arm. Four-pole hysteresis synchronous motor. 12½in aluminium diecast turntable. Weight of turntable: 5.6lb. Built-in strobe. Zinc diecast motor board. Speeds: 33½, 45rpm. W and F: <0.05%. Tubular arm with static balance and cueing device. Plug-in headshell. Finish: oiled walnut. Size: 22½ × 11¼ × 17¾ in. Weight: 33lb. Price: £170 (including VAT).

#### ■ ITT

ITT Consumer Products (UK) Ltd, Maidstone Road, Sidcup, Kent, DA14 5HT.  
Tel: 01-300 7733.

#### DP-1-200 ★

Single-player unit in plinth with smoke grey acrylic lid. Motor unit: BSR P144R. Speeds: 33½, 45, 78rpm. Turntable: 11in diameter diecast. Friction drive. Mains: 220-240V 50Hz. Pickup arm: counterbalanced square-section arm with viscous damped cueing. Bias compensation. Slide-in cartridge carrier. Price: £36 (including VAT).

#### ■ JVC-NIVICO

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

#### SRP-473

Record turntable in plinth cabinet with pickup arm. Speeds: 33½ and 45rpm. Belt drive. Four-pole motor. W and F: <0.1%. Turntable: 12½in diecast aluminium. Auto return of arm. Special acoustic isolation. Size: 18¼ × 7¾ × 14¾ in. Price: (less cartridge) £71.50 (including VAT).

#### ■ LEAK

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.



ITT DP-1-200



Leak Delta



Micro MRI II

**Delta Turntable ★**

Dynamically balanced turntable. Viscously damped pickup lowering device. Speed adjustment infinitely variable between 30 and 86rpm. Wow and flutter according to DIN specification > 60dB. Maximum speed variation when loaded by pickup playing at 6gm 0.03%. Fitted with Shure M75/6 magnetic cartridge. Tracking error:  $\pm 0.8\%$ . Size:  $18\frac{1}{8} \times 6\frac{1}{2} \times 14\frac{7}{8}$ in. Price: £65.07 (including VAT).

**■ LINN PRODUCTS LTD**

Drakemire Drive, Glasgow, Scotland, G45 9SZ. Tel: 041-634 3860.

**Linn-Sondek LPI2**

Single-speed transcription record deck. Available as motor unit only or mounted in afromosia plinth with moulded plastic lid. Speed:  $33\frac{1}{3}$ rpm. W and F: <0.04% RMS unweighted. Rumble: better than -40dB (ref to 1cm/sec at 1kHz). Patented single-point bearing running in oil bath. High torque motor. Flat belt drive. 12in diameter zinc alloy diecast machined platter. Weight of platter approximately 9lb. Stainless steel non-magnetic chassis with brushed satin finish. Patented one piece base plate. Felt mat supplied as standard, rubber mat optional extra. Plinth finished in rosewood and black. Price: (chassis) £46.30; (with plinth and cover) £59.40.

**■ MICRO**

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

**MR111 ★**

Turntable unit fitted with arm and mounted in plinth with cover. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F: <0.1%. Turntable: 12in diecast alloy, 2lb. Belt drive. Four-pole synchronous motor. Mains: 200-240V. Static balance tubular arm with bias compensation. Counterweight. Direct reading stylus pressure scale. Price: £55 (including VAT).

**MB300**

Turntable unit only. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F: <0.01%. Rumble: >-48dB. Turntable: 12in diecast alloy,  $2\frac{1}{4}$ lb. Belt drive. Four-pole hysteresis motor. Pushbutton speed selection. Price: £46.20 (including VAT).

**MR311 ★**

Turntable unit fitted with arm and mounted in plinth with cover. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F: <0.06%. Turntable:  $12\frac{1}{2}$ in double rim alloy, 3lb. Belt drive. Static balance arm. Bias adjustment. Oil-damped lift. Price: £85.80 (including VAT).

**MB600**

Turntable only. Speeds:  $33\frac{1}{3}$  and 45rpm. W and

F: <0.05%. Rumble: >-52dB. Turntable:  $12\frac{1}{2}$ in cast aluminium alloy, 3lb. Belt drive. Eight-pole hysteresis synchronous motor. 100-240V AC. Pushbutton speed selection. Price: £55 (including VAT).

**MR711 ★**

Turntable unit fitted with arm and mounted in plinth with cover. Speeds:  $33\frac{1}{3}$  and 45rpm with electronically controlled adjustment of 6% with meter readout. W and F: <0.04%. Rumble: >-58dB. Turntable:  $12\frac{1}{2}$ in diecast aluminium, 4.4lb. Motor: DC servo direct drive. 100-240V AC. Static balance arm with lightweight solid headshell. Length: 10in. Electronic switching. Unit mounted on diecast base. Fitted with rubber shock absorbers. Price: £188.10 (including VAT).

**■ N. MIERS & CO LTD**

28 Piercing Hill, Theydon Bois, Epping, Essex, CM16 7LE. Tel: 037 881 2611.



Micro MR311



Micro MR711

### C141/SC5MD

Four-speed record deck with pickup arm and cartridge. Speeds: 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 45, 78rpm. Stereo ceramic cartridge. Diamond stylus. 11in turntable. Autochanger. Price: £13.49 (plus VAT).

#### Plinth and dust cover

To fit C141. Price: £6.85 (plus VAT).

### ■ MITSUBISHI

Mitsubishi Corporation, Bow Bells House, Bread Street, London, EC4. Tel: 01-248 3292.

#### DP-77B

Two-speed record deck in plinth with pickup arm and cartridge. Four-pole synchronous motor. Speeds: 33 $\frac{1}{3}$ , 45rpm. 12in diecast aluminium turntable. Tubular arm. Pressure adjustment. Plug-in head shell. Magnetic cartridge. Semi-automatic operation. Bias compensation. Full specification and price on request.

### ■ NATIONAL PANASONIC (UK) LTD

Whitby Trading Estate, Slough, Bucks. Tel: Slough (92) 34522. Telex: 847652.

#### SL-1100

Direct drive turntable with plinth and cover. Full specification on request. Price: £189.50 (including VAT).

#### RD7724

Rim-drive turntable unit with pickup arm and cartridge. Mounted in plinth with cover. Full specification on request. Price: £21.95 (including VAT).

### ■ ONKYO

J. Parkar & Co (London) Ltd, Parkar House, Beresford Avenue, Wembley, HA0 1YX. Tel: 01-903 5211. Telex: 923810.

#### ML70P

Two-speed belt-drive turntable in plinth with arm and cartridge. Auto-return of arm with cut-off. Speeds: 33 $\frac{1}{3}$ , 45rpm. 12 $\frac{1}{2}$ in diecast aluminium turntable. Four-pole motor. Magnetic cartridge. Diamond stylus. Bias compensation. Price: £79.12 (plus VAT).

#### Y3P

Two-speed record deck with arm and cartridge. No other product details available as this edition of the Year Book closed for press. Price: £66 (plus VAT).

### ■ PERPETUUM-EBNER

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

#### PE 2016L

Motor unit with base, dust cover and pickup arm (less cartridge). Speeds: 33 $\frac{1}{3}$ , 45, 78rpm with  $\pm 3\%$  fine speed adjustment. Wow:



Philips GA160

<0.15%. Flutter: <0.15%. Rumble: >-65dB at 10cm/sec and 1kHz. Turntable: 10 $\frac{1}{8}$ in approx. cast aluminium weighing approx. 4 $\frac{1}{2}$ lb. Pulley drive. Four-pole synchronous motor. Tubular lightweight pickup arm mounted on low-friction ball bearings. Price: £54 (plus VAT).

#### PE 2018L

Motor unit with pickup arm. Speeds: 33 $\frac{1}{3}$ , 45, 78rpm.  $\pm 3\%$  fine speed control. W and F:  $\leq 0.17\%$ . Rumble:  $\geq 56$ dB at 10cm/sec at 1kHz. Turntable: 10 $\frac{3}{8}$ in 4 $\frac{1}{2}$ lb cast metal. Pulley drive. Four-pole motor. Mains: 110-240V 50-60Hz. Low friction tubular arm mounted in precision ball bearings. Stroboscopic speed indicator. Anti-static mat. Automatic or manual operation. Centre spindle rotates on manual. Price: £59 (plus VAT).

#### PE 2020L

Motor unit with pickup arm. Speeds: 33 $\frac{1}{3}$ , 45, 78rpm.  $\pm 3\%$  fine speed control. W and F:  $\leq 0.1\%$ . Rumble:  $\geq 58$ dB at 10cm/sec at 1kHz. Turntable: 11 $\frac{1}{2}$ in 7lb cast metal. Pulley drive. Four-pole motor. Mains: 110-240V 50-60Hz. Low friction tubular pickup arm mounted in precision ball bearings. Stroboscope. Anti-static mat. Adjustable vertical tracking angle. Fully automatic or manual operation. Adjustable stylus overhang. Centre spindle rotates on manual. Price: on application.

### ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

#### GA 160 ★

Single-play record deck with autochange facility. Complete with pickup arm and cartridge on walnut effect plinth with perspex dust cover. Speeds: 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 45, 78rpm. Maximum loading: 9 records. W and F: <0.18%. Rumble: -55dB (DIN). Turntable: 9 $\frac{3}{8}$ in. Size: 14 $\frac{1}{2}$  × 12 $\frac{1}{2}$  × 6in. Mains: 110, 120, 220, 240V 50Hz. Short single-play centre spindle supplied. Price: £34.84 (including VAT).

**GA205**

Three-speed record deck with arm and cartridge mounted in plinth with tinted plastic cover. Walnut effect finish. Speeds:  $33\frac{1}{3}$ , 45, 78rpm. W and F:  $\leq 0.25\%$ . Rumble:  $-32\text{dB}$  (DIN A),  $-52\text{dB}$  (DIN B). Turntable: 8in diameter steel. Pulley drive. Asynchronous motor. Mains: 110, 127, 220, 240V 50Hz. Tubular pickup arm with direct reading counterbalance. Arm returns to rest and motor switches off at end of record. Fitted with GP205 cartridge and diamond stylus. Price: £25 (including VAT).

**GA207**

Two-speed record deck with arm and cartridge mounted in plinth. Finish: silver with clear plastic cover. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F:  $\leq 0.2\%$ . Rumble:  $-35\text{dB}$  (DIN A),  $-55\text{dB}$  (DIN B). Turntable: 10in diameter steel. Belt drive. Motor: 24-pole synchronous. Mains: 110, 127, 220, 240V 50Hz. Counterbalanced pickup arm fitted with GP400 Super 'M' magnetic cartridge. Direct reading stylus pressure gauge fitted. Price: to be announced.

**GA212 ★**

Integrated turntable, pickup arm and cartridge mounted on walnut veneered plinth with hinged tinted plastic lid. Speeds:  $33\frac{1}{3}$ , 45rpm. Fine speed adjustment:  $\pm 3\%$ . W and F:  $< 0.1\%$ . Rumble:  $< 62\text{dB}$  (DIN B). Turntable:  $11\frac{1}{4}$ in diameter steel,  $2\frac{1}{2}$ lb. Belt drive. Motor: DC type with tachogenerator giving electronic control, obviates the need for a heavy flywheel type platter. Lightweight tubular gimbal-mounted pickup arm. Decoupled counterweight. Bias compensation. Stylus pressure adjustment. Standard  $\frac{1}{2}$ in headshell with slide-in cartridge carrier. Electronic touch controls for speed selection, start and stop. Light beam operated auto-stop. Viscous damped pickup arm raising and lowering device. Supplied complete with Philips GP400 cartridge. Mains: 110, 127, 220, 240V 50-60Hz. Size:  $15\frac{1}{4} \times 5\frac{3}{4} \times 13\frac{1}{4}$ in. Price: £64.95 (including VAT).

**GA407 ★**

Two-speed record deck with arm and cartridge mounted in plinth. Finish: walnut base with tinted plastic cover. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F:  $\leq 0.2\%$ . Rumble:  $-35\text{dB}$  (DIN A),  $-55\text{dB}$  (DIN B). Turntable: 10in diameter steel. Belt drive. Motor: 24-pole synchronous. Mains: 110, 127, 220, 240V 50Hz. Counterbalanced arm fitted with direct reading stylus pressure gauge. Fitted with GP400 Super 'M' magnetic cartridge. Friction-grip lid hinges. Price: £45 (including VAT).

**■ PIONEER**

Distributors: Shiro (UK) Ltd,  
42 Russell Square, London, WC1B 5DF.  
Tel: 01-580 6996.



Philips GA212



Philips GA407

**PLA35**

Two-speed record deck with pickup arm and cartridge mounted in plinth with cover. Speeds:  $33\frac{1}{3}$ , 45rpm. 12in diecast aluminium turntable. W and F:  $< 0.1\%$ . Static balance tubular arm. Induced magnet cartridge. 0.5 thou diamond stylus. Output: 3mV. Price: £91.47 (plus VAT).

**PL12AC**

Two-speed record deck with pickup arm on plinth with cover. Speeds:  $33\frac{1}{3}$  and 45 rpm. Wow:  $< 0.12\%$ . Flutter:  $< 0.12\%$ . S/N ratio better than 45dB. 12in aluminium turntable. Belt drive. Four-pole synchronous motor. Static balanced pickup arm, incorporating bias compensation and hydraulic lift device. Price: £47.18 (plus VAT).

**PL15C**

Two-speed record deck with pickup arm on plinth with cover. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F:  $< 0.1\%$ . S/N ratio better than 47dB. 12in diecast aluminium turntable. Belt drive. Four-pole synchronous motor. Static balanced arm

★ Indicates entry is illustrated

incorporating automatic return, bias compensation, hydraulic lift and direct weight calibration. Price: £65.78 (plus VAT).

#### ■ SABA TELEVISION LTD

6-12 Cornbrook Park Road, Manchester, M15 4EE. Tel: 061-872 7661. Telex: 669131.

**735**

Three-speed motor unit in plinth with pickup arm and cartridge. Speeds: 33 $\frac{1}{3}$ , 45, 78rpm. W and F: <0.15% (DIN). Rumble: >56dB (DIN). Turntable: 4lb. Autochanger operation. Four-pole synchronous motor. All-metal pickup arm. Pw: 1.6gm adjustable. Anti-skate device. Shure M71 magnetic cartridge with diamond stylus. Finish: light matt walnut or matt white, clear plastic cover. Size: 16 × 7 $\frac{1}{8}$  × 14in. Price: £72 (including VAT).

**745**

Three-speed motor unit in plinth with pickup arm and cartridge. Speeds: 33 $\frac{1}{3}$ , 45, 78rpm. W and F: <0.1% (DIN). Rumble: >57dB (DIN). Turntable: 4lb. Autochanger operation. Four-pole synchronous motor. All-metal pickup arm. Pw: 0.5gm-5.5gm adjustable. Anti-skate device. Shure M91 magnetic cartridge with diamond

stylus. Finish: light matt walnut or matt white, clear plastic cover. Size: 16 × 7 $\frac{1}{8}$  × 14in. Price: £80.34 (including VAT).

**780**

Three-speed motor unit in plinth with pickup arm and cartridge. Speeds: 33 $\frac{1}{3}$ , 45, 78rpm. W and F: <0.06% (DIN). Rumble: >60dB (DIN). Turntable: 12in diameter, 7lb weight. Auto-changer operation. Synchronous continuous pole motor. Anti-skating device. Stroboscopic markings on turntable. All-metal pickup arm. Pw: 0.2gm-5.5gm adjustable. Pickup cartridge and finish the same as for the 745. Size: 19 $\frac{1}{2}$  × 7 $\frac{1}{8}$  × 14in (including storage compartment for accessories). Price: £110 (including VAT).

#### ■ SANSUI

Vernitron Ltd, Thornhill, Southampton, SO9 5QF. Tel: Southampton 444811.

**SR1050C** ★

Motor unit and pickup in cabinet with clear plastic lid. Speeds: 33 $\frac{1}{3}$  and 45rpm. Belt drive. 12in dia. platter. 2.64lb. Mains: 100, 117, 200, 220, 250V AC. Wow: <0.07%. S/N: better than 40dB. Tubular balanced arm with bias com-



Sansui SR1050C



Sansui SR4050C



Sansui SR2050C



Sansui FR3060

# Connoisseur

## The B.D.2 Turntable Assembly

The famous B.D.2 belt drive turntable with press button speed change has now been developed to feature a newly designed mat and brushed aluminium trim and the perspex cover has an easy "hinged-on, hinged-off" movement. The B.D.2 is available as a chassis unit or spring mounted on a wood plinth, as above.



## B.D.1 Turntable Kit

The B.D.1, well known for its superb performance and quality, is available in kit form. Construction is simplicity itself with no soldering required. Now it's so easy to own the best.

## S.A.U.2 Pick-up Arm

Recognised as one of today's most advanced pick-up arms it features:

- ★ Auto-bias Compensator
- ★ Hydraulic Lowering Device
- ★ Precision Balance
- ★ Adjustable head shell



## S.C.U.1 Stereo Cartridge

This is the cartridge for the person who really cares about his equipment.



# A.R. Sugden & Co. (Engineers) Ltd.

ATLAS MILL RD. BRIGHOUSE, YORKSHIRE HD6 1ER.

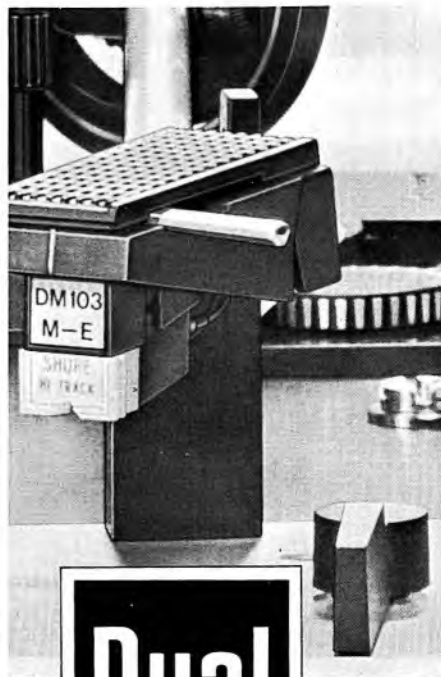
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# Wireless World



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pensation. Cartridge: induced magnet. Output: 5mV. FR: 20Hz-20kHz. Stylus: 0.5 thou diamond. Compliance:  $7 \times 10^{-6}$ cm/dyne. Finish: walnut with smoked acrylic lid. Size:  $17\frac{1}{8} \times 13\frac{1}{2} \times 7\frac{1}{2}$ in. Two years guarantee. Price: £70.98 (plus VAT).

#### SR2050C ★

Motor unit and pickup in cabinet with smoked acrylic dust cover. Speeds:  $33\frac{1}{3}$  and 45rpm. Belt drive: 12in dia. platter. 2.9lb. Mains: 100, 117, 200, 220-240V AC. S/N ratio: better than 40dB. Wow: <0.07%. Balanced tubular arm with bias compensation and pressure adjustment. Max. tracking error:  $\pm 1.5\%$ . Cartridge: induced magnet. Output: 5mV. FR: 20Hz-20kHz. Stylus: 0.5 thou diamond. Compliance:  $7 \times 10^{-6}$ cm/dyne. Automatic lift-off and stop. Finish: walnut. Size:  $17\frac{1}{2} \times 13\frac{7}{8} \times 7\frac{1}{2}$ in. Two year guarantee. Price: £88.20 (plus VAT).

#### SR4050C ★

Motor unit and pickup in cabinet with smoked acrylic lid. Speeds:  $33\frac{1}{3}$  and 45rpm. Belt drive. 12in dia. platter. 3.3lb. Mains: 100, 117, 200, 220, 240V AC. S/N ratio: better than 45dB. Wow: less than 0.06%. Gimbal supported statically balanced arm with bias compensation. Stylus pressure adjustment. Max. tracking error:  $\pm 1.5\%$ . Cartridge: induced magnet. Output: 5mV. FR: 20Hz-20kHz. Stylus: 0.5 thou diamond. Compliance:  $17 \times 10^{-6}$ cm/dyne. Auto lift-off and stop. Finish: walnut. Size:  $19\frac{1}{8} \times 14\frac{1}{2} \times 7\frac{1}{8}$ in. Two years guarantee. Price: £122.61 (plus VAT).

#### FR3060 ★

Motor unit and pickup arm in plinth cabinet with lid. Speeds:  $33\frac{1}{3}$  and 45rpm. W and F: better than 0.07%. Rumble: signal-to-noise ratio better than 47dB. Turntable: 12in diameter, diecast aluminium, 3.1lb. Belt drive. Four-pole synchronous motor. Statically balanced tubular arm with direct reading stylus pressure gauge. 16-pole timing motor for auto lift and return. Anti-static mat. Automatic and manual control. Facilities for remote control and automatic repeat. Price: to be announced.

#### ■ SANYO

Sanyo Marubeni (UK) Ltd, Bushey Mill Lane, Watford, WD2 4UQ. Tel: Watford (92) 30421.

#### TP80S

Turntable with PU arm in shelf mounting cabinet with tinted lift-up lid. Two speeds ( $33\frac{1}{3}$ , 45 rpm). Belt drive. Four-pole synchronous motor.  $11\frac{1}{4}$ in diecast turntable. S-shaped tubular arm. Lateral balance weight. Accepts all standard cartridges. Tracking force adjustable 0.4gm. Pickup arm returns to rest automatically. Lifting and lowering device. Moving magnet stereo cartridge supplied. Finish: walnut with transparent cover. Price: £73.80 (including VAT).



Sanyo TP78

#### TP91/TP92S

Turntable with PU arm in shelf mounting cabinet with lift-up lid. Two speeds ( $33\frac{1}{3}$ , 45rpm). Belt drive. Four-pole synchronous motor. Die-cast turntable. Statically balanced pickup arm. Maximum tracking error 1.5°. Arm accepts all standard cartridges. Supplied with moving magnet stereo cartridge with 0.5mm diamond stylus. Pickup arm returns automatically at end of record. Price: £54.84 (including VAT).

#### ■ SCAN-DYNA

Scandinavian Audio Systems Ltd, Sun Alliance Building, 65 London Road, Gloucester, GL1 3HF. Tel: Gloucester (0452) 32791.

#### 1400

Two-speed motor unit in plinth with pickup arm. Tinted dust cover. Speeds:  $33\frac{1}{3}$ , 45rpm. W and F: 0.9%. Turntable:  $11\frac{1}{4}$ in. Neoprene belt drive. Motor:  $2 \times 16$ -pole synchronous. Mains: 220-240V 50Hz. Ortofon AS212 pickup arm fitted with F15 cartridge. Magnetic bias compensation. Price: £69.90 (including VAT).

#### ■ SCIENTELEC

35a Beddington Lane, Croydon, Surrey, CR0 4TB. Tel: 01-686 9341/4.

#### Club

Two-speed transcription record deck with arm. Speeds:  $33\frac{1}{3}$  and 45rpm. Speed accuracy  $\pm 0.2\%$ . W and F: <0.15%. Rumble and noise: -54dB. Non-ferrous tri-pole turntable. Belt drive. Synchronous motor. Knife-edge horizontal pivot to arm, ballrace vertical pivot. Damped lowering device. Bias compensation. Transparent plastic cover with catch. Complete assembly suspended on latex blocks for acoustic isolation. Price: £84 (including VAT).

#### ■ SIEMENS

Interconti Electronic Ltd, Albany House, Petty France, London, SW1H 9EA. Tel: 01-222 2523. Telex: 918770.



★ Indicates entry is illustrated

#### **RW346**

Three-speed record deck with pickup arm and cartridge in plinth with dust cover. Shure magnetic cartridge with diamond stylus. Finish: white or light satinwood. Full specification on request. Price: £91.79 (including VAT).

#### **RW444**

Three-speed autochanger incorporating PE 3012 record deck. Four-pole motor. Shure cartridge. White or wood effect plinth with dust cover. Full specification on request. Price: £58.56 (including VAT).

#### ■ **SONAB LTD**

PO Box 4, Oldfield Road, Hampton, Middlesex, TW12 2HN. Tel: 01-979 0134.

#### **85S Mk I**

Transcription turntable unit with improved pickup arm, precision cueing device, bias compensation and cartridge mounted in plinth with transparent plastic dust cover. Speeds: 33 $\frac{1}{3}$  and 45rpm. Wow: <0.08% (DIN). Flutter: <0.08% (DIN). Rumble: <60dB (weighted). Speed constancy: better than  $\pm 1\%$ . Turntable: 12in diameter non-magnetic, 2 $\frac{1}{2}$ lb. Belt drive. Four-pole synchronous motor. Lightweight tubular arm balanced statically and dynamically. Adjustable for stylus pressures 0.5-3.5gm. Fitted with Shure M75E cartridge with elliptical diamond stylus. Price: £86.35 (plus VAT).

#### ■ **SONY (UK) LTD**

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

#### **PS230**

Two-speed motor turntable unit fitted with pickup arm, cartridge, plinth and dust cover. Speeds: 33 $\frac{1}{3}$  and 45rpm. Turntable: 11in diameter. Four-pole synchronous motor. AC mains 100, 120, 220 or 240V. Induced magnetic cartridge. Price: £40 (plus VAT).

#### **PS5520**

Two-speed auto-manual turntable system in plinth with pickup arm and cartridge. Speeds: 33 $\frac{1}{3}$  and 45rpm. W and F: 0.1%. Turntable: 12in diameter diecast aluminium. Belt drive. Four-pole hysteresis synchronous motor. Statically balanced pickup arm. Pivot to stylus 8 $\frac{1}{2}$ in. Stylus pressure adjustment: 0.3gm. Fitted with induced magnet cartridge. Price: £63 (plus VAT).

#### ■ **TEAC**

Acoustico Enterprises Ltd, 6-8 Union Street, Kingston-upon-Thames, Surrey, KT1 1RP. Tel: 01-549 3471/3. Telex: 929916.

#### **TS-130**

Two-speed record deck with arm. Fitted in plinth with cover. Speeds: 33 $\frac{1}{3}$ , 45rpm. Flutter: 0.09%. S/N ratio 45dB. Pulley drive. Four-pole



*Thorens TD125 Mk II and plinth*



*Transcriptors Saturn*

synchronous motor. Statically balanced. Price: £72.50 (plus VAT).

#### ■ **TELEFUNKEN**

AEG Telefunken (UK) Ltd. Bath Road, Slough, Bucks.

Tel: Slough (75) 33311. Cables: Allgem. London.

#### **W215**

Four-speed record deck in shelf-mounting plinth. Speeds: 16 $\frac{2}{3}$ , 33 $\frac{1}{3}$ , 45, 78rpm. Tubular pickup arm with Pickering V15/AC-2 magnetic cartridge. 11in diameter turntable. Tinted dust cover. Size: 14 $\frac{1}{2}$   $\times$  7 $\frac{1}{2}$   $\times$  12in. Price: £61.55 (including VAT).

#### ■ **THORENS**

Metrosound (Sales) Co Ltd.

Cartersfield Road, Waltham Abbey, Essex. EN9 1JF. Tel: Waltham Cross 31933.

#### **TD125 Mk II ★**

Transcription turntable. Three speeds: 33 $\frac{1}{3}$ , 45 and 16 $\frac{2}{3}$ rpm. With  $\pm 2\%$  electronic speed control. Low speed synchronous motor, belt driven. Motor is transistor governed. Neon-lit strobe. 12in non-ferrous turntable. W and F: 0.09%. Plinth and cover available, also mounting frame if cabinet mounted. Price: £70 (plus VAT).

**TD125AB Mk II**

Details as for TD125 but complete with TP16 pickup arm and plinth. Price: £105.50 (plus VAT).

**Teak Plinth**

Suitable for TD125 unit. Price: £7 (plus VAT).

**Perspex cover 1X25**

Suitable for TD125 unit. Price: £7.50 (plus VAT).

**TD160C**

Transcription turntable with integrated pickup arm. Speeds: 33 $\frac{1}{3}$  and 45rpm. TP16 pickup arm. Pw: adjustable 0.5 to 4gm. Magnetic bias compensation device. Complete with smoke grey cover. Price: £59.13 (plus VAT).

**TRANSCRIPTORS LTD**

2 Theobald Street, Boreham Wood, Herts.  
Tel: 01-953 0771.

**Hydraulic reference turntable**

Self-standing unit, on adjustable acoustic feedback legs. Level incorporated. Speeds: 33 $\frac{1}{3}$  and 45rpm only.  $\pm 3\%$  fine speed adjustment by the incorporated hydraulic speed stabiliser. Soft rubber belt, drives 9lb non-ferrous platter via a neon idler stroboscope from a synchronous motor. Strobe geared up 6:1 ratio, resulting in indications more accurate than any measuring instrument. Slipping clutch recoil start motor operated via a vacuum switch. P.I.F.E. main bearing, solid brass gold-plated platter weights. Fabricated Perspex top hinged at rear with swing leg support. Finish: Black and Aluminium. All mains voltages and frequencies available. Rumble not measurable. Speed stability: 0.005% short term, 0.01% long term. Size: 17 x 17 x 7in. Price: (less pickup arm) approximately £80 (plus VAT); (with pickup arm) approximately £100 (plus VAT).

**Saturn turntable ★**

Self-standing turntable unit with pickup arm, cover and anti-feedback legs. Speeds: 33 $\frac{1}{3}$  and 45rpm. No fine speed adjustment. Wow: better than 0.03%. Flutter: not measurable. Rumble: not measurable. Speed remains constant with variation of mains voltage. 12in diecast aluminium turntable. Weight: 6 $\frac{1}{2}$ lb. Belt drive. Mains: 100-110V or 200-240V 50 or 60Hz. Pickup arm has low-friction stabilised unipivot mounting. Hydraulic lowering. Cueing. Full adjustments. Unit fully suspended. Arm and turntable float free at under 5Hz for acoustic feedback damping. Price: approximately £60 (plus VAT).

**TRIO**

B. H. Morris & Co (Radio) Ltd,  
84-88 Nelson Street, Tower Hamlets,  
London, E1 2DY. Tel: 01-790 5011.



Wharfedale Linton

**KP2022**

Two-speed belt-drive turntable unit with pickup arm and cartridge. FR: 20Hz-20kHz. Mounted in plinth with hinged dust cover. Cueing device. Four-pole synchronous motor. Price: £47.50 (plus VAT).

**VALEK LTD**

Lark Street, Darwen, Lancs, BB3 2L1.  
Tel: Darwen 71881.

**Turntable kits**

Kits of parts for home assembly of record turntable units. Full details and prices on request.

**WHARFEDALE**

Rank Radio International Ltd,  
Power Road, Chiswick, London, W4 5PW.  
Tel: 01-994 6491.

**Linton Turntable ★**

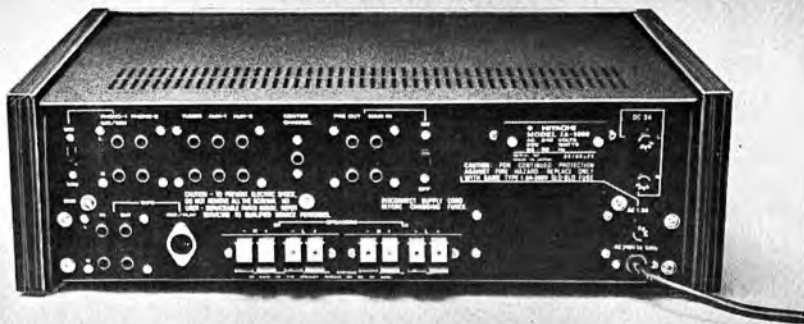
Hydraulic arm lowering device. Adjustable arm balance. Bias compensator. Automatic stop/arm return mechanism. Wow: better than 0.2%. Flutter: better than 0.06%. Rumble: better than 35dB. Fitted with Shure M44.7 cartridge. Price: £35.11 (including VAT).

**YAMAHA**

Jonathan Fallowfield Ltd, Strathcona Road,  
North Wembley, HA9 8QL. Tel: 01-904 0141.  
YP-700

Plinth mounted motor unit with pickup arm, cartridge and tinted hinged dust cover. Speeds: 33 $\frac{1}{3}$ , 45rpm. W and F: <0.05%. Rumble: 58dB. Speed constancy: 0.05%. 12in diecast aluminium turntable. Belt drive. 16-pole outer rotor motor (110 and 240V AC). 9in pickup arm with tracking weight and bias compensation adjustments. Auto-return of pickup arm. Dual hydraulic cueing device. Built-in stylus protractor. Yamaha CG-7000 cartridge. Price on application.

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Tuner Amplifiers · Speaker Systems



 **HITACHI**

Hitachi Sales (UK) Ltd., New Century House,  
Coronation Road, Park Royal, London NW10 7QN.

# Directory of Radio Tuners

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOUSTICAL MANUFACTURING

See Quad.

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.

### AT550 ★

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-560m. Variable tuning. Meter signal strength indicator. Centre-zero FM tuning meter. Sensitivity: FM 1.8µV, MW 150µV/m. Stereo decoder fitted. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Output: 500mV fixed, 0-1.8V variable. Mains: 100-240V 50-60Hz. Size:  $17\frac{1}{8} \times 5\frac{5}{8} \times 12\frac{5}{8}$ in. Weight:  $16\frac{3}{4}$ lb. Price: £91.62 (including VAT).

### AT580

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-560m. Variable tuning. Meter signal strength indicator. Centre-zero FM tuning meter. Sensitivity: FM 1.6µV, MW 150µV/m. Stereo decoder fitted. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Output: 500mV fixed, 0-1.8V variable. Mains: 100-240V 50/60Hz. Size:  $17\frac{1}{8} \times 5\frac{5}{8} \times 12\frac{5}{8}$ in. Weight:  $17\frac{1}{4}$ lb. Price: £143.30 (including VAT).

## ■ ALBA (RADIO & TELEVISION) LTD

Tabernacle Street, London, EC2A 4DY.  
Tel: 01-253 1322.

### UA800D ★

Stereo AM/FM tuner designed to match the Alba UA700 amplifier and UA300 speaker system. Range: FM 87-104MHz, MW 183-560m, LW 1070-1850m. Variable tuning. Sensitivity: (FM) 2µV to IHF rating, 4µV for full limiting. (MW) 250µV/metre for 100mV output at 30% modulation, (LW) 500µV/metre for 100mV at 30% modulation. 16 transistors, 12 diodes. Decoder fitted. Stereo beacon. Novel tuning indicator. Quiet tuning facility. Push-buttons for waveband selection, decoder, AFC, quiet tuning, mains on-off. DIN output socket. Mains: 240V 40-60Hz. Finish: teak. Size:  $16\frac{1}{2} \times 4 \times 7\frac{5}{8}$ in. Price: £37.84 (including VAT).

## ■ ALPHA

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

### FT150

AM/FM stereo tuner. Range: FM 88-108MHz, MW 176-600m. Variable tuning. AFC. Balanced ratio detector. Meter tuning indicator. Usable sensitivity: AM 25µV, FM 2.5µV. Aerial input: 300 ohms balanced. Stereo decoder fitted. Output: 1V. Adjustable AM aerial. Finish: teak with brushed aluminium. Mains: 110, 240V AC. Size:  $14\frac{1}{2} \times 5 \times 13\frac{1}{2}$ in. Price: £45 (plus VAT).

### Executive 0007

FM stereo tuner. Five preset stations. Phase lock loop stereo decoder. Quiet tuning facility. Auto stereo/mono switching. AFC. Ceramic IF filters. Usable sensitivity: 1.8µV. FR: 20Hz-15kHz  $\pm 1$ dB. Hum and noise: -60dB. Capture ratio: 3.5dB. Aerial inputs: 75 ohms coaxial and 300 ohms balanced twin. Output: (1) 50mV 10K, (2) 500mV 10K. Size:  $16\frac{3}{4} \times 6 \times 3\frac{1}{4}$ in. Finish: teak veneer. Mains: 110 or 240V 50-60Hz. Price: £49.50 (plus VAT).

## ■ AMSTRAD

AMS Trading (Amstrad) Ltd, 89 Ridley Road, London, E8. Tel: 01-249 5237.

### Multiplex 3000 ★

Stereo FM tuner. Range FM/VHF. Variable tuning. AFC. Ratio detector. Neon tuning indicator. Usable sensitivity: 5µV. Aerial input: 70 ohms coaxial. Output: 500mV nominal. Stereo decoder included. Mains: 220-240V AC. Size:  $17 \times 3 \times 7\frac{1}{2}$ in. Finish: teak cabinet with black facia and silver trim. Preset gain control incorporated. Price: £39 (plus VAT).

## ■ A/R/D

Audio Research and Development Ltd, PO Box 73, Hounslow, Middlesex, TW3 1RD.  
Tel: 01-570 0471.

### 2000

Stereo FM/VHF tuner with pushbutton station selector. Designed to operate with A/R/D 2000 amplifier system. Price: (grey case) £45 (plus VAT); (teak veneered case) £47.40 (plus VAT).

## ■ ARMSTRONG AUDIO LTD

Wartlers Road, Holloway, London, N7 0RZ.  
Tel: 01-607 3213.

### Model 623 ★

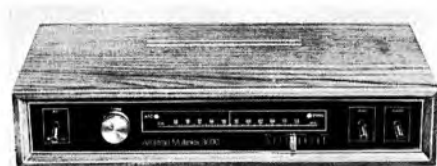
AM/FM stereo tuner. Range: FM 87.5-108MHz, MW/LW continuous 185-2070m. Variable tuning plus three preset FM stations and three preset AM stations. AFC. Foster Seeley discriminator. Phase-locked loop decoder. Centre-zero tuning meter and field strength. Usable sensitivity: FM 1µV, AM 25µV. Aerial input:



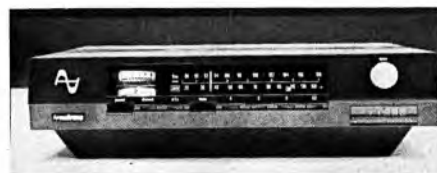
Akai AT 550



Alba UA800D



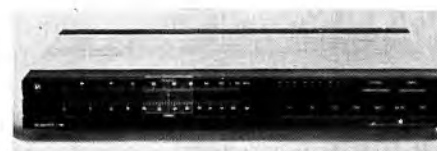
Amstrad Multiblex 3000



Armstrong Audio 623



Armstrong Audio 624



Bang & Olufsen Beomaster 1700

75-80 ohms coaxial, 240-300 ohms twin balanced. Output: (high) 0dB (0.775V) 600 ohms, (low) 100mV 68K for 30% mod. Stereo decoder fitted. Mains: 105-135V, 215-250V AC. Size:  $12\frac{1}{2} \times 3\frac{1}{2} \times 11\frac{1}{2}$  in. Finish: zinc diecast front panel enamelled black, wood case in teak or rosewood. Built-in ferrite rod aerial on AM. Outlet socket for AC mains. Price: £79.20 (including VAT).

**Model 624 ★**

FM stereo tuner. Range: 87.5-108MHz. Variable tuning plus six preset stations. AFC. Foster Seeley discriminator. Phase locked loop decoder. Centre-zero tuning meter and field strength. Usable sensitivity: 1µV. Aerial input: 75-80 ohms coaxial, 240-300 ohms balanced twin. Output: (high) 0dB (0.775V) 600 ohms, (low) 100 mV 68K for 30% mod. Stereo decoder fitted. Mains: 105-135V AC. Size:  $12\frac{1}{2} \times 3\frac{1}{2} \times 11\frac{1}{2}$  in. Finish: zinc diecast front panel enamelled black, wood case in teak or rosewood. Outlet socket for AC mains. Price: £59.40 (including VAT).

**■ BANG & OLUFSEN UK LTD**

Eastbrook Road, Gloucester, GL4 7DE.

Tel: Gloucester 21591.

**BEOMASTER 1700 ★**

FM stereo tuner. Range: 87.5-104MHz. Variable tuning plus 3 preset stations. 'Balanced light' tuning indicator. Sensitivity <math>2.0\mu\text{V}</math>. AFC. Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 0-1V variable and 90mV approx. Decoder fitted. Size:  $19.7 \times 9.1 \times 2.9$  in. Finish: teak or rosewood. Price: (teak) £59.90; (rosewood) £60.90 (including VAT).

**■ BRYAN AMPLIFIERS LTD**

18 Greenacres Road, Oldham, Lancs, OL14 1HA.

Tel: 061-624 4074.

**FET 1500**

Stereo FM tuner incorporating FET front end. Range: FM 87.5-108MHz. Usable sensitivity:  $2.5\mu\text{V}$  for 30dB signal/noise ratio. Output: 400mV RMS for 100% modulation at 1kHz. HD: 0.5% at full modulation. FR: 40Hz-14kHz  $\pm 1\text{dB}$ . Price: (chassis) £56 (plus VA1); (cabinet model) £60 (plus VA1).

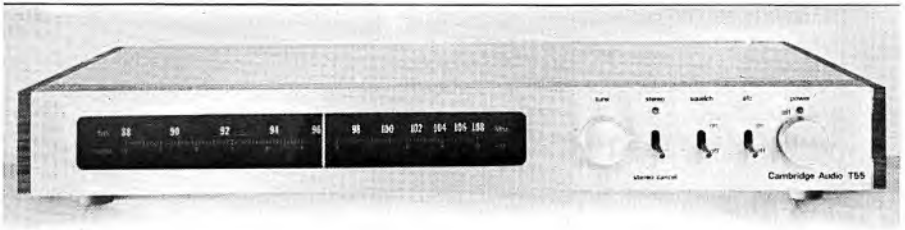
**■ CAMBRIDGE AUDIO**

Cambridge Audio Ltd, The River Mill, St Ives, Huntingdon, PE17 4EP.

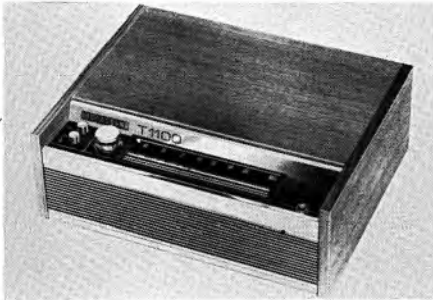
Tel. St Ives (Hunts) 62901

**T55 ★**

Stereo FM tuner incorporating advanced techniques. Range: 88-108MHz. Variable tuning. Switchable AFC. Quadrature detector. Sensitivity:  $1.8\mu\text{V}$  for 30dB quieting. Aerial input: 75 ohms coaxial or 300 ohms balanced. Tuning indicator: two lamps. Output: up to 1V adjust-



Cambridge Audio T55



Decca T1100



Dual CT18



Dynaco FM5

able at 5K. Phase locked loop decoder. Stereo beacon. MOS input stage with capacity diode tuning. Ceramic filters in IF stages. IC amplifier in IF strip. Image rejection: 70dB. IF rejection: 84dB. Capture ratio: 0.5dB. Signal-to-noise ratio: (mono) 70dB. FR: 20Hz-15kHz  $\pm$  1dB. HD: (mono) 0.1%, (stereo) 0.5%. Pilot tone suppression: 60dB. Stereo separation: 34dB at 1kHz. De-emphasis: 50 microseconds or 75 microseconds. Controls: tuning, AFC on-off, stereo defeat, interchannel muting, mains on-off, audio output level (preset at rear). Mains indicator light. Finish: black or silver to match with Cambridge 'P' Series amplifiers. Price: to be announced.

■ **DECCA RADIO & TELEVISION**

Neachells Lane, Willenhall, Wolverhampton, Staffs. Tel: 0902 67367.

**T1100** ★

FM tuner. Range: 87.5-102MHz. Variable tuning. AFC (switchable). Stereo decoder optional extra. Size:  $12 \times 9\frac{1}{2} \times 4\frac{3}{4}$ in. Finish: teak with silver coloured trim. Price: £26.08 (including VAT).

**T1501**

AM/FM stereo tuner. Range: FM 87.5-107.5 MHz, MW 185-588m. Variable tuning. AFC. Stereo decoder fitted. Size:  $15\frac{3}{4} \times 10\frac{3}{8} \times 5$ in. Finish: teak. Price: to be announced.

**T2000**

AM/FM tuner. Range: FM 87.5-102MHz, MW 185-577m, LW 1200-2000m, SW 16.7-50.4m.

Variable tuning. AFC. Stereo decoder optional extra. Size:  $24\frac{1}{8} \times 9\frac{1}{2} \times 4\frac{3}{4}$ in. Finish: teak and silver coloured trim. Price: £54.60 (including VAT).

■ **DUAL**

Audiodecks Ltd, Farnell House, 81 Kirkstall Road, Leeds, LSI 1HR. Tel: Leeds 35111.

**CT18** ★

AM/FM stereo tuner. Range: 87-108MHz, MW 182-600m, LW 857-2000m, SW1 19-44m, SW2 49m band. Variable tuning plus five presets on FM. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: SW  $10\mu\text{V}$ , MW  $20\mu\text{V}$ , LW  $50\mu\text{V}$ , FM (mono)  $1\mu\text{V}$ , FM (stereo)  $7\mu\text{V}$ . Aerial input: 240 ohms coaxial, high Z AM socket. Output: 800mV. Stereo decoder fitted. Mains: 110-125V, 220-240V 50-60Hz. Size:  $16\frac{1}{2} \times 11\frac{1}{4} \times 4\frac{3}{4}$ in. Finish: white or walnut. Price: (walnut) £121.74 (including VAT); (white) £124.33 (including VAT).

■ **DYNACO**

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

**FM5** ★

FM stereo tuner. Range: 88-108MHz. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity:  $1.75\mu\text{V}$ . Aerial input: 300 ohms balanced twin, 72 ohms coaxial. Output: 2V at 100% modulation. Stereo decoder fitted. Mains:

★ Indicates entry is illustrated

120/240V 50-60Hz. Size: 13 × 9 × 4½ in. Finish: metal with brass front panel. Price: £154 (including VAT).

#### AF6

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-555m. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity: MW 50µV, FM 1.75µV. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Output voltage: 2V for 100% modulation. Stereo decoder fitted. Mains: 120-240V 50-60Hz. Size: 13 × 9 × 4½ in. Finish: metal with brass panel. Price: £182.60 (including VAT).

#### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

#### TS1152 ★

AM/FM stereo tuner matching the Eagle TSA-149 and TSA151 integrated amplifiers. Range: FM 87-109MHz, MW 182-572 metres. Variable tuning. AFC. Inter-station muting. Sensitivity: FM 2µV for 20dB quieting. AM 300µV. Stereo separation: 28dB at 1kHz. Aerial input: 75 ohms coaxial. Output: 0-500mV adjustable. Size: 13 × 3¾ × 8¾ in. Wood shelf-mounting cabinet. Price: £38.24 (plus VAT).

#### AA8 ★

Stereo AM/FM tuner. Range: FM 88-108MHz, MW 187-500 metres. Variable tuning. Switchable AFC. Meter tuning indicator. Usable sensitivity: AM 250µV, FM 3µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Output: 0-1V adjustable. Stereo decoder included. Mains: 240V AC. Size: 13 × 10½ × 3¾ in. Finish: teak cabinet with metal fascia. Interstation muting switch. Price: £52.68 (plus VAT).

#### ■ FAL

Futuristic Aids Ltd, 104 Henconner Lane,  
Leeds, LS134LQ. Tel: Pudsey 5478.

#### FAL ICFM ★

FM stereo tuner. Range: FM 87.5-104.5MHz. Variable tuning plus four preset pushbuttons. Electronic varicap tuning. FET front end. Ceramic filters in IF stages. Switchable AFC. Usable sensitivity: 7µV. Audio output: >600 mV. Aerial input: 75 ohms coaxial or 300 ohms balanced. Separation: 45dB at 1kHz. AM rejection: 53dB. Distortion: 0.35%. Balance: 0.5dB at 100mV. Size: 14¾ × 10 × 4½ in. Weight: 10lb. Stabilised power supply. Tuning meter. Auto stereo beacon. Decoder fitted. Price: £47.85 (including VAT).

#### ■ FIDELITY RADIO LTD

6 Olaf Street, London, W11. Tel: 01-727 0131.



Eagle TST 152



Eagle AA8



Fal ICFM Tuner

#### 20/20 Tuner

AM/FM stereo tuner. Range: FM 87.5-108 MHz, LW 1120-2000m, MW 185-567m, SW 18.75-50.8m. Sensitivity: FM 5µV, LW 1mV/m for 20dB S/N ratio, MW 400µV/m for 20dB S/N ratio, SW 5µV at aerial input for 20dB S/N. Channel separation: 35dB at 1kHz. AFC. Stereo decoder. Quiet tuning facility. Aerial input: 300 ohms balanced, 75 ohms coaxial. Tuning meter on AM and FM. Stereo beacon. Internal ferrite rod aerial for MW and LW. Size: 18 × 3 × 8¾ in. Weight: 5½lb. Finish: satin black with wood grain end pieces. Price: £53 (including VAT).

#### ■ HANIMEX (UK) LTD

Hanimex House, 15-24 Great Dover Street,  
London, SE1. Tel: 01-407 8161.

New range of hi-fi stereo tuners to be introduced under Hanimex brand name. No details of models available as this edition of the Year Book closed for press.

#### ■ HEATHKIT

See Constructional Kits Section.

# SPHERA

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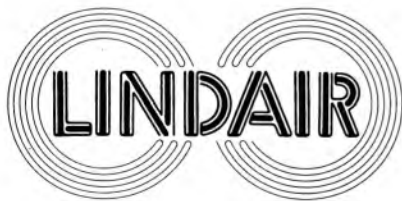
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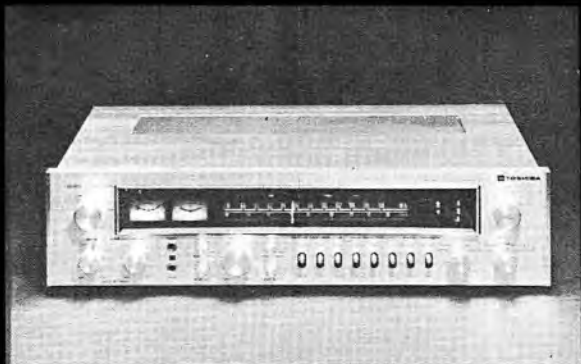
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## ALL THE LEADING NAMES IN THE WORLD OF HI-FI:

Akai	Marantz	Thorens
Alpha	Metrosound	Wega
Amstrad	National	Plus:
Bang & Olufsen	Panasonic	a full range
BSR McDonald	Philips	of accessories,
Celestion	Pioneer	records.
Goldring	Revox	And all
Goodmans	Sansui	the best names
Harman Kardon	Sanyo	for in-car
JBL	Sony	entertainment.
Koss	TEAC	



# ound sense



**Here's something you've never  
heard of, which, unless you hear it,  
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Toshiba equipment arrived in this country so recently, it's not even listed in this year book.

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**TOSHIBA**  
In Touch with Tomorrow

■ **HITACHI**

Hitachi Sales (UK) Ltd, New Century House, Coronation Road, Park Royal, London, NW10 7QN. Tel: 01-965 9861.

**FT600**

AM/FM stereo tuner. Range: FM 88-108MHz, 187-572m. Usable sensitivity: FM 1.8µV, MW 15µV. Tuning light indicator. Capture ratio: 1.5dB. Output: 1.5V (fixed) and 0.1-5V adjustable. Quiet tuning facility. Noise filter. Stereo decoder with auto switching and beacon. 28 transistors, 21 diodes, three ICs, one FET. Variable tuning and pushbutton selectors. Size: 16¼ × 4¾ × 12¾in. Weight: 16¼lb. Price: £99 (including VAT).

■ **HOWLAND-WEST LTD**

3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

**DA1000T ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 182-556m. Variable tuning. AFC (switchable). Output: 1V. Stereo decoder fitted. Mains: 240V AC. Size: 14¾ × 4¼ × 7¾in. Finish: wood cabinet with metal control panel and trim. No further details of specification available at time of going to press. Price: £33.55 (including VAT).

■ **JVC-NIVICO**

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6578.

**VT-500**

AM/FM stereo tuner. Range FM and MW. Quiet tuning facility. Stereo decoder fitted. Variable tuning. Signal strength tuning meter. Provision for connecting quadraphonic decoder. Aerial inputs for 300 ohm balanced twin and 75 ohm coaxial. Size: 15 × 5¾ × 12in. Weight: 15½lb. Price: £80.50 (including VAT).

**VT-700**

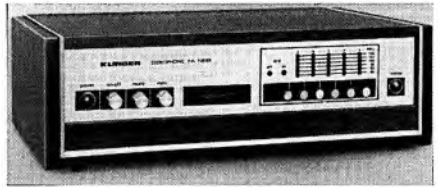
AM/FM stereo tuner. Range: FM and MW. Variable tuning. Stereo decoder fitted. Provision for quadraphonic decoder. FET front end. Capture ratio: 0.8dB. Signal strength meter and centre-zero tuning meter. Quiet tuning facility. Aerial input: 300 ohm balanced twin or 75 ohm coaxial. Size: 16¾ × 5¾ × 12½in. Weight: 16½lb. Price: £126.50 (including VAT).

**MCT-105**

AM/FM stereo tuner. Variable tuning. Stereo decoder fitted. No further product information obtainable as this edition of the Year Book closed for press. Price: £109.45 (including VAT).

■ **KLINGER**

Klinger Controls Ltd, Spencer Court, 7 Chalcot Road, London, NW1 8LU. Tel: 01-586 2922/3.



Klinger KC91



Leak Delta AM/FM

**KC91 ★**

Stereo FM tuner. Range: 87.5-108MHz. Five preset stations. Switchable AFC. Ratio detector. Usable sensitivity: 2µV. Aerial input: balanced and coaxial. Output: 0.2V. Stereo decoder fitted. Mains: 100-120V, 200-240V AC. Ceramic filters in IF strip. IC: Complies with DIN 45 500 spec. Finish: teak with diecast enamelled sides. Size: 13 × 4½ × 8½in. Price: £41.40 (plus VAT).

■ **KORTING**

Europa Electronics Ltd, 9 Howard Place, Shelton, Stoke-on-Trent, ST1 4NW. Tel: Stoke-on-Trent (0782) 29316.

**T510**

AM/FM stereo tuner. Range: VHF, MW, LW, SW. 18 transistors, six diodes, two ICs. IC stereo decoder with beacon. Internal ferrite rod for AM, input sockets (240 ohms) for FM aerial. Mains: 130, 230V AC. Pushbuttons for AFC, on-off, stereo, wavebands. Full specification and price on request.

**T710**

AM/FM stereo tuner. Range: VHF, MW, LW, SW. 18 transistors, 17 diodes, two ICs. 12 push-button controls. Stereo decoder. Ferrite rod for AM, sockets for FM aerial (240 ohms). Full specification and price on request.

■ **LEAK**

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

**Delta AM/FM ★**

AM Tuner Section: Range 182-587m. Sensitivity: 25 microvolts for 20dB signal/noise at

★ Indicates entry is illustrated

1MHz. FM Tuner section: Range: 87-108MHz. Sensitivity: 2.5 microvolts for 30dB signal/noise at 75kHz deviation. AM suppression 50dB. Distortion: less than 0.5% for 75kHz deviation. Dimensions of both tuners:  $12\frac{1}{4} \times 4\frac{3}{4} \times 9\frac{1}{2}$ in. Price: £83.79 (including VAT).

#### Delta FM

Specifications as for FM section of Delta AM/FM. Price: £74.43 (including VAT).

#### ■ L & H

Distributors: Britimpex Ltd,  
8-12 Rickett Street, London, SW6.  
Tel: 01-385 0883. Telex: 22758 Brytron, London.

#### Signalmaster Mk III 6087 ★

Self-contained battery-operated FM/VHF tuner. Will also operate from 32V from L & H Audiomaster amplifier. Plug-in V aerial. Socket for 70 ohms external aerial. Push-button on/off and AFC. Illuminated tuning scale. Transistors. Range: 86-104MHz. PP9 or equivalent battery. Consumption 9mA. Teak case. Size:  $11\frac{1}{4} \times 3\frac{1}{2} \times 7\frac{1}{8}$ in. Price: £31.45.

#### Stereo decoder module

Plug-in type suitable for Signalmaster Mk III. Fits inside case. Channel separation better than 32dB at 1kHz. Consumption: 3mA. Automatic stereo beacon. Price: £7.87. Connecting lead with 5-pin plug. Price: 75p.

#### ■ LOWTHER ACOUSTICS LTD

Lowther House, St Mark's Road, Bromley, Kent, BR2 9HQ.

Tel: 01-460 5225. Cables: Lowther, Bromley.

#### FM Tuner Mk VII ★

Self-powered transistorised VHF/FM tuner. Range: 87.5-108MHz. Variable tuning with switchable AFC. Stereo decoder fitted. Aerial input: 72 ohms coaxial. Output: 0.75V RMS. Stereo beacon. Tuning meter. Finish: teak or walnut with satin chrome panel. Size:  $10\frac{3}{8} \times 5\frac{1}{8} \times 5\frac{1}{8}$ in. 200-240V 50Hz. Price: £40 (plus VAT).

#### TV Sound Tuner

Self-powered TV tuner. Range: UHF bands IV and V. Push-button tuning, adjustable to all channels. Output: preset gain control 0-500mV RMS. Output socket for tape recorder. Aerial input: 72 ohms coaxial. Size:  $10\frac{3}{8} \times 5\frac{1}{8} \times 5\frac{1}{8}$ in. Finish: teak or walnut with satin chrome panel. 200-240V 50Hz. Price: £38 (plus VAT).

#### ■ LUSTRAPHONE HI-FI LTD

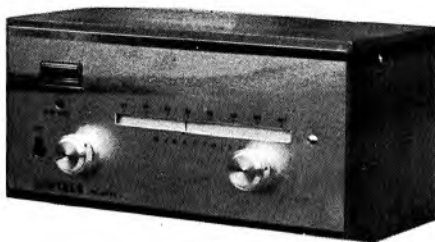
Unit 2, Browells Lane, Feltham, Middlesex, TW13 7EL. Tel: 01-890 0887/9.

#### Lustraphone tuner

FM stereo tuner. Range: 87-108MHz. Variable tuning. Sensitivity:  $1.5\mu\text{V}$  for 30dB quieting



L & H Signalmaster 6087



Lowther Stereo tuner Mk VII



Lux WL700



Lux WL717



Marantz 120

(IHF rating). Distortion: (mono) 0.3%, (stereo) 0.5% for full deviation. Separation: better than 40dB at 1kHz. FR: 30Hz-15kHz. De-emphasis: 50µsec. Switchable 'birdie' filter. Stereo noise filter. Tuning indicator. Size:  $16\frac{1}{2} \times 13 \times 4\frac{1}{2}$  in. Mains: 110-250V 50-60Hz. Price: on application.

■ **LUX**

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

**WL717 ★**

AM/FM stereo tuner. Range: 88-108MHz, 187-572 metres. Variable tuning. Meter tuning indicator. Sensitivity: 3µV for 20dB quieting. Output: 700mV. Stereo decoder fitted. FET cascade amplifier in front end. Mains: 240V AC. Size:  $15\frac{3}{8} \times 5\frac{1}{8} \times 9\frac{1}{8}$  in. Price: £74 (plus £7-40 VAT).

**WL212**

AM/FM stereo tuner. Range: 88-108MHz, 187-572 metres. Variable and preset tuning. Meter tuning indicator. Sensitivity: 1.7µV for 20dB quieting. Aerial input: 75 ohm coaxial or 300 ohm balanced. Output: 1V. Stereo decoder fitted. Five preset stations on FM. Mains: 100, 117, 220, 240V AC. Size:  $18\frac{3}{8} \times 6\frac{1}{2} \times 11$  in. Price: £236 (plus £23-60 VAT).

**WL500**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-572 metres. Variable tuning. Signal strength meter. Centre-zero tuning meter. Stereo decoder included. Auto stereo beacon. Usable sensitivity: FM 1.7µV, MW 45µV. Dual gate FET front end. Quiet tuning facility. Noise limiter switch. Mains: 240V AC. Size:  $17\frac{3}{4} \times 6\frac{3}{8} \times 10\frac{1}{2}$  in. Finish: rosewood. Price: £160 (plus £16 VAT).

**WL700 ★**

AM/FM stereo tuner. Range: FM 87.5-108MHz, MW 187-571m. Variable tuning. AFC. One signal strength meter, one centre-zero tuning meter. Usable sensitivity: MW 40µV, FM 2.2µV. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Output: (FM) 750mV, (AM) 400mV. Stereo decoder fitted. Mains: 120, 240V AC. Size:  $15\frac{7}{8} \times 9\frac{3}{4} \times 5\frac{1}{8}$  in. Finish: wood cabinet with champagne coloured panel. Price: £110 (including VAT).

■ **MARANTZ**

Pyser-Britex (Swift) Ltd, Fircroft Way, Edenbridge, Kent.

Tel: Edenbridge (0732-71) 4111.

**Model 20**

Stereo FM tuner. Range: 88-108MHz. Variable tuning with gyro control. Oscilloscope tuning indicator. Usable sensitivity: (IHF) 1.8µV or better. Aerial input: 300 ohms balanced, 75

ohms unbalanced. Stereo decoder included, with automatic photoelectric switching. Steep quieting slope. Four limiter stages. Aerial attenuator switch. Parametric muting to eliminate AM burst modulation effects. Dual-gate FET RF amplifier. Individually calibrated tuning scale. Quiet tuning facility. Separation: 40dB at 20Hz, 30dB at 15kHz. FR: 20Hz-15kHz  $\pm 0.5$ dB. HD: (mono) 0.15%, (stereo) 0.15%. 19kHz and 38kHz rejection: better than 60dB. AM suppression: better than 40dB. H and N: better than -73dB below 100% modulation. Circuit comprises nine FETs, 31 transistors and 44 diodes. AC mains. Size:  $15\frac{3}{8} \times 5\frac{1}{4} \times 14\frac{1}{8}$  in. Weight: 24lb. Price: £489.50 (including VAT).

**Model 120 ★**

Stereo AM/FM tuner. Range: FM 88-108MHz, MW 187-555 metres. Variable tuning. Ratio detector. Oscilloscope tuning indicator. Usable sensitivity: AM 20µV, FM 1.4µV for 30dB quieting. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included and ready for quadraphonic transmissions. Size:  $15\frac{3}{8} \times 5\frac{3}{4} \times 13$  in. Gold anodised front panel. Price: £242 (including VAT).

**Model 105**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-555m. Variable tuning with 'Gyro-touch'. AFC not necessary. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2.8µV, MW 25µV. Aerial input: 75 ohms coaxial, 300 ohms balanced twin. Stereo decoder fitted. Mains: 110, 220, 240V AC. Size:  $14\frac{1}{4} \times 4\frac{3}{4} \times 12$  in. Finish: walnut, teak, white (optional cabinet) or simulated walnut metal chassis. Price: £82.50 (including VAT).

**Model 115**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-555m. Variable tuning with 'Gyro-touch'. AFC not necessary. Ratio detector. Signal strength meter. Centre-zero tuning meter. Usable sensitivity: FM 1.7µV, MW 20µV. Aerial input: 75 ohms coaxial, 300 ohms balanced twin. Stereo decoder fitted. Mains: 110, 220, 240V AC. Size:  $15\frac{3}{8} \times 5\frac{3}{4} \times 13$  in. Finish: walnut (cabinet optional), simulated walnut metal chassis. Output level control. Quiet tuning facility with threshold level control. Price: £126.50 (including VAT).

■ **METRO SOUND**

Metrosound Audio Products Ltd, Cartersfield Road, Waltham Abbey, Essex, EN9 1JF.

Tel: Waltham Cross 31933.

**FMS20 Mk II ★**

Stereo FM tuner. Range: 87.5-108MHz. Variable tuning. Switchable AFC ( $\pm 200$ kHz pull-in). Phase locked loop detector. Meter tuning

★ Indicates entry is illustrated



*Metrosound FMS20 Mk II*



*Metrosound FMS40*

indicator. Usable sensitivity: 1.6 $\mu$ V for 30dB quieting at 90MHz. Aerial input: 75 ohm coaxial. Output: 0-200mV across 3.3K per channel. Stereo decoder fitted. Stereo beacon. Mains: 200-250V AC (100-120V AC to special order). Finish: teak cabinet with wrap-round aluminium fascia. Three-gang FET front end. Quiet tuning facility. Stereo signal sensitivity control. Size: 15 $\frac{1}{2}$   $\times$  10  $\times$  3 $\frac{1}{2}$ in. Price: £49.50 (plus VAT).

#### **FMS40 ★**

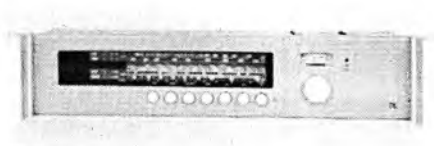
Stereo FM tuner. Specification identical to the FMS20 Mk II above. Finish and presentation: anodised aluminium wrap-round cabinet with teak grained end panels. Price: £51 (plus VAT).

#### **MILLBANK ELECTRONICS GROUP**

Bellbrook Estate, Uckfield, Sussex, TN22 1PS.  
Tel: Uckfield (0825) 4166.

#### **MET100K ★**

AM/FM stereo tuner designed for building in or rack mounting. Range: FM 88-108MHz, MW 190-590m, LW 830-2010m, SW 40-52m. Variable tuning. Switchable AFC. Foster-Seeley discriminator. Meter tuning indicator. Usable sensitivity: 3 $\mu$ V for 26dB S/N with 125kHz deviation. Aerial input: (FM) 80 ohms coaxial, (AM) ferrite rod plus external terminals. Output: 100mV. Stereo decoder fitted. Mains: 220-240V 50-60Hz. Four-stage IF amplifier with automatic control of bandwidth. Module construction for easy servicing. Size: 19  $\times$  3 $\frac{1}{2}$   $\times$  5 $\frac{1}{2}$ in. Price: £71.89 (plus VAT).



*Millbank MET 100K*



*Motion Electronics TV Tuner*

#### **MET500F**

FM tuner designed for building in. Range: 88-108MHz. Tuning by remote pushbutton unit (varicap tuner). Switchable AFC. Tuning meter. Usable sensitivity: 5 $\mu$ V for 30dB S/N ratio at 25kHz deviation. Aerial input: 80 ohms coaxial. Mains: 220-250V 50-60Hz. Output: 500mV. No multiplex decoder. Metal housing. Price: £50-60 (plus VAT).

#### **MOTION ELECTRONICS**

Addlestead Farm, Tonbridge Road,  
East Peckham, Kent. Tel: 0622 871354.

#### **Television Sound Monitor ★**

Tuner unit designed to receive VHF and UHF television sound broadcasts. Varicap tuning with six preset pushbuttons, all manually adjustable. Ratio detector for FM, diode detector for AM. Centre-zero tuning meter. Sensitivity: 10 microvolts. Aerial input: 75 ohms coaxial or 300 ohm balanced. Output adjustable up to 0.5V. Mains: 110-240V AC. Consumption: 5W. Available in cabinet or chassis form for building-in. Cabinet teak veneered with finely grained silver finished front panel. Suitable for vertical or horizontal mounting. VHF coverage: 41-66.75MHz and 176-215MHz. UHF coverage: 470-846MHz. Prices: (VHF—only chassis) £36.10 (plus £3.61 VAT); (VHF—only in cabinet) £39.56 (plus £3.95 VAT); (UHF—only chassis) £35.56 (plus £3.56 VAT); (UHF—only in cabinet) £39.15 (plus £3.91 VAT); (VHF/UHF chassis) £40

(plus £4 VAT); (VHF/UHF in cabinet) £43-50 (plus £4.35 VAT).

**Television Sound Monitor plus VHF Radio**

Television section similar to specification for Sound Monitor listed above. Radio section employs vari-cap tuning. Built-in stereo decoding with automatic switching. Centre-zero tuning meter. Stereo beacon. Mono over-ride control. Pushbutton programme selection. AFC. Separation: better than 45dB at 1kHz. Sensitivity: 5µV for 35dB signal-to-noise. Ultrasonic frequency rejection: (19kHz) 40dB, (38kHz) 40dB. Output impedance: 5K per channel. Output: 0-1.5V balanced to within 1dB. Aerial input: 75 ohms coaxial. Available in chassis form or in teak or walnut veneered cabinet. Mains: 110-120V AC and 210-240V AC. Size: (chassis) 5 $\frac{5}{8}$  × 3 $\frac{3}{8}$  × 10 $\frac{1}{4}$  in. deep; (cabinet) 6 $\frac{3}{4}$  × 5 × 11 $\frac{1}{4}$  in. deep. Price: (UHF/VHF stereo radio chassis) £53-65 (plus £5-36 VAT); (UHF/VHF stereo radio in cabinet) £57-20 (plus £5-72 VAT).

■ **NATIONAL PANASONIC (UK) LTD**

Whitby Road, Trading Estate, Slough, Bucks.  
Tel: Slough 34522. Telex: 847652.

**ST3000**

Stereo tuner. Full specification on request. Price: £74-95 (including VAT).

**ST3400**

Stereo tuner. Full specification on request. Price: £119-95 (including VAT).

**ST3600**

Stereo tuner. Full specification on request. Price: £139-95 (including VAT).

■ **NIKKO ELECTRIC MFG CO LTD**

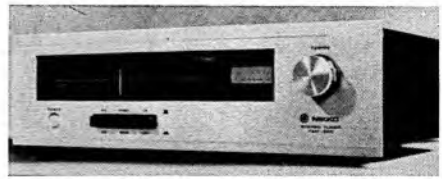
Distributors: Howland-West Ltd,  
3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293/4/5.

**FAM-300 ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-566m. Variable tuning. Meter tuning indicator. Usable sensitivity: FM 1.8µV, MW 200µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereodecoder included. Output: FM 1V, MW 300mV. Mains: 240V AC. Size: 12 × 9 $\frac{3}{4}$  × 3 $\frac{3}{4}$  in. Metal case. Price: £52 (plus £5-20 VAT).

**FAM-400 ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-566m. Variable tuning. Meter tuning indicator. Aerial input: 75 ohms coaxial, 300 ohms balanced. Usable sensitivity: FM 1.5µV, MW 150µV. Output: FM 1V, MW 300mV. Stereo decoder included. Mains: 240V AC. Size: 12 × 9 $\frac{3}{4}$  × 3 $\frac{3}{4}$  in. Metal case. Price: £65 (plus £6-50 VAT).



Nikko FAM-300



Nikko FAM-400



Nikko FAM-1200



Nikko FAM500

**FAM-500 ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-555m. Variable tuning. AFC. One signal strength meter, one centre-zero tuning meter. Usable sensitivity: FM 2µV, MW 150µV. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Output: FM 1V, AM 300mV. Stereo decoder fitted. Mains: 120, 220, 240V 50-60Hz. Size: 15 × 12 $\frac{5}{8}$  × 8 $\frac{7}{8}$  in. Finish: wood cabinet with champagne front panel. Price: £79-20 (including VAT).

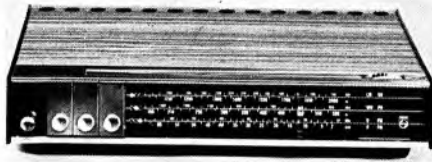
**FAM-1200 ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-566m. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity: FM 1.5µV, MW 100µV. Aerial impedance: 75 ohms coaxial, 300 ohms balanced. Output: FM 1.2V, MW





Onkyo 433



Philips RH690

300mV. Stereo decoder included. Mains: 100, 120, 220, 240V AC. Size:  $15\frac{1}{2} \times 4\frac{1}{2} \times 12\frac{3}{4}$ in. Modular construction, Headphone amplifier included. Metal case. Price: £130 (plus £13 VAT).

#### ■ ONKYO

J. Parkar & Co (London) Ltd, Parkar House, 1 Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.

#### Integra 433 ★

Stereo AM/FM tuner. FET input, four-gang tuning, four-stage limiter. Range: FM 88-108MHz, MW 187-565m. Variable tuning. Sensitivity: FM  $1.8\mu\text{V}$ , MW  $20\mu\text{V}$ . S/N ratio: FM 70dB, MW 45dB. FR:  $20\text{Hz}-15\text{Hz} \pm 1\text{dB}$ . Stereo separation: 40dB. Stereo decoder with automatic switching. Stereo beacon. Tuning meter. Quiet tuning facility on FM. Stereo filter. Output: FM 0.75V, MW 2V. Mains: 100-110V or 220-240V 50-60Hz. Size:  $12\frac{1}{8} \times 5\frac{3}{8} \times 13\frac{1}{2}$ in. Price: £116.75 (including VAT).

#### ■ PHILIPS

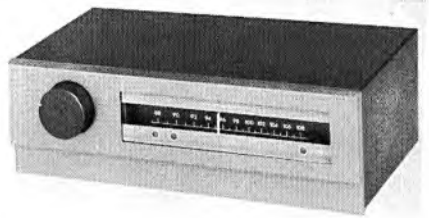
Philips Electrical Ltd, Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

#### RH690 ★

Three waveband stereo tuner. 87.5-104MHz, 187-577m and 1154-2000m with variable tuning and ratio FM det. Sensitivity:  $7\mu\text{V}$  (VHF) for 26dB quieting;  $500\mu\text{V}$  (AM). Aerial 300 ohm balanced and ferrite rod. Switchable decoder with indicator lamp. AFC. Output: 250mV, 10K. Psn: 110, 127, 220, 240V AC. Dimensions:  $13\frac{1}{8} \times 2\frac{7}{8} \times 8\frac{1}{2}$ in. Price: £45.56 (including VAT).



Philips RH621



Quad FM3

#### RH621 ★

AM/FM stereo tuner. Range: FM 87.5-108MHz, MW 187-577m, LW 877-2000m, SW 16.8-50.4m. Variable tuning plus five presets on FM. Switchable AFC. Ratio detector. Moving coil tuning meter. Usable sensitivity: FM  $1\mu\text{V}$  at 75 ohms for 26dB quieting, AM  $120\mu\text{V}$  for 26dB S/N. Aerial input: 75 ohms coaxial, 300 ohms balanced. Output: FM 0.6V at 40kHz deviation, AM 350mV at 30% modulation. Stereo decoder fitted. Mains: 110, 127, 220 and 240V AC. Size:  $16\frac{1}{2} \times 11\frac{1}{4} \times 4\frac{3}{4}$ in. Finish: walnut veneer cabinet with brushed aluminium fascia. Silent tuning facility on FM. Price: £102.62 (including VAT).

#### ■ PIONEER

Distributors: Shiro (UK) Ltd, 42 Russell Square, London, WC1B 5DF. Tel: 01-580 6996.

#### TX500A

AM/FM stereo tuner. Range: FM 87-108MHz, MW 187-562m. Variable tuning. Meter indicator. Sensitivity:  $2.5\mu\text{V}$  for 20dB quieting. Aerial input: 300 ohms balanced. Output: 1V. Stereo decoder fitted. AFC. FET input with three-gang tuning. Multiplex noise filter. Outlet for tape recorder. Mains: 110, 117, 220 and 240V AC. Size:  $13 \times 5 \times 13$ in. Price: £72.47 (plus VAT).

#### TX700

FM stereo tuner. Range: FM 87.5-108MHz. Variable and preset tuning. Meter tuning indicator. Sensitivity:  $2.2\mu\text{V}$  for 20dB quieting. Aerial input: 300 ohms balanced. Output: 1V. Stereo decoder fitted. FET front end. Variable

capacity diode tuning. Up to five preset stations. Mains: 110, 120, 130, 220, 240V AC. Size:  $10\frac{3}{8} \times 4\frac{3}{8} \times 13\frac{1}{4}$  in. Price: £94.40 (plus VAT).

**TX600**

AM/FM stereo tuner. Range: FM 87.5-108 MHz, MW 187-562m. Variable tuning. 16 transistors, 19 diodes, two ICs, one FET. Sensitivity: FM 2.2 $\mu$ V, MW 15 $\mu$ V. Two meters (one centre zero). Output: 80mV-2.4V adjustable. Aerial input: 300 ohms balanced and 75 ohms coaxial. AC mains. Quiet tuning facility. Output socket for headphones. Price: £100.35 (plus VAT).

**TX800**

AM/FM stereo tuner. Range: FM 87.5-108 MHz, MW 187-562m. Variable tuning. 29 transistors, 18 diodes, four ICs, two FETs. Sensitivity: FM 1.8 $\mu$ V, MW 10 $\mu$ V. Two meters (one centre zero). Output: 80mV-2.4V adjustable. Aerial input: 300 ohms balanced and 75 ohms AC mains. Price: £121.35 (plus VAT).

**TX1000**

AM/FM stereo tuner. Range: FM 87.5-108 MHz, MW 187-562m. Variable tuning. 30 transistors, 19 diodes, six ICs, four FETs. Sensitivity: FM 1.7 $\mu$ V, MW 8 $\mu$ V. Two meters (one centre zero). Output: 80mV-2.4V adjustable. Aerial input: 300 ohms balanced, 75 ohms coaxial. AC mains. Separate AM and FM level controls. Outlet for stereo headphones. Price: £170.29 (plus VAT).

**■ QUAD**

Acoustical Manufacturing Co Ltd,  
St Peter's Road, Huntingdon, PE18 7DB.  
Tel: Huntingdon (0480) 52561.  
Cables: Acoustical.

**Quad FM3 ★**

Stereo FM tuner. Range: 88-108MHz. Variable tuning. High stability tuned stages maintain accuracy without AFC. Twin neon tuning indicator. Sensitivity: 2 $\mu$ V for full limiting. Aerial input: 75 ohm coaxial and 300 ohm balanced. Output: 100mV per channel for 30% modulation. Stereo decoder fitted. Image rejection: 56dB. IF rejection: 80dB. Capture ratio: 3dB. FR: 20Hz-15kHz  $\pm$  1dB. Separation: 40dB at 1kHz. Distortion: 1kHz at 40kHz deviation, 0.2%. Recommended load: greater than 50K. De-emphasis: 50 $\mu$ Sec or 75 $\mu$ Sec as required. Mains: 100-125V, 200-250V 50-60Hz. Dual gate MOS FET input stage. Integrated circuits (ICs) in IF and decoder. Ceramic filters in IF chain. Output via 5 pin DIN connector. Size:  $10\frac{1}{4} \times 3\frac{1}{4} \times 5\frac{1}{2}$  in. Price: £62 (plus VAT).

**■ RADFORD AUDIO LTD**

Ashton Vale Road, Bristol, BS3 2HZ.  
Tel: Bristol 662301.



Revox A76



Rogers Ravensbrook FM Tuner

**FMT4**

Stereo FM tuner. Range: 87.5-108.5MHz. Variable tuning plus four preset stations. AFC. Differential peak detector. Dual meter tuning indicator. Usable sensitivity: 1.5 $\mu$ V. Aerial input: 75 ohms coaxial or 300 ohms balanced. Output: 1V RMS for 75kHz deviation. Phase locked loop stereo decoder. Mains: 110, 130, 220, 230, 240V AC. Finish: designed to match SC24/SPA50. Size:  $16\frac{3}{8} \times 4\frac{1}{2} \times 8\frac{1}{2}$  in. Price: £110 (plus VAT).

**■ REVOX**

Distributors: C. E. Hammond & Co Ltd,  
Lamb House, Church Street, London, W4 2PB.  
Tel: 01-995 4551. Telex: 934047.

**Revox A76 ★**

Stereo FM tuner. Range: 87.5-108MHz. Sensitivity: 1 $\mu$ V for 30dB S/N. Distortion: 0.2% for 40kHz deviation at 1kHz. S/N (unweighted) 70dB. Stereo separation: 40dB. Output: 0-1V for 75kHz deviation (adjustable). FR: 30Hz-15kHz  $\pm$  1dB. De-emphasis: 50 $\mu$ secs. 41 silicon transistors, 27 diodes, 6 integrated circuits, 2 dual insulated-gate FET, 2 rectifiers. Mains: 110, 130, 150, 220, 240, 250V 50-60Hz. Consumption: 20W. Size:  $6\frac{5}{8} \times 16\frac{3}{8} \times 9\frac{5}{8}$  in. Weight: 17 $\frac{1}{2}$  lb. Price: £192 (plus VAT).

**■ ROGERS DEVELOPMENTS (Electronics) LTD**

4-14 Barmston Road, Catford, London,  
SE6 3BN. Tel: 01-698 7424/4340.  
Cables: Rodevco, London, SE6.

**Ravensbrook FET FM tuner, Series II ★**

Range: 88-108MHz. Variable tuning. Quad-

★ Indicates entry is illustrated

perature detector. Centre-zero meter. Sensitivity: better than  $5\mu\text{V}$  (IHFV). Aerial impedance: 75 ohms coaxial and 300 ohms balanced. Output: 200mV for 30% modulation. Phase lock loop stereo decoder. Switchable AFC. Three-gang FET front-end. Dual ceramic IF filters using IC techniques. Built-in 55kHz filter. Switchable interstation noise suppression. Mains: 105-125V, 200-250V, 50-60Hz. Consumption: 9W. Size: (chassis)  $3\frac{3}{4} \times 10\frac{3}{4} \times 10\text{in.}$ ; (cabinet)  $5 \times 11\frac{1}{2} \times 10\text{in.}$  Prices: (chassis) £37.50 (plus VAT); (in cabinet) £42.50 (plus VAT).

**Ravensbourne 2 FET tuner, Series II ★**

Range: 88-108MHz. Variable tuning. Quadrature detector. Centre-zero tuning meter. Sensitivity: better than  $2\mu\text{V}$  for 30dB quieting. Aerial impedance: 75 ohms coaxial. Output: 200mV average for 30% modulation. Dual ceramic IF filters using IC techniques. Built-in 55kHz filter. Switched AFC. FET front end. Inter-station noise suppression. Phase lock loop stereo decoder. Mains: 200-250V AC. Consumption: 8W. Size: (chassis)  $11\frac{1}{2} \times 11 \times 4\text{in.}$ ; (case)  $12\frac{1}{2} \times 11\frac{1}{2} \times 5\frac{1}{4}\text{in.}$  Prices: (chassis with decoder) £51.50 (plus VAT); (in cabinet with decoder) £55.50 (plus VAT).

■ **ROTEL**

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.

**RT620**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-562m. Variable tuning. Meter indicator. Sensitivity:  $1.7\mu\text{V}$  for 20dB quieting. Aerial input: 300 ohms balanced (can be changed to 75 ohms coaxial). Stereo decoder fitted. FET input. Integrated circuits. Four-gang variable capacitor tuning. Two-stage RF amplifier. Ceramic filters. Variable muting. Adjustable output voltages for AM and FM. Mains: 100-240V AC. Size:  $16\frac{1}{2} \times 8\frac{3}{4} \times 4\frac{3}{4}\text{in.}$  Price: £87.86 (including VAT).

**RT320 ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-562m. Variable tuning. Meter indicator. Sensitivity:  $8\mu\text{V}$  for 20dB quieting. Aerial impedance: 300 ohms balanced (can be changed to 75 ohms coaxial). Stereo decoder fitted. FET front end. Integrated circuits. FM stereo/mono switching. Illuminated dial pointer. Mains: 117, 240V AC. Size:  $13\frac{3}{8} \times 4\frac{3}{8} \times 9\frac{1}{8}\text{in.}$  Price: £55.91 (including VAT).

■ **SABA TELEVISION LTD**

6-12 Cornbrook Park Road, Manchester, M15 4EE. Tel: 061-872 7661.

**TS80**

AM/FM stereo tuner. Range: FM, LW, MW,



Rogers Ravensbrook FM Tuner



Rotel RT320



Sansui TU9500

SW. Variable tuning plus five preset tuning buttons on FM. Tuning meter. Stereo decoder with auto switching. 25 transistors and 21 diodes. Mains: 120-240V AC. Size:  $16\frac{3}{8} \times 4\frac{1}{2} \times 11\text{in.}$  Finish: light walnut or white. Price: £94.95 (including VAT).

■ **SANSUI**

Vernitron Ltd, Thornhill, Southampton, SO9 5QF. Tel: Southampton 444811.

**TU7500 ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter for AM signal strength. Centre-zero FM tuning meter. Usable sensitivity: FM  $1.9\mu\text{V}$ . Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Output: 0-1V. Mains: 100, 117, 220, 240V 50-60Hz. Size:  $17\frac{3}{8} \times 12\frac{3}{8} \times 5\frac{3}{8}\text{in.}$  Finish: matt black cabinet, satin chrome trim (matches Sansui AU6500 and AU7500). Quiet tuning facility. Two output terminals. Price: to be announced.

**TU9500**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio

detector. Meter for AM signal strength. Centre-zero FM tuning meter. Usable sensitivity: FM 1.7 $\mu$ V. Aerial input: 0-1V adjustable. Stereo decoder fitted. Mains: 100, 117, 220, 240V 50-60Hz. Size: 19 $\frac{3}{4}$   $\times$  13 $\frac{3}{4}$   $\times$  5 $\frac{5}{8}$ in. Finish: matt black with satin chrome trim (matches AU9500). Quiet tuning facility. Direct recording outlet. Price: to be announced.

### ■ SANYO

Sanyo Marubeni (UK) Ltd, Sanyo House, Bushey Mill Lane, Watford, Herts.  
Tel: Watford 30421.

#### FMT 1400K

AM/FM stereo tuner. Range: MW 187-560m, FM 88-108MHz. Variable tuning. Meter tuning indicator. Usable sensitivity: MW 15 $\mu$ V, FM 1.9 $\mu$ V. Output voltage: 0.4-0.5V. Decoder included. FR: (FM) 10Hz-15kHz. Signal to noise: FM better than 60dB, AM better than 50dB. Stereo noise filter. Muting switch. Incorporates FET input and IC. Price: £63.01 (including VAT).

### ■ SCIENTELEC

35a Beddington Lane, Croydon, Surrey,  
CR0 4TB. Tel: 01-686 9341/4.

#### Club

FM stereo tuner. Range: 86-108MHz. Variable tuning plus four presets. AFC. Synchronous discriminator. Meter for signal strength, centre-zero tuning meter. Usable sensitivity: 1 $\mu$ V for 28dB signal-to-noise level. Aerial input: 75 ohms coaxial or 300 ohms balanced. Output: 400mV. Stereo decoder included. Three FETs. Four varicap diodes in tuning circuits. Squelch circuit. Four-IC IF amplifier. 19 transistors, 16 diodes. Mains: 220-240V AC 50Hz. Size: 17 $\frac{7}{8}$   $\times$  12  $\times$  4 $\frac{3}{4}$ in. Finish: black leather cabinet with extruded aluminium front. Price: £120.41 (including VAT).

### ■ SERVO-SOUND

Lamb House, Church Street, London, W4 2PB.  
Tel: 01-995 4551.

#### SR3

Stereo FM tuner. Range: 88-108MHz. Variable tuning. Switchable AFC. Squelch circuit FM discriminator. Meter tuning indicator. Usable sensitivity: 0.9 $\mu$ V for 30dB signal-to-noise. Aerial input: 240-300 ohms balanced. Output: IV. Stereo decoder included. Circuit includes two FETs and one IC. Size: 15 $\frac{1}{2}$   $\times$  3  $\times$  7 $\frac{1}{2}$ in. Mains: 110-240V AC. Finish: wood and steel cabinet in walnut or white matt. Price: £99.40 (plus VAT).

### ■ SINCLAIR RADIONICS LTD

London Road, St Ives, Huntingdonshire,  
PE17 4HJ. Tel: St Ives (Hunts) 4311.

#### Project 60

Stereo FM tuner employing phase lock loop principle of detection. Range: 87.5-108MHz. Capture ratio: 1.5dB. Sensitivity: 7 $\mu$ V for full limiting. AFC fitted (range  $\pm$ 200kHz). S/N: >65dB. FR: 10Hz-15kHz  $\pm$ 1dB. HD: 0.15% for 30% modulation. Stereo decoder fitted (operating level 2 $\mu$ V). Pilot tone suppression: 30dB. Crosstalk: 40dB. Output: 150mV per channel RMS for 100% modulation. Aerial input impedance: 75 ohms. Tuning indicator. Stereo beacon. Power supply required: 25-30V DC. Size: 8 $\frac{1}{8}$   $\times$  1 $\frac{1}{8}$   $\times$  3 $\frac{5}{8}$ in. Varicap diode tuning. Printed circuit coils. IC decoder. 16 discrete transistors. Inter-station muting. Price: £20 (plus VAT).

#### System 2000

Stereo FM tuner. Range: 88-108MHz. Variable tuning. Phase lock loop discriminator. Lamp tuning indicator. Usable sensitivity: 7 $\mu$ V for full limiting. Aerial input: 75 ohm coaxial and 300 ohm balanced. Output: 150mV for 100% modulation. Stereo decoder fitted. Mains: 120-240V AC. Size: 12  $\times$  6  $\times$  2in. Finish: brushed aluminium. Price: £39 (plus VAT).

#### System 3000

Identical specification to the System 2000 but finished in matt black. Price: £39 (plus VAT).

### ■ SONY (UK) LTD

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames, Middlesex.  
Tel: Sunbury 87644/7.

#### ST88

AM/FM stereo tuner. Range: FM 87-108MHz, MW 187-566m. Variable tuning. Meter tuning indicator. Sensitivity: FM 1.7 $\mu$ V for 30dB S/N, MW 100 $\mu$ V 48dB (external aerial). Aerial input: (FM) 300 ohms balanced. Stereo decoder fitted. Two FETs, 16 transistors, 18 diodes. FM image rejection: 45dB. FR: 30Hz-15kHz  $\pm$ 2dB. Separation: better than 35dB at 400Hz. HD: (FM) stereo 0.8%, mono 0.5%. Mains: 110, 127, 220, 240V 50-60Hz. Consumption: 10W. Finish: walnut with black and satin silver front panel. Price: £45 (plus VAT).

#### ST-5055L

AM/FM stereo tuner. Range: VHF, LW, MW. Variable tuning. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2.2 $\mu$ V (IHF), 1.7 $\mu$ V for 30dB S/N. Aerial input: balanced 240-300 ohms. Stereo decoder fitted. FET front end. Ceramic filters. IC amplifier stage. Balanced diode limiter. High blend noise cancelling circuit. Auto mono/stereo switching. Two outputs.

★ Indicates entry is illustrated

Pushbutton selection. Finish: walnut cabinet, brushed aluminium panel and black scale. Price: £70 (plus VAT).

#### ST70

AM/FM stereo tuner. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: AM 20 $\mu$ V, FM 2 $\mu$ V. Aerial input: 300 ohms balanced. Output: (high) 2V, (low) 750mV. Stereo decoder fitted. Mains: 220-240V AC. Size: 13  $\times$  7 $\frac{1}{2}$   $\times$  9 $\frac{3}{8}$ in. Finish: walnut cabinet and anodised aluminium panel and trim. Price: £35 (plus VAT).

#### ST 5066

FM/AM stereo tuner. Range: VHF 87.5-108 MHz, MW 530-1605kHz. Sensitivity: VHF 1.7 $\mu$ V 30dB. S/N: MW 48dB/m, built-in aerial. Harmonic distortion: (VHF) mono 0.5%, stereo 0.8%; (MW) 0.8%. Tuner input meter, push button function controls, brushed aluminium control panel, wood finish cabinet, illuminated dial pointer. Price: to be announced.

#### ST 5150

FM/AM stereo tuner. Range: VHF 87.5-108 MHz, MW 530-1605kHz. Sensitivity: VHF 1.6 $\mu$ V - 30dB. S/N: MW 50dB/m, built-in aerial. Harmonic distortion: (VHF) mono 0.3%, stereo 0.5%; MW 0.6%. Outputs: fixed 750mV 10K ohms, variable 0.2V 1.8K ohms. Multipath output: vertical 150mV 10K ohms, horizontal 150mV 100K ohms. Size: 15 $\frac{3}{8}$   $\times$  5 $\frac{1}{8}$   $\times$  13 $\frac{9}{16}$ in. Weight: 15lb 5oz. Mains: 240V AC 50Hz. 25W. Tuning meter, tuner input meter, FM stereo indicator, muting on/off, hi-blend, function selector. Price: to be announced.

#### ■ STEEPLETONE

Steepletone Products Ltd,  
Cinema House, Middle Barton,  
Oxford, OX5 4DA. Tel: Steeple Aston 7116.

#### STU-1

Stereo FM tuner. Range: 87.5-108MHz. Five preset stations. Switchable AFC. Usable sensitivity: (mono) 2 $\mu$ V, (stereo) 8 $\mu$ V, both for 26dB quieting. Aerial input: 70-80 ohms coaxial, 240-300 ohms balanced. Output: variable 0.2V per channel. Stereo decoder included. Mains: 100-125, 200-250V AC. Size: 13  $\times$  8 $\frac{1}{2}$   $\times$  4 $\frac{1}{2}$ in. Finish: teak cabinet with diecast enamelled sides and brushed aluminium fascia. Price: £44.66 (including VAT).

#### ■ STEREOSOUND PRODUCTIONS LTD

Wakefield Road, Brighouse, Yorks.  
Tel: Brighouse 4355.

#### Stereosound T20D

AM/FM radio tuner. Range: FM 87.4-104.5 MHz, MW 185-555 metres, LW 1110-1940 metres. Variable tuning. AFC. Ratio detector.

Stereo decoder fitted. Aerial input: 75 ohms coaxial. Output: 50mV and 750mV. Mains: 240V AC. Size: 18 $\frac{1}{2}$   $\times$  4 $\frac{3}{4}$   $\times$  8in. Finish: teak cabinet with clear plastic scale. Price: £36.30 (including VAT).

#### ■ J. E. SUGDEN & CO LTD

Carr Street, Cleckheaton, Yorks, BD19 5LA.  
Tel: Cleckheaton 2501.

#### R21 and R51 ★

FM stereo tuner. Range: 88-104MHz. Variable and preset tuning. Ratio detector. Centre-zero tuning indicator. Sensitivity: 2 $\mu$ V for 20dB quieting. Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 0.5V. Stereo decoder fitted. AFC. Mains: 110, 120, 220, 230 and 240V AC. Thermometer type tuning dial. Special decoder filter to prevent spurious oscillations. Switchable decoder filter for low-level transmissions. R21 designed to match J. E. Sugden A21 amplifier. R51 designed to match J. E. Sugden C51 amplifier. Size: (R21) 12  $\times$  9  $\times$  5in; (R51) 11  $\times$  4  $\times$  7in. Price: (R21) £66 (including VAT); (R51) £71.50 (including VAT).

#### ■ TEAC

Acoustico Enterprises Ltd, 6-8 Union Street,  
Kingston-on-Thames, Surrey, KT1 1RP.  
Tel: 01-549 3471/3. Telex: 929916.

#### AT-100

Stereo FM tuner. Range: 88-108MHz. Variable tuning. AFC. Two tuning meters. Usable sensitivity: 2 $\mu$ V (IHF). Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 1V. Stereo decoder fitted. Mains: 100, 117, 220, 240V AC. Size: 16 $\frac{3}{8}$   $\times$  5 $\frac{5}{8}$   $\times$  13in. Finish: silver and black, black-out dial. Dual gate FET front end. Six ceramic filters in IF strip. Price: £106 (plus VAT).

#### ■ TELEFI

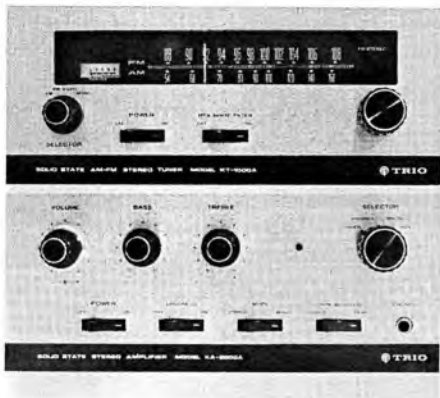
Rola-Celestion Ltd, Ditton Works,  
Foxhall Road, Ipswich, Suffolk, IP3 8JP.  
Tel: Ipswich (0473) 73131.

#### Telefi

Special adaptor to permit sound channel output to be taken from most UHF 625-line television receivers. Easy fitting. No connections or modifications to TV. Usually operates without even removing cabinet back. Special probe picks up stray 6MHz inter-carrier sound signal, prior to TV sound detector, and processes the signal to provide a high quality audio output for feeding hi-fi system. Finish: teak. AC mains. Output: typically 100mV-1V adjustable. Output impedance: 2K. Distortion: <1%. FR: 30Hz-20kHz. Two screened leads 6ft long. Price: £30 (including VAT).



J. E. Sugden RS1



Triol KT1000A (top) and KA2000A (bottom)

■ TELETON

Teleton Electro (UK) Ltd, Teleton House, Waterhouse Lane, Chelmsford, Essex, CM1 1BD. Tel: Chelmsford (0245) 62442. Telex: 99338.

**GT202**

AM/FM stereo tuner. Range: FM 88-104MHz, MW 187-577m, LW 857-2000m. Sensitivity: FM 1.5µV (IHF). Image rejection: >50dB. Capture ratio: 2dB. Aerial input: (FM) 300 ohms balanced. Stereo decoder fitted. Switchable AFC. Controls: mains on-off, AFC, wave-band selector, tuning. Mains: 115-240V AC 50-60Hz. Size: 15¼ × 9 × 2¼ in. Designed to match GA202 amplifier. Price: £50.71 (including VAT).

■ TRIO

Distributors: B. H. Morris & Co (Radio) Ltd, Trio House, The Hyde Industrial Estate, The Hyde, London, NW9 6JP. Tel: 01-205 6441.

**KT1000A ★**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-556m. Variable tuning. Meter tuning indicator. Sensitivity: 3µV (IHF standard). Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 1V FM, 0.4V AM. Stereo decoder fitted. Multiplex noise filter fitted (switchable). Mains: 100-120V and 220-240V 50-60Hz. Price: £50 (plus VAT).

**KT2001**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-556m. Variable tuning. Meter tuning indicator. Sensitivity: 2µV (IHF standard). Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 1V FM, 0.4V AM. Stereo decoder fitted. Circuit incorporates ICs. Multiplex noise filter fitted (switchable). Mains: 110-120V and 220-240V AC 50-60Hz. Size: 13 × 4½ × 9½ in. Price: £58 (plus VAT).

**KT5000**

FM stereo tuner. Range: FM 88-108MHz. Variable tuning. Two tuning meters. Sensitivity: 1.7µV (IHF standard). Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 1V ±1dB. Stereo decoder fitted. Circuit incorporates FET input and ICs. Output level control. Mains: 110-120V and 220-240V 50-60Hz. Size: 16¼ × 5½ × 11 in. Price: £79.50 (plus VAT).

**KT6005**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 187-556m. Variable tuning. AFC. Tuning and signal strength meters. Usable sensitivity: FM 1.5µV, AM (internal aerial) 300µV, (external aerial) 13µV. Aerial input: 300 ohms balanced and 75 ohms coaxial. Stereo decoder included. Output: 1.5V at 100% modulation at 400Hz. Three FETs, one IC. Quiet tuning facility on FM. Auto stereo switching. Multiplex filter. Output level control. Finish: wood sides with satinchromefacia. Size: 17½ × 6½ × 11 7/8 in. Price: £105 (plus VAT).

**K18005**

AM/FM two-band stereo tuner. Range: 88-108 MHz, MW 187-556m. Variable tuning. Signal strength meter, centre-zero tuning meter. Usable sensitivity: FM 1.5µV (IHF). Multipath detection in FM stereo mode. Stereo decoder fitted. Special switchable muting circuit cuts out mono stations and receives stereo only. Aerial input: 75 ohms coaxial or 300 ohms balanced. Output: (FM) 1.5V, (AM) 150mV. Mains: 110 or 230V AC. Weight: 24.9lb. Size: 17½ × 6½ × 11½ in. Price: £145 (plus VAT).

■ YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road, North Wembley, London, HA9 8QL. Tel: 01-904 0141.

**CT-700**

AM/FM stereo tuner. Range: FM 88-108MHz, MW 186-560m. Variable tuning. AFC. Dual tuning meters. Usable sensitivity: AM 15µV, FM 1.7µV. Aerial input: 300 ohms balanced. Output: 100mV. Stereo decoder included. Quiet tuning facility. Noise filters. Auto stereo switching. Mains: 110-240V AC. Finish: American walnut and satin chrome. Size: 16 × 5½ × 12 in. Price on application.



## Beautiful Bang & Olufsen

Some people prefer to buy their Hi-Fi equipment piecemeal and to build up a system of their own. Providing you really know your subject well, this can be an interesting and rewarding hobby, but there are many pitfalls for the unwary. The arguments in favour of buying a completely matched and matching system should not be ignored. With a recommended system from one manufacturer, you can be sure that the individual units are technically matched to give their optimum performance when used together. The units also match physically and are more convenient to place and to operate.

There are no problems of interconnection, no need to make up special cables, no worries about earth loops or changing plugs. Bang & Olufsen make an extensive range of such systems, offering a wide choice of facilities and prices. This is the Beosystem 1700 – a separate tuner, amplifier, turntable and speakers, each unit giving of its best; each performance part of a harmonious whole. For information on this and other superb Beosystems, contact the Consumer Advisory Service, (73YB), Bang & Olufsen U.K. Limited, Eastbrook Road, Gloucester GL4 7DE, 0452 21591.

# Directory of Tuner/ Amplifiers

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOUSTIC RESEARCH— INTERNATIONAL

High Street, Houghton Regis, Beds.  
Tel: Dunstable 603151. Telex: 825467.

### AR Tuner Amplifier ★

FM stereo tuner/amplifier. Range: FM 88-108MHz. Variable tuning. FET front end and multi-section crystal filter IF amplifier. Tuning meter. Sensitivity:  $1\mu\text{V}$  for 20dB quieting. Aerial input: 300 ohms balanced. Stereo decoder fitted. Interstation quiet tuning. S/N 65dB. IC IF amplifier. De-emphasis switchable 50 $\mu\text{Sec}$  or 75 $\mu\text{Sec}$ . Inputs: magnetic PU 2-5mV (adjustable) 50K, tape 200mV 150K, aux 200mV 150K. Noise level: PU input 57dB, other inputs 75dB. Controls: bass, treble, volume, balance, input selector, tuning, mains on-off, speaker/headphones. Output: 60W RMS. HD: <0.5% at rated output. FR: 20Hz-20kHz  $\pm 1\text{dB}$ . Output impedance: 4-16 ohms. Mains: 100, 120, 220, 240V 50-60Hz. Finish: wood case with brushed aluminium panel and spun knobs. Size:  $17\frac{1}{4} \times 6 \times 11\frac{1}{8}$ in. Price: £240 (including VAT).

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.

### AA8030 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Sensitivity: FM 2.5  $\mu\text{V}$ , MW 250 $\mu\text{V}/\text{m}$ . Variable tuning. Centre-zero tuning meter. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Output: 25W RMS per channel into 8 ohms. HD: <0.05%. FR: 15Hz-40kHz - 3dB. Inputs: mag PU 3mV 50K, aux 150mV 50K, tape 150mV 50K. H and N: (PU input) - 60dB, (other inputs) - 75dB. Separation: better than 50dB. Tone controls: bass  $\pm 10\text{dB}$  at 100Hz, treble  $\pm 10\text{dB}$  at 10kHz, loudness +8dB at 100Hz +5dB at 10kHz, high filter -8dB at 10kHz. 41 transistors, one FET, one IC, 31 diodes. Mains: 100-240V 50-60Hz. Size:  $18\frac{1}{4} \times$

$6\frac{1}{4} \times 13\frac{7}{8}$ in. Weight: 25 $\frac{1}{2}$ lb. Price: £140.48 (including VAT).

### AA8080

AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 187-560m. Sensitivity: FM 2 $\mu\text{V}$ , MW 300 $\mu\text{V}/\text{m}$ . Variable tuning. Signal strength meter. Centre-zero tuning meter. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Output: 40W RMS per channel into 8 ohms. HD: <0.03% at 8 ohms 20W. FR: 10Hz-50kHz - 3dB. Inputs: mag PU 3mV 50K, aux 160mV 50K, tape 160mV 50K, mic 2.5mV 50K. H and N: (PU input) - 65dB, (other inputs) - 80dB. Separation: (PU input) 55dB, (other inputs) 65dB. Tone controls:  $\pm 10\text{dB}$  at 100Hz, treble  $\pm 10\text{dB}$  at 10kHz, loudness +8dB at 100Hz +5dB at 10kHz, high filter -5.5dB at 10kHz, low filter -4.5dB at 50Hz. 50 transistors, two FETs, two ICs, 38 diodes. Mains: 100-240V 50-60Hz. Size:  $18\frac{1}{4} \times 5\frac{3}{4} \times 15\frac{1}{4}$ in. Weight: 30lb. Finish: wood grain side panels and satin metal control panel. Price: £178.07 (including VAT).

### AS8100S

AM/FM stereo and four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Sensitivity: FM 2 $\mu\text{V}$ , MW 180 $\mu\text{V}/\text{m}$ . Variable tuning. Tuning meter. Stereo beacon. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder and four-channel matrix fitted. Output: 36W RMS per channel (2) into 8 ohms, 18W RMS per channel (4) into 8 ohms. HD: <0.1% at 8 ohms. FR: 20Hz-100kHz - 3dB. Inputs: mag PU 3mV 100K, aux 150mV 100K, tape (2) 150mV 100K. H and N: (mag PU) - 70dB, (aux) - 80dB. Separation: better than 60dB. Tone controls: bass  $\pm 10\text{dB}$  at 100Hz, treble  $\pm 10\text{dB}$  at 10kHz, loudness +8dB at 100Hz +4dB at 10kHz, high filter -6dB at 10kHz, low filter -6dB at 50Hz. 53 transistors, one FET, nine ICs, 18 diodes. Mains: 100-240V 50-60Hz. Size:  $19\frac{3}{8} \times 5\frac{3}{8} \times 15\frac{1}{4}$ in. Weight: 33lb. Special surround sound balance shift control. Price: £265.24 (including VAT).

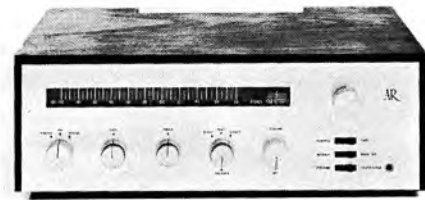
## ■ ALBA (RADIO & TELEVISION) LTD

Tabernacle Street, London, EC2A 4DY.  
Tel: 01-253 1322 (6 lines).

### UA100D

AM/FM stereo tuner/amplifier. Range: FM 87-108MHz, LW 1100-1900m, MW 183-570m, SW 5.7-19.2MHz. Variable tuning. Switchable AFC. Stereo decoder fitted. Automatic stereo beacon. Usable sensitivity: FM 2 $\mu\text{V}$  for 20dB quieting. Aerial input: FM 75 ohms coaxial, internal ferrite rod aerial for AM bands. Inputs: pickup 25mV 47K, tape 700mV 390K. Output: 15W RMS per channel into 8 ohms. Tape outlet: 300mV 330 ohms. Tone controls: bass  $\pm 12\text{dB}$





Acoustic Research tuner/amplifier



Akai AA8030

at 70Hz, treble  $\pm 12$ dB at 12kHz. HD:  $< 0.3\%$  at 15W. FR: 20Hz-20kHz  $\pm 2$ dB. Switchable quiet tuning. Finish: teak end panels. Size:  $16 \times 6 \times 7$ in. Price: £72.75 (including VAT).

#### ■ ALPHA

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

#### R150 ★

Stereo tuner/amplifier. Range: 87-108MHz, 187-572m. Variable tuning. FM ratio detector. Meter tuning indicator. Sensitivity:  $2\mu\text{V}$  for 20dB quieting. Aerial input: 300 ohm balanced. Stereo decoder fitted. AFC. Inputs: magnetic PU 3mV, crystal PU 250mV, aux 250mV. Output: 8W RMS per channel. HD: 0.5% at rated output. FR: 30Hz-30kHz. Output impedance: 8 ohms. Mains: 117, 220, 240V AC. Size:  $15\frac{1}{4} \times 4\frac{1}{4} \times 10\frac{1}{2}$ in. Price: £59 (plus VAT).

#### FR2000

Stereo tuner/amplifier. Range: 87-108MHz, 187-572m. Variable tuning. FM ratio detector. Meter tuning indicator. Sensitivity:  $3\mu\text{V}$  for 20dB quieting. Aerial input: 300 ohms balanced. Stereo decoder fitted. AFC. Inputs: magnetic PU 3mV, crystal PU 250mV, aux 250mV. Output: 10W per channel. HD: 0.5% at 10W. FR: 30Hz-30kHz. Output impedance: 8 ohms. Mains: 117, 220, 240V AC. Slider controls for bass, treble and volume. Size:  $15\frac{1}{4} \times 4\frac{1}{4} \times 10\frac{1}{2}$ in. Price: £68 (plus VAT).

#### FR3000

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 176-600m. Variable tuning. AFC. Balanced ratio detector. Meter tuning indicator. Usable sensitivity: AM  $25\mu\text{V}$ , FM

$3\mu\text{V}$ . Aerial input: 300 ohms balanced. Stereo decoder fitted. FET front end. Inputs: crystal PU 250mV 1M, mag PU 3mV 50K, aux 200mV 100K, tape 200mV 100K. Noise level: (mag PU) 60dB, (other inputs) 70dB. Output: 14W RMS per channel. Tone controls: bass slider  $\pm 10$ dB at 50Hz, treble slider  $\pm 12$ dB at 10kHz, loudness switch  $+ 12$ dB at 50Hz and  $+ 4$ dB at 10kHz. HD: 0.5% at 12W output. Output impedance: 8 ohms. FR: 20Hz-25kHz  $\pm 3$ dB at 12W. Mains: 110, 240V AC. Finish: teak with brushed aluminium. Size:  $17 \times 12 \times 5\frac{3}{8}$ in. Price: £86 (plus VAT).

#### FR4000

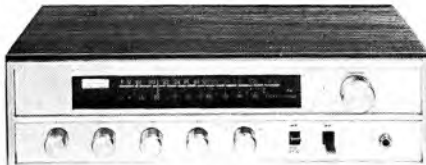
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 176-600m. Variable tuning. AFC. Balanced ratio detector. Meter tuning indicator. Usable sensitivity: AM  $25\mu\text{V}$ , FM  $2\mu\text{V}$ . Aerial input: 300 ohms balanced. IC stereo decoder fitted. FET front end. Inputs: mag PU 3mV 50K (noise level 60dB), crystal PU 250mV 1M (noise level 70dB), aux 200mV 100K (noise level 70dB), tape 200mV 100K (noise level 70dB). Output: 18W RMS per channel. Output impedance: 8 ohms. Tone controls: treble  $\pm 12$ dB at 10kHz, bass  $\pm 10$ dB at 50Hz, loudness  $+ 12$ dB at 50Hz and  $+ 4$ dB at 10kHz. HD: 0.5% at 15W output. FR: 20Hz-30kHz  $\pm 3$ dB. Mains: 110, 240V AC. Finish: teak with brushed aluminium. Size:  $17\frac{1}{4} \times 5\frac{3}{8} \times 12$ in. Price: £95.50 (plus VAT).

#### ■ ARMSTRONG AUDIO LTD

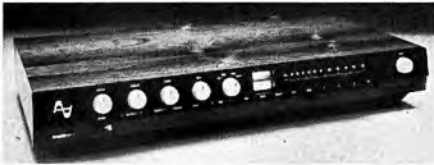
Walters Road, Holloway, London, N7 0RZ. Tel: 01-607 3213.

#### Model 625 ★

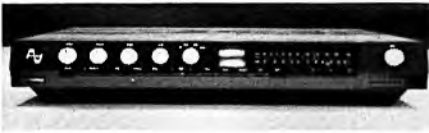
FM stereo tuner/amplifier. Range: 87.5-108MHz. Variable tuning plus six preset stations. AFC. Foster Seeley discriminator. Phase locked loop stereo decoder. Centre-zero tuning meter and field strength. Usable sensitivity:  $1\mu\text{V}$ . Aerial input: 75-80 ohms coaxial, 240-300 ohms balanced twin. Stereo decoder fitted. 33 transistors, 36 diodes. Inputs: mag PU 2.7mV and 10mV switchable 47K, tape 250mV 68K, radio 120mV 68K, aux 120mV 68K. Noise level: (all inputs) better than  $-65$ dB. Overload capability: (mag PU inputs) 70mV and 300mV, (tape input) 7V, (other inputs) 3V. Output: 40W RMS per channel into 8 ohms, 50W RMS per channel into 4 ohms. Controls: bass  $\pm 15$ dB at 70Hz, treble  $\pm 13$ dB at 14kHz, electronic gate input selector, switches for two pairs of speakers, loudness, tape monitor, mono/stereo, high filter, low filter. HD:  $< 0.08\%$ . Output impedance: 4-16 ohms. FR: 25Hz-25kHz  $\pm 1$ dB at 1W output. Mains: 105-135V, 215-250V AC. Size:  $19\frac{3}{4} \times 3\frac{1}{4} \times 11\frac{1}{4}$ in. Finish: zinc diecast front panel enamelled black, wood case in teak or



Alpha R150



Armstrong Audio 625



Armstrong Audio 626



Bang &amp; Olufsen Beomaster 901

rosewood. Sockets all DIN type. Outlet socket for AC mains. Price: £110 (including VAT).

#### Model 626 ★

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW/LW continuous 185-2070m. Variable tuning plus three preset FM stations and three AM stations. AFC. Foster Seeley discriminator. Phase locked loop decoder. Centre-zero tuning meter and field strength. Usable sensitivity: FM  $1\mu\text{V}$ , AM  $25\mu\text{V}$ . Aerial input: 75-80 ohms coaxial, 240-300 ohms balanced twin. Stereo decoder fitted. 42 transistors, 40 diodes. Inputs: mag PU 2.7mV and 10mV switchable at 47K, tape 250mV 68K, radio 120mV 68K, aux 120mV 68K. Noise level: (all inputs) better than -65dB. Overload capability: (mag PU inputs) 70mV and 300mV, (tape input) 7V, (other inputs) 3V. Output: 40W RMS per channel into 8 ohms, 50W RMS per channel into 4 ohms. Controls: bass  $\pm 15\text{dB}$  at 70Hz, treble  $\pm 13\text{dB}$  at 14kHz, electronic gate input selector, switches for two pairs of speakers, loudness, tape monitor, mono/stereo, high filter, low filter. HD:  $<0.08\%$ . Output impedance: 4-16 ohms. FR: 25Hz-25kHz  $\pm 1\text{dB}$  at 1W output. Mains: 105-135V, 215-250V AC. Size:  $19\frac{1}{2} \times 3\frac{1}{4} \times 11\frac{1}{2}$  in. Finish: zinc diecast front

panel enamelled black, wood case in teak or rosewood. Sockets all DIN type. Outlet socket for AC mains. Price: £132 (including VAT).

#### ASA

ASA (UK) Television and Radio Ltd.  
31-35 High Street, Shirlhampton.  
Bristol, BS11 0DX. Tel: 0272 684861.

#### 3199

FM stereo tuner/amplifier. Range: 87.5-104 MHz. Sensitivity: better than  $2\mu\text{V}$  for 26dB quieting. Three preset tuning buttons. AFC. Aerial input: 240 ohms balanced. Stereo decoder with auto switching and beacon. Output: 8W RMS per channel. FR: 40Hz-20kHz  $\pm 1.5\text{dB}$ . HD:  $<1\%$ . Tone controls: bass  $+18\text{dB}$   $-15\text{dB}$  at 40Hz, treble  $+14\text{dB}$   $-15\text{dB}$  at 10kHz. Rumble and scratch filters. Inputs: mag PU 5-70mV 47K, crystal PU 80-1200mV 500K, tape play 260-3800mV 500K. 30 transistors, one IC, 13 diodes. Mains: 220-240V AC. Finish: anodised metal front, teak or rosewood cabinet. Size:  $17\frac{3}{8} \times 3\frac{1}{8} \times 9\frac{1}{2}$  in. Price: (teak) £68.40 (including VAT); (rosewood) £70.40 (including VAT).

#### 3703

FM stereo tuner/amplifier. Range: 87.5-104 MHz. Sensitivity: better than  $2\mu\text{V}$  for 26dB quieting. Aerial input: 240 ohms balanced. AFC. Variable tuning plus three presets. Quiet tuning facility. IC stereo decoder with auto switching and beacon. Output: 20W RMS per channel. FR: 30Hz-30kHz  $\pm 1.5\text{dB}$ . HD:  $<1\%$ . Tone controls: bass  $+18\text{dB}$   $-15\text{dB}$  at 40Hz, treble  $+14\text{dB}$   $-15\text{dB}$  at 10kHz. Rumble and scratch filters. Inputs: mag PU 4mV 47K, crystal PU 70mV 500K, tape play 260mV 500K. Front jack sockets for headphones (automatically mute speaker outlets). 37 transistors, 15 diodes, one IC, three varicap diodes. Mains: 220-240V 50Hz. Finish: anodised metal front with teak or rosewood cabinet. Size:  $20\frac{1}{2} \times 3\frac{1}{8} \times 9\frac{1}{2}$  in. Price: (teak) £84.48 (including VAT); (rosewood) £86.33 (including VAT).

#### BANG & OLUFSEN UK LIMITED

Eastbrook Road, Gloucester. GL4 7DE.  
Tel: Gloucester 21591.

#### Beomaster 800 and 901 ★

20W per channel stereo tuner/amplifiers: 800 with integral speakers, 901 without speakers. Tuning range: FM 87.5-104MHz, LW 147-350 kHz, MW 520-1610kHz. Variable tuning. 'Balanced light' tuning indicator. Sensitivity:  $<1.8\mu\text{V}$  FM;  $<15\mu\text{V}$  LW,  $<20\mu\text{V}$  MW. AFC. Aerial input: 75 ohms coaxial and 300 ohms balanced. FR: 20Hz-30kHz  $\pm 1.5\text{dB}$ . HD:  $<0.5\%$  at full output. S/N ratio: mag PU  $>55\text{dB}$ , other inputs  $>65\text{dB}$ . Inputs: mag PU 2.5mV 47K, tape

★ Indicates entry is illustrated

150mV 470K. Outputs: 4 ohms and headphones 100 ohms minimum. Mains: 110-130 and 220-240V 50-60Hz. Size: (800) 33.8 × 9.0 × 3.7in, (901) 19.6 × 9.0 × 2.95in. Price: (800) £107.50 (teak); £108.50 (rosewood), (901) £99.90 (teak); £100.90 (rosewood). Including VAT.

#### **Beomaster 1001**

15W per channel stereo FM tuner/amplifier with ambiophonic facility. Tuning range: 87.5-104MHz. Variable tuning plus 3 presets. Tuning indicator. AFC. Sensitivity: < 1.8µV (IEC). Aerial input: 75 ohms coaxial and 300 ohms balanced. FR: 20Hz-30kHz ± 1.5dB. HD: < 0.5% at full output. S/N ratio: mag PU > 55dB, other inputs > 65dB. Inputs: mag PU 3.5mV 47K, tape 200mV 470K. Outputs: 4 ohms and headphones 100 ohms minimum. Mains: 110-130 and 220-240V AC 50-60Hz. Special features include ambiophonic speaker switch for side or rear loudspeakers plus black anodised control panel. Horizontal or vertical use. Wall mounting bracket optional. Size: 21.4 × 8.1 × 3.1in. Price: (teak) £95.90; (rosewood or white) £96.90; wall bracket £2.43. Including VAT.

#### **Beomaster 3000-2**

Stereo, transistorised. 40W per channel. Range: 87.5-104MHz. Variable tuning plus six presets. Meter indicator. Decoder fitted. Ratio detector. Switched AFC. Aerial: IEC sockets for 75 ohms and 240 ohms. FR: (± 1dB): 40Hz-20kHz. HD: 0.3%. Noise level: -65dB. Inputs: mag PU variable 1.5-100mV 47K; crystal/ceramic variable 200mV-3V 1M; tape variable 200mV-3V 1M. Controls: tuning and presets, volume, balance, mono L, mono R, Speakers 1, Speakers 2, low filter (80Hz 12dB/octave), high filter (4kHz, 12dB/octave), bass ± 17dB at 50Hz, treble ± 14dB at 10kHz. Features include: FETs, ceramic filters, integrated circuits, special tuning device, variable input sensitivities, slider controls. Mains: 110, 130, 220, 240V. 50-60Hz. Dimensions: 22 $\frac{3}{4}$  × 10 $\frac{1}{4}$  × 3 $\frac{3}{8}$ in. Price: (teak) £163.50; (rosewood or white) £164.50. Including VAT.

#### **Beomaster 4000**

Stereo 60W per channel FM tuner/amplifier. Tuning range: 87.5-104MHz. Variable tuning plus six preset stations. Meter indicator plus 'balanced light' tuning. AFC. Sensitivity: < 1.4 µV. Aerial inputs: 75 ohms coaxial and 300 ohms balanced. FR: 20Hz-30kHz ± 1.5dB. HD: < 0.2% at 60W. S/N ratio: mag PU > 62dB at full output, tape > 75dB at full output. Inputs: mag PU 3mV 47K variable, tape (1) 250mV 1M variable, tape (2) 250mV 1M variable. Outputs: speakers 4 ohms, ambiophonic speakers 4 ohms, plus headphones. Special features include ambiophonic reproduction via side or rear speakers, black anodised panel. Mains 110-130 and 220-

240V AC 50-60Hz. Size: 22.4 × 10.6 × 3.7in. Price: (teak) £192.50; (rosewood) £193.50. Including VAT.

#### **BRAUN**

Hisonic Ltd, Tovil, Maidstone, Kent, ME15 6QP. Tel: Maidstone (0622) 57258.

#### **Regie 510**

AM/FM stereo tuner amplifier. Range: VHF, LW, MW, SW. 66 transistors, 27 diodes, four FETs and six ICs. Output: 50W per channel into 4 ohms, 35W per channel into 8 ohms, both figures continuous power. FR: 25Hz-35kHz. Tone controls: bass ± 12dB, treble ± 12dB. Aerial input: 240 ohms balanced. Inputs: mag PU 2mV, tape 350mV 470K, aux 330mV 470K. Output impedance: 4-16 ohms, headphones 200-400 ohms. Full specification and price available on request.

#### **BUSH-ARENA**

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### **TA2700**

FM stereo tuner/amplifier. Range: 88-108MHz. Sensitivity: 1.5µV for 36dB signal/noise. Five preset stations. Aerial input: 75 ohms coaxial. Inputs: mag PU 3mV 47K, tape 120mV 100K, aux (2) 60mV 47K. Controls: volume on-off, bass ± 12dB at 50Hz, treble + 11dB - 13dB at 10kHz, balance, loudness, rumble filter, mono/stereo, speaker selection. Output: 15W per channel RMS. Output impedance: 3-15 ohms. FR: 20Hz-15kHz - 3dB. HD: < 0.6% 40Hz-12.5 kHz. Mains: 110, 130, 220, 240V 50Hz. Size: 19 $\frac{5}{8}$  × 4 $\frac{3}{8}$  × 10 $\frac{1}{2}$ in. Output for stereo phones. Price: £85.67 (including VAT).

#### **TA2800**

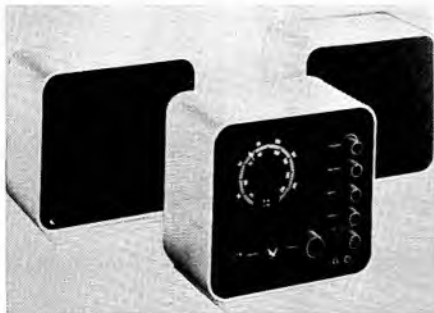
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, LW 833-2000m, MW 182-583m, SW1 49m band, SW2 68.2-187m. Sensitivity: FM 1.5µV for 26dB signal/noise, LW 60µV, MW 25µV, SW1 10µV, SW2 8µV. Inputs: mag PU 3mV 47K, tape 120mV 100K. Controls: volume on-off, bass ± 12dB at 50Hz, treble + 11dB - 13dB at 10kHz, balance, loudness, mono/stereo, speaker selection. FR: 20Hz-25kHz - 3dB. HD: < 0.6% 40Hz-12.5kHz. Output: 15W RMS per channel into 3 ohms. Output impedance: 3-15 ohms. Mains: 110, 130, 220, 240V 50Hz. Size: 19 $\frac{3}{8}$  × 6 × 9 $\frac{1}{8}$ in. Finish: teak veneer with brushed aluminium panel. Price: £89.43 (including VAT).

#### **TA3500**

FM stereo tuner/amplifier. Range: 88-108MHz. Five preset stations. AFC stereo decoder fitted. Stereo beacon. Inputs: mag PU 2.25mV 47K, tape 90mV 200K. Controls: volume, bass



Dynatron TVR26



Eagle SC720



Eagle AA28



Eagle AA30

+12dB-15dB at 100Hz, treble +11dB-13dB at 10kHz, balance, mono/stereo, on-off, input selection. Output: 10W per channel RMS into 4 ohms. Output impedance: 4-15 ohms. FR: 25Hz-20kHz-3dB. HD: 1%. Mains: 220, 240V 50Hz. Size: 21 $\frac{3}{8}$  x 3 $\frac{3}{8}$  x 8 $\frac{3}{8}$  in. Finish: teak veneer. Price: £74.37 (including VAT).

**■ DYNATRON RADIO LTD**

St Peters Road, Maidenhead, Berks, SL6 7QY. Tel: Maidenhead 23331.

**TVR26 ★**

Stereo transistorised AM/FM tuner/amplifier. Ranges: 87-108MHz, MW 185-570m, LW 1100-2000m. Variable tuning. Ratio detector. Meter tuning indicator. Sensitivity: 5 $\mu$ V for 20dB quieting. Aerial input VHF: 75 ohms coaxial. Stereo

decoder fitted. AFC. Output: 8W per channel at less than 1% distortion. FR: ( $\pm$ 3dB) 40Hz-16kHz at  $\frac{1}{2}$ W. Noise level -90dB. Output impedances: speakers 4 ohms, earphones 8 ohms or greater. Inputs: tape 35mV 20K, noise level -70dB; crystal PU 75mV 100K (special correction), noise level -60dB; magnetic PU 5mV, noise level -60dB. Controls: tuning, balance, input selector, bass, treble, volume, loudness, AFC, filter, on/off. Size: 19 x 14 x 5 $\frac{1}{2}$  in. Mains: 240V AC only. Price: £82.47 (including VAT).

**■ EAGLE INTERNATIONAL**

Heather Park Drive, Wembley, HA0 1SU. Tel: 01-903 0144.

**SC720 ★**

AM/FM stereo tuner/amplifier with two separate speakers. Range: FM 88-108MHz, MW 186-578m. Variable tuning with AFC. Usable sensitivity: FM 12 $\mu$ V, AM 200 $\mu$ V. Aerial input: 75 ohm coaxial, or balanced. Stereo decoder included, with automatic beacon. Mains: 240V AC. Size: 9 $\frac{1}{2}$  x 9 $\frac{3}{8}$  x 6 $\frac{3}{8}$  in. Finish: matt white moulded cases, black facia with dial illuminated in green. Price: £55.84 (plus VAT).

**AA28 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 3 $\mu$ V, MW 150 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. 44 transistors, 23 diodes. Inputs: mag PU 3mV 47K, aux 180mV 100K, tape 180mV 100K. Noise level: (PU input) -64dB, (other inputs) -70dB. Overload capability: (PU input) 70mV. Output: 30W RMS per channel into 8 ohms. Tone controls: bass  $\pm$ 12dB at 40Hz, treble  $\pm$ 10dB at 12kHz, filter -10dB at 8kHz. HD: <0.2%. Output impedance: 8 ohms. FR: 15Hz-36kHz  $\pm$ 2dB at 6dB below full output. Size: 16 $\frac{1}{2}$  x 5 $\frac{1}{2}$  x 13 $\frac{3}{8}$  in. Mains: 240V AC. Finish: black and teak. Price: £115.90 (plus VAT).

**AA30 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 3 $\mu$ V, MW 150 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. 44 transistors, 23 diodes. Inputs: mag PU 3mV 47K, aux 180mV 100K, tape 180mV 100K. Noise level: (PU input) -64dB, (other inputs) -70dB. Overload capability: (PU input) 70mV. Output: 30W RMS per channel into 8 ohms. Tone controls: bass  $\pm$ 12dB at 40Hz, treble  $\pm$ 10dB at 12kHz, loudness +6dB at 100Hz+6dB at 10kHz. HD: <0.2%. Output impedance: 8 ohms. FR: 15Hz-36kHz  $\pm$ 2dB at 6dB below rated output. Mains: 220-240V AC.

★ Indicates entry is illustrated

Size:  $16\frac{3}{4} \times 5\frac{1}{2} \times 13\frac{3}{8}$  in. Finish: teak and black. Special sound effect controllers giving  $\pm 10$ dB at 40Hz, 200Hz, 1.2kHz, 6kHz and 15kHz. Price: £134.85 (plus VAT).

#### AA32

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $3\mu\text{V}$ , MW  $200\mu\text{V}$ . Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Inputs: mag PU  $3\text{mV}$  47K, aux  $180\text{mV}$  100K, tape  $180\text{mV}$  100K. Noise level: (PU input)  $-60$ dB, (other inputs)  $-70$ dB. Output: 7W RMS per channel into 8 ohms. Tone controls: bass  $\pm 11$ dB at 40Hz, treble  $\pm 11$ dB at 12kHz, loudness  $+8$ dB at 100Hz. HD:  $<0.5\%$ . Output impedance: 8 ohms. FR: 30Hz-20kHz  $\pm 2$ dB. Facilities for four-channel effect. Remote speaker switch. Price: £59 (plus VAT).

#### AA34

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $3\mu\text{V}$ , MW  $200\mu\text{V}$ . Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Inputs: mag PU  $3\text{mV}$  47K, aux  $180\text{mV}$  100K, tape  $180\text{mV}$  100K. Noise level: (PU input)  $-60$ dB, (other inputs)  $-70$ dB. Output: 15W RMS per channel into 8 ohms. Tone controls: bass  $\pm 11$ dB at 40Hz, treble  $\pm 11$ dB at 12kHz, loudness  $+8$ dB at 100Hz. HD:  $<0.5\%$ . Output impedance: 8 ohms. FR: 30Hz-20kHz  $\pm 2$ dB. Facilities for derived four-channel effect. Remote speaker switch. Price: £69 (plus VAT).

#### ■ ELOWI

Lynthorpe Factors, 90 Dragon Parade, Harrogate, Yorks, HG1 5AP.  
Tel: Harrogate 3540.

#### MTX3000

Stereo FM tuner/amplifier. Range: 87.5-108.5 MHz. Sensitivity:  $1.8\mu\text{V}$  for 26dB signal-to-noise. Two MOS-FET front end. Inputs: mag PU  $2.5\text{mV}$  47K, crystal PU  $380\text{mV}$  500K, mic  $2.5\text{mV}$  10K, tape  $380\text{mV}$  500K. Output: 35W RMS per channel (both channels driven). FR: 15Hz-25kHz. Tone controls: bass  $\pm 19$ dB at 40Hz, treble  $\pm 19$ dB at 20kHz. Output impedance: 4-16 ohms. Headphone socket: 800 ohms. 32 transistors, 14 diodes, 11 zeners, two FETs, four ICs. Mains: 220V AC 50-60Hz (switchable to 110V AC). Full specification and price on request.

#### ■ FISHER

ICP Ideal Computer Processors Ltd, Hainault House, Hainault Street, New Eltham, London, SE9. Tel: 01-850 0828.

Completely new range of Fisher tuner/amplifiers, amplifiers and speakers being imported for 1973-74 season. No product details obtainable at the time this edition of the Year Book went to press.

#### ■ GOODMAN'S LOUDSPEAKERS LTD

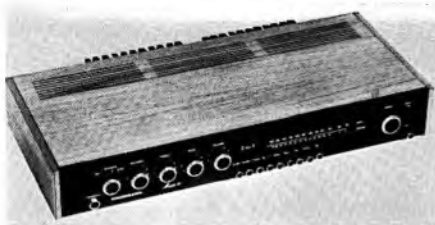
Downley Road, Havant, Hampshire, PO9 2NL.  
Tel: Havant 6344. Telex: 86296.

#### Module 80 ★

FM stereo tuner/amplifier. Range: 87-108MHz. Variable tuning with switchable AFC. Tuning indicator. Stereo decoder fitted. Automatic stereo beacon. Aerial input: 240-300 ohms balanced. Inputs: magnetic PU  $2\text{mV}$  50K, aux and crystal PU  $60\text{mV}$  600K, tape play  $320\text{mV}$  50K. Controls: mains on/off and speaker selector, balance, treble  $+10$ dB  $-17$ dB at 10kHz, bass  $\pm 13$ dB at 50Hz, volume, HF filter  $-11$ dB at 16kHz, LF filter  $-11$ dB at 25Hz, loudness  $+11$ dB at 50Hz and  $+6$ dB at 10kHz (with volume control retarded 30dB), left/right reverse, stereo/mono, tape play and monitor, tuning, input selector buttons, AFC, on/off. Output: 35W RMS per channel into 4 ohms. HD:  $<0.1\%$  at 30W per channel. FR: 30Hz-20kHz  $\pm 1\frac{1}{2}$ dB. Damping factor: (4 ohm load) 40; (8 ohm load) 80; (15 ohm load) 150. Socket for stereo phones. DIN sockets for two sets of speakers. AC mains outlet socket. H and N: 80dB below 35W on tape/aux input, 66dB below 35W on magnetic PU input. Crosstalk between channels: better than 45dB 40Hz-13kHz. FM radio sensitivity: better than  $1.5\mu\text{V}$  for 26dB S/N. Pilot tone rejection:  $-36$ dB at 19kHz and 38kHz (ref 0dB at 67kHz deviation). 68 semiconductors (including two FETs). Size:  $22 \times 3\frac{3}{4} \times 11\frac{1}{2}$  in. Mains: 120V, 220V or 240V AC. Consumption: 150W maximum. Price: £79.59 (plus VAT).

#### Module 90 ★

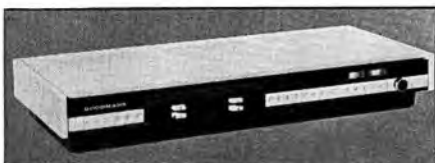
AM/FM stereo tuner-amplifier. Range: FM 87.5-108MHz, MW 525-1630kHz, four pre-selected FM stations and variable tuning. Switched AFC. Illuminated tuning/weak signal indicator. Aerial inputs: 240 ohms balanced FM and AM sockets. Usable sensitivity: typically  $2\mu\text{V}$  FM,  $50\mu\text{V}$  AM. Ceramic filters in IF amplifier. 73 semiconductors. Inputs: mag PU  $3\text{mV}$  50K, ceramic PU  $100\text{mV}$  500K, tape play  $200\text{mV}$  33K. Noise level: tape  $-75$ dB, PU  $-60$ dB. Overload capability:  $+23$ dB. Output: 45W RMS into 4 ohms. Controls: slides for treble, bass, volume/balance, rotary/tuning, 15 tabs for functions and four pre-selected FM stations. HD: less than  $0.1\%$  at 35W. FR: 25Hz-30kHz  $+0.3$ dB. Mains: 220-245V AC, 122V dealer adjustable. Size:  $24\frac{1}{8} \times 11\frac{7}{8} \times 4$  in. Finish: teak, walnut veneered or white lacquer sleeve.



Goodmans Module 80



Goodmans Model One Ten



Goodmans Module 90



Grundig RTV800

Price: £101.85 veneer, £103.56 white finish.

### Model One Ten ★

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-570m, LW 1130-2000m, SW 48-51m. Variable tuning. Switched AFC. Signal strength meter. Aerial input: 75 ohms coaxial, 240 ohms balanced. Usable sensitivity: (FM 75 ohms) 1 $\mu$ V; (FM 240 ohms) 2 $\mu$ V; AM typically 20-40 $\mu$ V. Ceramic filters in IF amplifier. Quiet tuning facility on FM. 89 semi-conductors. Inputs: mag PU 2.5mV 56K, ceramic PU 200mV 1 megohm, tape play 200mV 100K. Noise level: mag PU -70dB, other inputs -80dB. Overload capability: +30dB. Output: 50W RMS into 4 ohms. Controls: balance, bass, treble, volume, contour, plus 17 tabs for all functions. HD: <0.01% at 30W, <0.1% at any power up to maximum. FR: 15Hz-45kHz  $\pm$  3dB, 20Hz-20kHz  $\pm$  1dB. Mains: 115-125V, 200-250V AC. Size: 23  $\times$  5 $\frac{7}{8}$   $\times$  12in. Finish: teak or walnut with brushed aluminium fascia, or black and white with white controls and black fascia. Electronic protection of output stages. Price: (with tuner) £118.96 (plus VAT).

■ **GRUNDIG (Great Britain) LTD**  
Hi-Fi Division, London, SE26 5NQ.  
Tel: 01-778 2211. Telex: 22854.

### RTV800 ★

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 185-587m, LW 857-2069m, SW 19-55m. Variable tuning on AM plus seven preset buttons on FM. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM

2.2 $\mu$ V across 240 ohms, MW 12-25 $\mu$ V, LW 21.5 $\mu$ V, SW 4.7-5.2 $\mu$ V. Aerial input: 240 ohms balanced. Stereo decoder fitted. 38 transistors and 23 diodes (plus two rectifiers). Inputs: mag PU 3mV 47K, crystal PU 200mV 470K, tape 200mV 470K. Noise level (for 12.5W output) >60dB. Overload capability: 28dB. Output: 12.5W RMS per channel into 4 ohms. Controls: volume, treble -18dB to +13dB at 16kHz, bass -15dB to +12dB at 40Hz, balance -9dB to +4dB. HD: <0.5% at 1kHz. Output impedance: 4 ohms. Stereo headphone socket. FR: 40Hz-16kHz  $\pm$  2dB for mag PU ( $\pm$ 1.5dB for other inputs). Mains: 110, 130, 220, 240V AC 50-60Hz. Size: 23 $\frac{1}{4}$   $\times$  5 $\frac{1}{8}$   $\times$  11 $\frac{1}{2}$ in. Finish: walnut finish case with silver trim. Price: £131.56 (including VAT).

### RTV900

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 185-587m, LW 857-2069m, SW 19-55m. Variable tuning on AM plus seven presets on FM. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 1.8 $\mu$ V across 240 ohms, LW 12-25 $\mu$ V, MW 21.5 $\mu$ V, SW 4.7-5.2 $\mu$ V. Aerial input: 240 ohms balanced. Stereo decoder fitted. 50 transistors, 26 diodes, two rectifiers. Inputs: mag PU 3.3mV 47K, crystal PU 300mV 470K, tape 300mV 470K. Noise level: >60dB. Overload capability: 26dB. Output: 25W RMS per channel into 4 ohms. Controls: volume, treble -18dB +13dB at 16kHz, bass -15dB +12dB at 40Hz, balance -9dB +4dB. HD: <0.5% at 1kHz and full output. Output impedance: 4 ohms. FR: 40Hz-16kHz  $\pm$  2dB for mag PU input. Mains: 110,

★ Indicates entry is illustrated

130, 220, 240V AC 50-60Hz. Size:  $23\frac{1}{4} \times 5\frac{1}{2} \times 11\frac{1}{2}$  in. Finish: walnut finish case with silver trim. Facilities for use with Grundig 4D stereo system. Price: £171.66 (including VAT).

#### ■ HANIMEX (UK) LTD,

Hanimex House, 15-24 Great Dover Street, London, SE1. Tel: 01-407 8161.

New range of hi-fi stereo tuner/amplifiers to be introduced under Hanimex brand name. No details of models available as this edition of the Year Book closed for press.

#### ■ HARMAN-KARDON

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

##### 330A ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 175-600m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: MW  $25\mu\text{V}$ , FM  $1.9\mu\text{V}$ . Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. Inputs: mag PU  $1.9\text{mV}$  47K, aux  $300\text{mV}$  20K. S/N ratio: PU 65dB. Overload capability: (PU)  $90\text{mV}$ . Output: 22.5W RMS per channel. Tone controls: (independent bass and treble controls for each channel) bass  $\pm 12\text{dB}$ , treble  $\pm 12\text{dB}$ , contour  $+8\text{dB}$  at 50Hz. HD: 0.2% at 20W. Output impedance: 8 ohms. FR: 7Hz-50kHz  $\pm 1\text{dB}$  at 20W. Mains: 110, 240V AC. Finish: black cabinet with brushed aluminium trim, walnut sleeve optional extra. Price: £123 (plus VAT).

##### 630

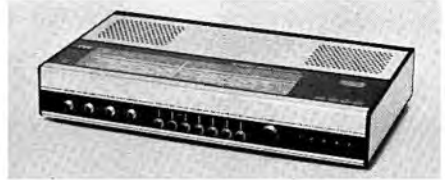
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 175-600m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: MW  $15\mu\text{V}$ , FM  $1.9\mu\text{V}$ . Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. Inputs: mag PU  $1.5\text{mV}$  47K, aux 1  $300\text{mV}$  20K, aux 2  $300\text{mV}$  20K. Noise level: PU input 65dB, aux inputs 85dB. Output: 30W RMS per channel. Tone controls: (independent bass and treble controls for left and right channels) bass  $\pm 12\text{dB}$ , treble  $\pm 12\text{dB}$ , contour  $+8\text{dB}$  at 50Hz, high cut filter  $-8\text{dB}$  at 10kHz (6dB/octave). HD: 0.2% at 30W. Output impedance: 8 ohms. FR: 4Hz-70kHz  $\pm 0.5\text{dB}$ . Mains: 110, 240V AC. Size:  $12 \times 4\frac{3}{4} \times 13\frac{3}{4}$  in. Finish: black case with brushed aluminium trim, walnut sleeve optional extra. External Dolby B input/output equalisation. Quiet tuning facility on FM. Price: £150 (plus VAT).

##### 930

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 175-600m. Variable tuning. AFC. Ratio detector. Tuning indicators: FM centre-zero meter, AM/FM signal strength



Harman-Kardon 330A



ITT TA-1-200

meter. Usable sensitivity: MW  $15\mu\text{V}$ , FM  $1.8\mu\text{V}$ . Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. Quiet tuning facility on FM. FET front end. Rotating AM ferrite rod aerial. Inputs: mag PU (1)  $1.5\text{mV}$  47K, mag PU (2)  $1.5\text{mV}$  47K, aux (1)  $300\text{mV}$  20K, aux (2)  $300\text{mV}$  20K. Noise level: PU inputs 65dB, aux inputs 85dB. Overload capability: (PU inputs)  $90\text{mV}$ . Output: 45W RMS per channel. Tone controls: (independent bass and treble controls for each channel) bass  $\pm 12\text{dB}$ , treble  $\pm 12\text{dB}$ , high cut filter  $-8\text{dB}$  at 10kHz (6dB/octave), low cut filter  $-15\text{dB}$  at 25Hz, contour  $+8\text{dB}$  at 50Hz. HD: 0.2% at 45W. Output impedance: 8 ohms. FR: 8Hz-100kHz. Separate power supply for left and right channels. Size:  $17 \times 4\frac{3}{4} \times 13\frac{3}{4}$  in. Mains: 110, 240V AC. Finish: black case with brushed aluminium trim, walnut sleeve optional extra. Price: £199 (plus VAT).

#### ■ HEATHKIT

See Constructional Kits Section.

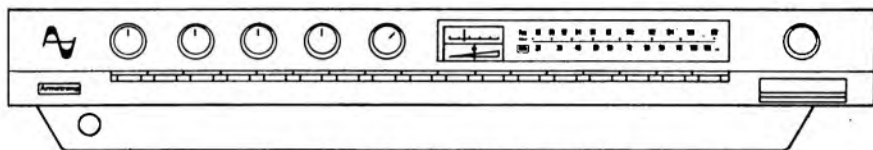
#### ■ HITACHI

Hitachi Sales (UK) Ltd, New Century House, Coronation Road, Park Royal, London, NW10 7QS. Tel: 01-965 9861.

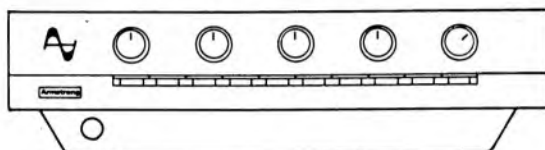
##### SR700

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-572m. Usable sensitivity: FM  $1.8\mu\text{V}$ , MW  $30\mu\text{V}$ . Capture ratio: 1:1dB. Inputs: mag PU  $2.5\text{mV}$ , mag PU  $8\text{mV}$ , aux 200 mV, tape  $200\text{mV}$ , main  $320\text{mV}$ . Tone controls: bass  $\pm 12\text{dB}$  at 50Hz, treble  $\pm 12\text{dB}$  at 15kHz, high filter  $-8\text{dB}$  at 10kHz, loudness  $+9\text{dB}$  at 100Hz  $+4\text{dB}$  at 10kHz. Output: 35W RMS per channel into 4 ohms (both channels driven). FR: 20Hz-20kHz. HD: 0.5% at 1kHz. Damping factor: 50. FET front end. Stereo decoder. Vari-

# What every hi-fi stereo enthusiast has been waiting to hear.



626 AM/FM Stereo Receiver



621 Stereo Amplifier

The more you know about hi-fi stereo, the more you appreciate the difference not only between bad and good equipment.

But between mediocre and superb equipment.

The only trouble is that though it's the superb equipment you want, it's usually only the mediocre (or second best) that you can afford.

Until now.

Because Armstrong have just introduced the new Series 600, a range of amplifiers, tuners and receivers which have been designed to provide the finest possible performance.

For about half the usual price.

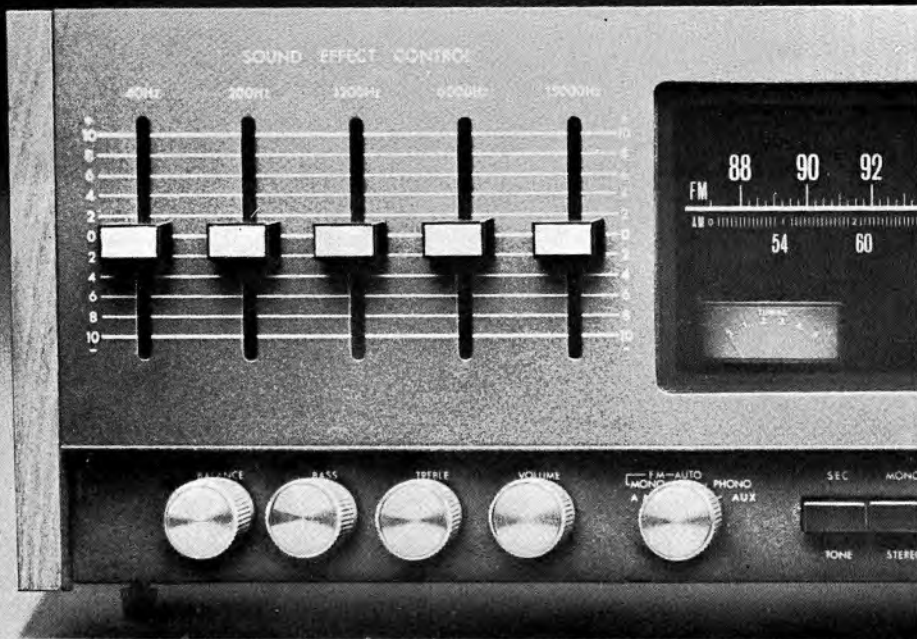
And if that sounds incredible, we suggest you listen to the new Series 600 for yourself.

Because incredible is what it is.

# Armstrong

Walters Road, London N7 0RZ.





## It saves you a lot more than shelf space.

For too long people have had the wrong idea about tuner amplifiers.

They think they're getting more for their money by buying two separate units.

And in some ways, this is true.

You get two pieces of equipment to match and balance. Two cabinets instead of one. Two chassis. Two power supply units. Not to mention the two lengths of cable to hide under the carpet.

The nice thing about buying a tuner amplifier is that you get around 50% more power for the money you save by not having these 'extras'.

And you get a technical compatibility that's impossible to beat.

If this makes sense so far, so will Eagle's stereo tuner amplifiers: the AA28 and the AA30.

They have a lot of features you won't find on many amplifiers or tuners, such as main/remote speakers, interstation muting, tuning meter, slider controls and FET front end tuner section.

The AA30 also has our Sound Effect Control system built in (which you've probably read about) as well as conventional bass and treble controls.

Briefly, it means you have five slide controllers which allow you to boost or cut five separate sectors across the whole frequency range.



You can literally pick and choose what you want to hear. You can boost the violins, bring out the singer or cut the trombones. It's a facility which, until very recently, was only available with expensive studio equipment.

You can hear both of these units at your Eagle dealer.

He'll be only too pleased to give you a demonstration.

And while you're listening you can work out what to do with the space you've saved.

AA28 + AA30 Specification  
30 + 30 watts RMS @ 8ohms (both channels driven)  
FM Section: Sensitivity for 30dB quieting: 3uV.



AA28

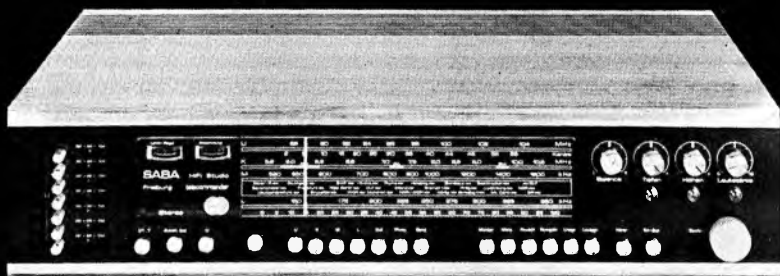
**Eagle International**

Eagle International Precision Centre Heather Park Drive  
Wembley HA0 1SU Telephone 01-903 0144

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able tuning. Quiet tuning facility. Outputs for two pairs of speakers. Socket for stereo headphones. Size:  $17\frac{3}{8} \times 5\frac{3}{8} \times 13$ in. Weight:  $25\frac{1}{2}$ lb. Price: £129 (including VAT).

**SR800**

AM/FM stereo tuner/amplifier. Similar specification to the SR700 above but with higher output and additional centre-zero tuning meter. Output: 40W RMS per channel into 4 ohms (both channels driven). Price: £139 (including VAT).

**SR1100**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-572m. Usable sensitivity: FM  $1.6\mu\text{V}$ , MW  $10\mu\text{V}$ . Capture ratio: 0.8dB. Aerial input: 300 ohms balanced. Inputs: mag PU (low)  $1.8\text{mV}$ , mag PU (high)  $4\text{mV}$ , aux  $125\text{mV}$ , mic  $2\text{mV}$ , tape monitor  $500\text{mV}$ , main  $800\text{mV}$ . Tone controls: bass  $\pm 16\text{dB}$  at 50Hz, treble  $\pm 16\text{dB}$  at 15kHz, high filter  $-10\text{dB}$  at 10kHz, low filter  $-8\text{dB}$  at 50Hz. Loudness  $+10\text{dB}$  at 50Hz  $+4\text{dB}$  at 10kHz. Output: 50W RMS per channel into 4 ohms (both channels driven). Output impedance: 4-8 ohms. FR: 20Hz-50kHz. HD: 0.05%. Damping factor: 50. FET front end. Stereo decoder. Signal strength meter and centre-zero tuning meter. Quiet tuning facility. Outputs for two pairs of speakers. Size:  $17\frac{3}{8} \times 5\frac{3}{8} \times 13$ in. Weight:  $27\frac{1}{2}$ lb. Price: £189 (including VAT).

**ITT**

ITT Consumer Products (UK) Ltd, Maidstone Road, Sidcup, Kent, DA14 5HT. Tel: 01-300 7733.

**TA-1-200 ★**

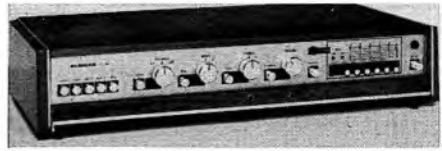
AM/FM stereo tuner/amplifier. Range: FM/VHF, LW, MW, SW. Variable tuning plus four presets. Ratio detector. Switchable AFC. Tuning meter. Usable sensitivity: FM  $3\mu\text{V}$ , LW  $600\mu\text{V/m}$ , MW  $200\mu\text{V/m}$ , SW  $12\mu\text{V}$ . Aerial input: 75 ohms coaxial. Stereo decoder fitted. Inputs: ceramic PU  $600\text{mV}$  1M,  $300\text{mV}$  470K. Output: 8W RMS  $\pm 1\text{dB}$  per channel into 4.5 ohms. Controls: bass, treble, volume, balance, input selector. Output impedance: 4-16 ohms. FR: 40Hz-20kHz  $-3\text{dB}$ . Mains: 220-240V AC. Size:  $19\frac{1}{4} \times 11\frac{5}{8} \times 3\frac{5}{8}$ in. Finish: matt black cabinet with brushed aluminium trim. Varicap FM tuner. Separate tuning scales. Stereo beacon. Price: £79.50 (including VAT).

**JVC-NIVICO**

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

**5501**

AM/FM stereo tuner/amplifier. Variable tuning.



*Klinger KC96*

Range: FM, MW, LW. Output: 10W RMS per channel (sockets for two pairs of speakers). Loudness control. Stereo decoder fitted. Price: £108.35 (including VAT).

**5521**

AM/FM stereo tuner/amplifier. Variable tuning. Range: FM, MW, LW. Stereo decoder fitted. Output: 25W RMS per channel. Stereo beacon. Special sound effect amplifier (SEA) tone control system. Price: £172.70 (including VAT).

**4MM1000**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 10W per channel (four channels). Stereo decoder fitted. Two-channel to four-channel synthesis. Price: £161.15 (including VAT).

**4VR1006**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 10W RMS per channel (four channels). Stereo decoder fitted. Discrete and matrix four-channel decoders fitted. Price: £229.35 (including VAT).

**4VR-5414**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 15W RMS per channel (four channels). Stereo and four-channel decoders fitted. Special sound effect amplifier (SEA) tone control system. Price: £229.35 (including VAT).

**4VR5445**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 21W RMS per channel (four channels). Special sound effect amplifier (SEA) tone control system. Stereo and four-channel decoders fitted. Price: £308 (including VAT).

**KLINGER**

Klinger Controls Ltd, Spencer Court, 7 Chalcot Road, London, NW1 8LU. Tel: 01-586 2922/3.

**KC96 ★**

FM stereo tuner/amplifier. Range: 87.5-108 MHz. Five preset stations. Switchable AFC. Usable sensitivity:  $2\mu\text{V}$ . Aerial input: balanced and coaxial. Stereo decoder fitted. Circuit comprises 37 transistors, 40 diodes and one IC. Inputs: mag PU  $2\text{mV}$  47K, tape  $50\text{mV}$  220K, aux 1  $100\text{mV}$  470K, aux 2  $0.15\text{mV}$  30 ohms. Noise level: (mag PU) 60dB, (other inputs) 70

★ Indicates entry is illustrated

dB. Overload capability: 30dB. Output: 25W RMS per channel. Output impedance: 8 ohms. Tone controls: bass  $\pm 15$ dB, treble  $\pm 15$ dB, scratch filter 18dB/octave from 8kHz, rumble filter 12dB/octave from 80Hz. Full range balance control. HD: 0.1% at 20W. FR: 35Hz-35kHz  $\pm 2$ dB at 20W. Stabilised power supply. Two pairs of switched speaker sockets. Two outlets for stereo headphones. Direct and switched mains outlets. Finish: teak with diecast enamelled sides. Size:  $21 \times 4\frac{1}{2} \times 8$ in. Price: £82.20 (plus VAT).

#### ■ KORTING

Europa Electronics Ltd, 9 Howard Place, Shelton, Stoke-on-Trent, S11 4NW.  
Tel: Stoke-on-Trent (0782) 29316.

#### 3101

AM/FM stereo tuner/amplifier. Range: VHF, LW, MW, SW. AFC. 17 transistors, seven diodes, two ICs. Slider controls and push-buttons. Output: 5W per channel into 4 ohms. Full specification on request. Price: £68.20 (including VAT).

#### 4101

AM/FM stereo tuner/amplifier. Range: VHF, LW, MW, SW. AFC. 26 transistors, two ICs, eight diodes. Variable tuning plus five preset stations. Slider controls plus push-buttons. Stereo decoder with beacon. Output: 10W per channel into 4 ohms. Full specification on request. Price: £84.15 (including VAT).

#### 800L

AM/FM stereo tuner/amplifier. Range: VHF, LW, MW, SW. AFC. 43 transistors, 21 diodes, three rectifiers. Variable tuning plus six push-buttons for preset stations. Tone controls: bass  $\pm 15$ dB, treble  $\pm 15$ dB. Balance control:  $\pm 15$ dB. Stereo decoder with beacon. Output: 16W RMS per channel into 4 ohms. Full specification on request. Price: £144.92 (including VAT).

#### 1600L

AM/FM stereo tuner/amplifier. Range: VHF, LW, MW, SW. 59 transistors, 25 diodes, three rectifiers. 24 pushbutton controls plus five sliders and two rotary knobs. AFC. Variable tuning plus five preset stations. Tuning indicator. Stereo decoder with beacon. Tone controls: bass  $\pm 15$ dB, treble  $\pm 18$ dB. Output: 40W RMS per channel. Full specification on request. Price: £207.35 (including VAT).

#### ■ KOYO

Distributors: Kingsway Mills Ltd, 5 Worship Street, London, EC2.  
Tel: 01-628 6157.

#### FS-900

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz. MW 187-556m. Variable tuning.

AFC. Inputs: pickup jack socket, tape recorder socket. Sensitivity: FM  $3\mu\text{V}$ , AM  $100\mu\text{V}$ . Output: 10W per channel. Stereo decoder included, with beacon. Slide rule tuning scale. Slider controls for bass, treble, volume and balance. Size:  $17\frac{3}{8} \times 4\frac{3}{4} \times 9\frac{7}{8}$ in. Finish: walnut end panels with leather finish top. AC mains. 29 transistors, 1 diode. Price: to be announced.

#### ■ THOMAS LANEY AUDIO

(Formerly HiSound) Electronic Manufacturing Co (UK) Ltd, Devonshire House, High Street, Deritend, Birmingham, B12 0LP.  
Tel: 021-772 3669/7145.

#### TLA200

FM stereo tuner/amplifier. Range: FM 87.5-108MHz. Variable tuning plus five presets. Switchable AFC. Aerial input: 75 ohms coaxial, 240 ohms balanced twin. Sensitivity:  $2\mu\text{V}$  for 30dB quieting. Limiting complete at  $5\mu\text{V}$ . Stereo decoder fitted. Capture ratio: 1.5dB. Inputs: mag PU 2mV 47K, aux 100mV 100K. S/N ratio: (PU input) 65dB, (aux) 70dB. Overload capability: (PU input) 100mV, (aux) 1V. Controls: bass  $\pm 12$ dB at 40Hz, treble  $\pm 12$ dB at 10kHz, filter 12dB/octave at 4kHz, 7kHz and 10kHz, balance, volume, input selector. Bass, treble and balance controls are sliders with centre 'click' position. Output: 50W RMS per channel into 4 ohms, 30W RMS per channel into 8 ohms. HD:  $<0.1\%$  (typically  $<0.02\%$ ) 35Hz-20kHz. Power bandwidth: 20Hz-40kHz  $+0$ dB  $-3$ dB. Mains: 110, 120, 130, 220, 230, 240V AC. Two AC outlets (one switched). Two headphone jack sockets behind flap on front panel. Quiet tuning facility. Output fully protected against any load condition. Details of cabinet finish and size not available as this edition of the Year Book closed for press. Price: to be announced.

#### ■ LEAK

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### Delta 75 ★

AM/FM solid state tuner/amplifier. Range: FM 87.5-108MHz; MW 187-556m. Variable tuning. Aux tape (2). Inputs: tape and aux 100mV 50K, mag PU 3.5mV, ceramic PU 20mV 33K. Stereo beacon. Controls: waveband selectors, tuning, volume, on/off, balance, treble, bass, push-buttons for filter, loudness, tape, aux, disc, radio, mono, quasi stereo, mute and AFC. Output: 35W RMS into 8 ohms, 40W RMS into 4 ohms. HD: (8 ohms) less than 0.07%, (4 ohms)  $<0.14\%$ , (15 ohms)  $<0.05\%$ . FM: stereo crosstalk better than 35dB at 1kHz. Headphone socket. Will drive two pairs of speakers. Finish: teak or walnut. Size:  $16\frac{3}{8} \times 4\frac{3}{4} \times 12\frac{1}{4}$ in. Price: £163.83 (including VAT).



Leak Delta 75



Lux FQ990



Lux R800

## ■ LUX

Distributors: Howland-West Ltd.  
3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293/4/5.

### FQ990 ★

AM/FM stereo tuner/amplifier. Range: FM 87.5-108.5MHz, MW 187-572m. Variable tuning plus preset stations on FM. AFC. Centre-zero tuning meter. Usable sensitivity: FM 2 $\mu$ V, MW 18 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder included. Inputs: mag PU 2mV 50K, PU (2) 10mV 50K, aux 100mV 100K, tape 100mV 100K, tape head (3 $\frac{1}{2}$ i/s) 1.8mV 100K, tape head (7 $\frac{1}{2}$ i/s) 2mV 100K. Noise level. PU inputs -60dB, tape head inputs -55dB, aux input -75dB. Overload capability: mag PU and tape head 130mV, aux 5V. Controls: mode switch, tape monitor, noise

level, volume, loudness, main or remote speakers, slope selector bass, slope selector treble, three FM preset buttons. HD: 0.1%. Output: 70W RMS per channel. Output impedance: 8 ohms. FR: 10Hz-40kHz. Size: 18 $\frac{1}{2}$  × 13 $\frac{1}{2}$  × 6in. Price: £258 (plus £25.80 VAT).

### R800 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-540m. Variable tuning. AFC. Signal strength meter and centre-zero tuning meter. Usable sensitivity: FM 1.8 $\mu$ V, MW 200 $\mu$ V. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Inputs: mag PU (2), aux (2), tape (2), mic (2). Noise level: (mic) 60dB, (PU) 65dB, (other inputs) 80dB. Overload capability: (PU) 130mV. Output: 40W RMS per channel. Controls: treble  $\pm$ 10dB at 10kHz, bass  $\pm$ 10dB at 300Hz, low cut 20Hz-70Hz 6dB/octave, high cut 6kHz-12kHz 6dB/octave. HD: <1% at 40W. Output impedance: 8 ohms. FR: 10Hz-40kHz  $\pm$ 1dB. Mains: 100, 120, 220, 240V 50-60Hz. Finish: rosewood cabinet with champagne panel. Price: £225 (including VAT).

## ■ LUXOR (Luxor Industri Aktiebolag)

Hightgate Acoustics,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

### Luxor 3411-FM

FM tuner/amplifier. Range: FM 87-104.5MHz. Five preset stations. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: 3 $\mu$ V. Aerial input: 120 ohms coaxial, 240 ohms balanced. Stereo decoder optional extra. 28 transistors. Inputs: mag PU 4mV 47K, crystal PU 150mV 1.8M, tape (high) 70mV 47K, tape (low) 250mV 47K. Output: 15W RMS per channel. Output impedance: 4 ohms. Controls: volume, bass and treble, plus pushbuttons for contour, mono/stereo, headphones, function, AFC. HD: 0.4% at 15W. FR: 30Hz-25kHz  $\pm$ 1.5dB. Mains: 120, 220, 240V AC. Size: 20 $\frac{1}{2}$  × 3 $\frac{1}{4}$  × 10 $\frac{1}{4}$ in. Finish: teak, rosewood or black, with brushed aluminium trim. Price: £77.75 (plus VAT).

### Luxor 3412

FM tuner/amplifier. Range: 87-107MHz. Six preset stations. Ratio detector. Meter tuning indicator. Usable sensitivity: 2 $\mu$ V. Aerial input: 120 ohms coaxial, 240 ohms balanced. Inputs: mag PU 4mV 47K, crystal PU 130mV 1M, tape (high) 65mV 400K, tape (low) 350mV 400K, microphone 3mV 40K, aux 250mV 100K. H and N: mag PU and tape inputs 56dB, other inputs 60dB. Output: 30W RMS per channel. Output impedance: 4 ohms. 24 transistors in amplifier. Controls: separate right- and left-channel volume control sliders, bass slider  $\pm$ 18dB at 50Hz, treble slider  $\pm$ 16dB at 20kHz, rumble filter

★ Indicates entry is illustrated

-12dB at 20Hz, scratch filter -20dB at 20kHz, mid-range cut switch, pushbutton speaker switches, pushbutton headphone switch. HD: 0.5% at 30W RMS. FR: 20Hz-20kHz  $\pm$  1.5dB. Two VU meters indicating output level of each channel. Mains: 120, 220, 240V AC. Size: 25 x 4 $\frac{3}{8}$  x 10 $\frac{3}{8}$  in. Finish: teak, rosewood or black, with chrome trim. Each preset tuning button incorporates window indicating frequency tuned. Price: £125 (plus VAT).

#### ■ MARANTZ

Pyscr-Britex (Swift) Ltd.  
Fircroft Way, Edenbridge, Kent.  
Tel: Edenbridge (0732-71) 4111.

#### Model 19 ★

Stereo FM tuner/amplifier. Range: 88-108MHz. Variable tuning with gyro control. Oscilloscope tuning indicator. Sensitivity: (1HF) 1.8 $\mu$ V or better. Separation: 40dB at 20Hz, 30dB at 15kHz. Capture ratio: 3.5dB. HD: 0.15%. 19kHz and 38kHz suppression: better than 60dB. Aerial impedance: 300 ohms balanced, 75 ohms coaxial. Inputs: PU 1mV 47K, aux 100mV 100K. Output: 50W RMS per channel into 8 ohms, 30W per channel into 16 ohms. HD: <0.15% (typically <0.06%). FR: 20Hz-20kHz  $\pm$  0.5dB. Tone controls: bass  $\pm$  10dB at 100Hz, treble  $\pm$  10dB at 10kHz. High filter: 12dB/octave at 7kHz. Low filter: 12dB/octave at 70Hz. Mains: 220V AC. Size: 18 $\frac{1}{4}$  x 5 $\frac{3}{4}$  x 16in. Weight: 46lb. Finish: walnut. Price: £725 (plus £72.50 VAT).

#### Model 2010 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-555m. Variable tuning with 'Gyro touch'. AFC not necessary. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2.6 $\mu$ V, MW 25 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced twin. Stereo decoder fitted. Stereo beacon. Inputs: mag PU 2.2mV 47K, high level 150mV 120K, radio, aux. Overload capability: (PU input) 100mV. Output: 10W RMS per channel into 4 or 8 ohms. Controls: treble  $\pm$  12dB at 15kHz, bass  $\pm$  12dB at 50Hz, balance, tuning. Pushbuttons for tape monitor, FM quieting tuning, loudness, remote/main speakers. Headphone jack socket. HD: 0.3%. FR: 20Hz-20kHz  $\pm$  1.5dB at 1W. Mains: 110, 220, 240V AC. Size: 14 $\frac{1}{2}$  x 4 $\frac{3}{4}$  x 12in. Finish: walnut, teak or white (cabinet optional) or simulated walnut metal chassis. Front panel cold anodised. Price: £110 (plus £11 VAT).

#### Model 2220 ★

Stereo AM/FM tuner/amplifier. FM 88-108 MHz, MW 187-555m. Variable tuning. Ratio detector. Tuning meter. Usable sensitivity: AM 26 $\mu$ V, FM 2.0 $\mu$ V for 30dB quieting. Aerial input: 300 ohms balanced, 75 ohms coaxial.



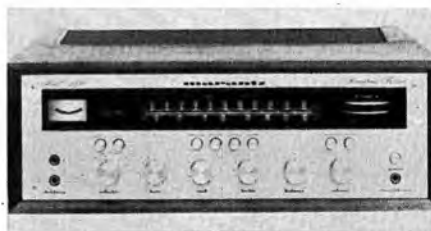
Marantz 19



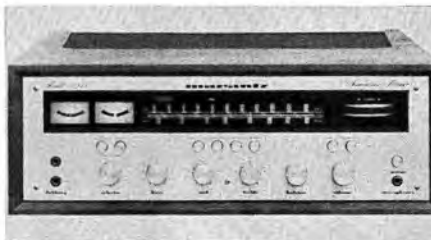
Marantz 2010



Marantz 2220



Marantz 2230



Marantz 2245

Stereo decoder included. 56 transistors and one IC. Inputs: PU 2.1mV 47K, mic 2.1mV, aux 150mV. Output: 20W RMS per channel (both channels driven) into 8 ohms. Tone controls: bass  $\pm 12$ dB at 50Hz, treble  $\pm 12$ dB at 15kHz. HD: 0.3% 20Hz-20kHz. Size:  $16\frac{7}{8} \times 5 \times 14$ in. Gold anodised front panel. Price: £145 (plus £14.50 VAT).

#### Model 2230 ★

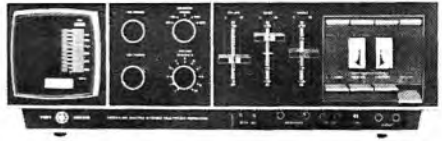
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-555m. Variable tuning. Ratio detector. Tuning meter. Usable sensitivity: AM  $20\mu\text{V}$ , FM  $2\mu\text{V}$  for 30dB quieting. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. 68 transistors plus one IC. Impedance: PU 1.8mV 47K, mic 1.8mV, aux 180mV. Noise level: (PU input) -96dB. Output: 30W RMS per channel, both channels driven. Output impedance: 8 ohms. Tone controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 15$ dB at 15kHz, middle  $\pm 6$ dB at 700Hz. HD:  $< 0.5\%$  40Hz-20kHz. FR: 20Hz-20kHz  $\pm 0.5$ dB. Size:  $16\frac{7}{8} \times 5 \times 14$ in. Finish: gold anodised front panel. Price: £185 (plus £18.50 VAT).

#### Model 2245 ★

AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 187-555m. Variable tuning. Ratio detector. Tuning meter and signal strength meter. Usable sensitivity: AM  $20\mu\text{V}$ , FM  $1.7\mu\text{V}$  for 30dB quieting. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. 87 transistors plus one IC. Inputs: mag PU 1.8mV 47K, mic 1.8mV, aux 180mV. Noise level: PU input -96dB. Output: 47W per channel RMS into 4 and 8 ohms, both channels driven. Output impedance: 8 ohms. Tone controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 15$ dB at 15kHz, middle  $\pm 6$ dB at 700Hz. HD:  $< 0.3\%$ . FR: 7Hz-70kHz for 0.3% THD. Size:  $16\frac{7}{8} \times 5 \times 14$ in. Finish: gold anodised front panel. Price: £225 (plus £22.50 VAT).

#### Model 2270

AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 187-555m. Variable tuning. Ratio detector. Signal strength meter and tuning meter. Usable sensitivity: AM  $20\mu\text{V}$ , FM  $1.7\mu\text{V}$  for 30dB quieting. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. 87 transistors and one IC. Inputs: mag PU 1.8mV 47K, mic 1.8mV, aux 180mV. Noise level: -96dB. Output: 70W per channel RMS into 8 ohms, both channels driven. Output impedance: 8 ohms. Tone controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 15$ dB at 15kHz, middle  $\pm 6$ dB at 700Hz. HD:  $< 0.3\%$ . FR: 20Hz-20kHz  $\pm 0.25$ dB. Size:  $16\frac{7}{8} \times 5 \times 14$ in. Finish: gold anodised front panel. Price: £275 (plus £27.50 VAT).



Nikko ST1101

#### ■ MITSUBISHI

Mitsubishi Corporation, Bow Bells House, Bread Street, London, EC4. Tel: 01-248 3292.

#### DA-R400

AM/FM stereo four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-572m. Usable sensitivity: FM  $2\mu\text{V}$ , MW  $18\mu\text{V}$ . Capture ratio: 2dB. Inputs: mag PU 2.5mV 50K, aux 150mV 50K, discrete 150mV 50K. Tone controls: bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz. Output: 40W RMS into 8 ohms. HD:  $< 1\%$  at 1kHz at rated output. Power bandwidth: 30Hz-25kHz. Stereo decoder comprises regular matrix (RM) and stereo-quad (SQ) suitable for both types of four-channel signal. Additional demodulator allows CD-4 reproduction. Facilities for four-channel discrete tape reproduction. Input-mixing microphone circuit. Size:  $19\frac{1}{2} \times 5\frac{1}{8} \times 15$ in. Weight: 28 $\frac{1}{2}$ lb. Price: to be announced.

#### ■ NATIONAL PANASONIC (UK) LTD

Whitby Road, Trading Estate, Slough, Bucks. Tel: Slough 34522.

#### SA5200

AM/FM stereo tuner/amplifier. Full specification on request. Price: £119.95 (including VAT).

#### SA4400

AM/FM stereo tuner/amplifier. Full specification on request. Price: £154.50 (including VAT).

#### SA5800

AM/FM stereo tuner/amplifier. Full specification on request. Price: £169.50 (including VAT).

#### SA6400X

AM/FM stereo four-channel tuner/amplifier. Full specification on request. Price: £255 (including VAT).

#### SA6800X

AM/FM stereo four-channel tuner/amplifier. Full specification on request. Price: £339.95 (including VAT).

#### ■ NIKKO ELECTRIC MFG CO LTD

Distributors: Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

#### Nikko STA-1101 ★

Stereo transistorised tuner/amplifier. Range:



★ Indicates entry is illustrated



Nikko STA-6010



Nikko STA7070



Nikko STA8080



Nikko STA-9010

88-108MHz and 187-560m. Variable tuning. Meter tuning indicator. Sensitivity (for 20dB quieting): 1.5µV. Stereo decoder fitted. AFC. Output: 37W per channel at 0.3% distortion. FR (±1dB): 10Hz-70kHz. Output impedance: 4-16 ohms. Inputs: gram 2mV 50K, tape 200mV 100K, mic 2mV 100K. Controls: FM tuning, AM tuning, function, volume, loudness, balance, bass, treble, remote speaker selector, remote speaker volume control. Includes six FETs and twelve ICs. Size: 18½ × 14¾ × 6½ in. Mains: 120, 220, 240V AC. Price: £232 (plus £23.20 VAT).

**STA-6010 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-556m. Variable tuning. Meter tuning indicator. Usable sensitivity: FM 1.8µV, MW 150µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder included. Inputs: mag PU 2.8mV 50K, tape head 1.8mV 200K, aux (1) 150mV 250K, aux (2) 750mV 1M, tape monitor 200mV 100K. Noise level: tape head input 55dB, mag PU 60dB, other inputs < 65dB. Output: 18W RMS per channel. Output impedance: 8 ohms. Tone controls: bass ±13dB at 70Hz, treble ±13dB at 10kHz, low filter -5dB at 70Hz, high filter -8dB at 10kHz. HD: 0.8%. FR: 20Hz-30kHz

±1dB. Mains: 100, 120, 220, 240V AC. Size: 15¼ × 12¾ × 4½ in. Price: £110 (plus £11 VAT).

**STA-8010**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-556m. Variable tuning. Meter tuning indicator. Usable sensitivity: FM 1.8µV, MW 150µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder included. Inputs: mag PU 2.8mV 50K, aux (1), 150mV 250K, aux (2) 750mV 100K, tape head 1.8mV 250K, tape monitor 200mV 100K. Output: 26W RMS per channel. Output impedance: 8 ohms. Tone controls: bass ±13dB at 70Hz, treble ±13dB at 10kHz, loudness +13dB at 70Hz + 9dB at 10kHz. Low and high filters. HD: 0.8%. FR: 20Hz-30kHz ±1dB. Size: 15¼ × 12¾ × 4½ in. Mains: 100, 120, 220, 240V AC. Price: £127 (plus £12.70 VAT).

**STA-9010 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-556m. Variable tuning. Meter tuning indicator. Usable sensitivity: FM 1.5µV, MW 150µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder included. Inputs: mag PU 2.5mV 50K, mic input 2.5mV 50K, aux 240mV 200K, tape 240mV 200K. Noise level: mag PU and mic inputs

$\pm 65$ dB, other inputs  $\pm 80$ dB. Output: 45W per channel RMS. Output impedance: 8 ohms. Controls: sliders for bass, treble, balance and volume. Low and high filters. Mains and remote speaker switch. HD: 0.5%. FR: 20Hz-40kHz  $\pm 1$ dB. Mains: 100, 120, 220, 240V AC. Size:  $16\frac{1}{2} \times 13\frac{1}{2} \times 5$ in. Price: £150 (plus £15 VAT).

#### STA-5010

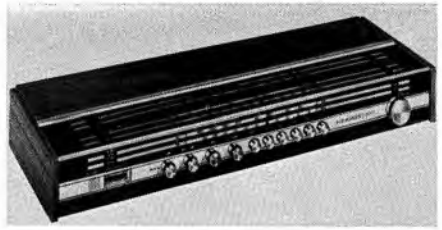
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-556m. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity: FM: 2.5 $\mu$ V, MW 250 $\mu$ V. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. 57 transistors. Inputs: mag PU 2mV 50K, aux 140mV 100K; tape 200mV 60K. Noise level: (mag PU input) -60dB, (other inputs) -70dB. Output: 26W RMS per channel into 8 ohms. Controls: bass, treble, balance, mono/stereo, FM muting, volume, input selector, tape, speaker switching. HD: 0.1% at 1W, 0.8% at rated output. Output impedance: 8 ohms. FR: 10Hz-50kHz  $\pm 1$ dB. Mains: 120, 220, 240V 50-60Hz. Size:  $17\frac{3}{4} \times 15 \times 5\frac{3}{4}$ in. Finish: wood cabinet with metal trim. Tape dubbing or dual recording facility provided. Price: £115.50 (including VAT).

#### STA-7070 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-556m. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity: FM 2 $\mu$ V, MW 150 $\mu$ V. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. 76 transistors. Inputs: mag PU (2) 2.2mV 50K, aux 1 160mV 100K, aux 2 320mV 120K, tape (2) 160mV 100K. Noise level: (mag PU input) -65dB, (other inputs) -80dB. Output: 40W RMS per channel into 8 ohms. Controls: bass  $\pm 10$ dB at 70Hz, treble  $\pm 10$ dB at 10kHz, loudness +9dB at 70Hz+5.5dB at 10kHz, speaker switch (A, A+B, B), balance, mono/stereo, FM muting, low filter -8dB at 70Hz, high filter -7dB at 10kHz, tape/dubbing. HD: 0.1% at 1W, 0.5% at rated output. Output impedance: 8 ohms. FR: 10Hz-50kHz  $\pm 1$ dB. Mains: 120, 220, 240V 50-60Hz. Size:  $18 \times 14\frac{3}{4} \times 5\frac{3}{4}$ in. Finish: wood cabinet and metal trim. Price: £143 (including VAT).

#### STA-8080 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-556m. Variable tuning. AFC. One signal strength meter, one centre-zero tuning meter. Usable sensitivity: FM 2 $\mu$ V, MW 150 $\mu$ V. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. 78 transistors. Inputs: mag PU (2) 2.2mV 50K, aux 1 160mV 100K, aux 2 320mV 120K, tape 160mV 100K. Output: 55W RMS per channel. Controls: bass +10dB at 70Hz, treble  $\pm 10$ dB at 10kHz, loudness -9dB at 70Hz +5.5dB at



Nordmende 5003ST

10kHz, speaker switch (A, A+B, B), balance, mono/stereo, FM muting, low filter -8dB at 70Hz, high filter -7dB at 10kHz, tape/dubbing. HD: 0.1% at 1W, 0.5% at rated output. Output impedance: 8 ohms. FR: 10Hz-50kHz  $\pm 1$ dB. Mains: 120, 220, 240V 50-60Hz. Size:  $18 \times 14\frac{3}{4} \times 5\frac{3}{4}$ in. Finish: wood cabinet with metal trim. Price: £158.40 (including VAT).

#### ■ NORDMENDE

Importer and main distributor: H. Vesshof and Co Ltd (Vessco Vision and Radio), 62 Woodbridge Road, Guildford, Surrey, GU1 4RD. Tel: 0483 77877.

Northern Distributors: TAK Continental Importers, 16a High Street, Stone, Staffordshire. Tel: Stone 3232, 3233.

#### 5003ST ★

Stereo tuner/amplifier only 3in high. Ranges: FM/VHF, LW, MW and 49 metre band. Electronic mono/stereo switching with indicator, ICs, ceramic IF filters, panoramic scale. Output: 2 $\frac{1}{2}$ W RMS per channel. Finishes: walnut, teak, elm or Rio rosewood. Dimensions:  $22 \times 8 \times 5$ in approx. Full specification and price on request.

#### 5005ST

AM/FM stereo tuner/amplifier. Range: VHF, LW, MW, 49m band. 20 transistors, 20 diodes, one rectifier. Output: 14W peak per channel. Finish: walnut. Full specification and price on request.

#### ■ ONKYO

J. Parkar & Co (London) Ltd, Parkar House, 1 Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.

#### Integra 225 ★

AM/FM stereo tuner/amplifier incorporating IC in decoder stage, four-gang tuning, six-element ceramic IF filter and four-stage limiter. Range: FM 88-108MHz, MW 187-565m. Variable tuning. Sensitivity: FM 2 $\mu$ V, MW 40 $\mu$ V. S/N ratio: FM 65dB, MW 45dB. Stereo decoder

★ Indicates entry is illustrated

with auto switching. Stereo beacon. Tuning meter. Quiet tuning facility on FM. Inputs: PU 2mV 50K, aux 100mV 100K. Tone controls: bass +14dB -18dB at 20Hz, treble +11dB -14dB at 20kHz, low filter -6dB/octave from 70Hz, high filter -6dB/octave from 7kHz. Output: 22W RMS per channel. Output impedance: 4-16 ohms. Outlets for headphones and AC mains. FR: 15Hz-30kHz  $\pm$  1dB. HD: <0.3% at rated output. H and N: better than 70dB on PU input, better than 85dB on aux input. Mains: 100-110V or 220-240V 50-60Hz. 50-60Hz. Size: 17 $\frac{1}{4}$   $\times$  5 $\frac{3}{8}$   $\times$  13 $\frac{1}{2}$  in. Weight: 22 $\frac{1}{8}$  lb. Price: £156.39 (including VAT).

### Y3A

AM/FM stereo and four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-568m. Variable tuning. Meter tuning indicator. Usable sensitivity: FM 2 $\mu$ V for 30dB signal-to-noise, AM 12 $\mu$ V for 20dB signal-to-noise. Stereo decoder fitted. Output: 20W RMS per channel (stereo); 12W RMS per channel (quadraphonic). Mains: 110, 120, 220, 240V 50-60Hz. Size: 20  $\times$  5 $\frac{3}{8}$   $\times$  13 $\frac{3}{8}$  in. Finish: walnut. Microphone mixing. Four-channel matrix system. Discrete four-channel tape input. Price: £133.52 (including VAT).

## ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue,  
London, WC2H 8AS. Tel: 01-437 7777.

### RH702

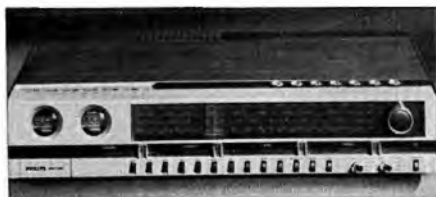
AM/FM stereo tuner/amplifier. Range: FM 87.5-104MHz, MW 211-577m, 187-214m, LW 882-2000m, SW 30.7-50.4m. Variable tuning on AM bands, variable tuning plus five preset buttons on FM. Meter tuning indicator. Sensitivity: (FM) 6 $\mu$ V for 26dB S/N across 300 ohms, (AM) 80 $\mu$ V for 26dB S/N. Stereo decoder fitted. Stereo beacon. Output: 15W RMS per channel into 4 ohms. HD: <1% for 12W output. FR: 20Hz-20kHz  $\pm$  1dB. S/N: -50dB. Inputs: mag PU 1.1mV 50K, mic 0.5mV 2K, tape 220mV 500K. Switched headphone outlet socket. Controls: volume (adjusted for physiology), bass  $\pm$  15dB at 50Hz, treble  $\pm$  14dB at 10kHz, balance 0 to 20dB per channel (all controls with thermometer type scales). Finish: walnut veneer. Size: 22 $\frac{1}{4}$   $\times$  4 $\frac{1}{2}$   $\times$  9 in. Mains: 110, 127, 220, 240V AC 50-60Hz. Price: £90.38 (including VAT).

### RH720 ★

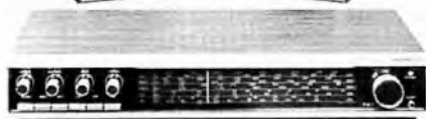
AM/FM stereo tuner/amplifier. Range: FM 87.5-104MHz, MW 187-577m, LW 857-2000m, SW 16.7-50.4m. Variable tuning plus six presets with touch controls. Switchable AFC. Ratio detector. Moving coil tuning meter. Usable sensitivity: FM 2 $\mu$ V for 26dB quieting, AM 150 $\mu$ V for 26dB S/N ratio. Aerial input: 300 ohms balanced. Stereo decoder fitted. Silent tuning



Onkyo Integra 225



Philips RH720



Philips RH 901



Pioneer SX2500



Pioneer SX9000

facility on FM. 75 transistors plus two ICs. Inputs: mag PU 2mV 50K, crystal PU 60mV 100K, tape 250mV 100K, mic 1mV 2K. Output: 30W RMS per channel. Output impedance: 4 ohms. Tone controls: bass  $\pm 14$ dB at 50Hz, treble  $\pm 15$ dB at 10kHz. Two-position loudness control. HD:  $< 0.1\%$  at 20W per channel. FR: 15Hz-40kHz  $+ 0.5$ dB  $- 3$ dB. Mains: 110, 127, 220, 240V AC. Size:  $2\frac{1}{4} \times 4\frac{3}{4} \times 1\frac{1}{2}$ in. Finish: walnut veneer cabinet, brushed aluminium fascia. Socket outlet for headphones. Scratch filter. Price: £202.41 (including VAT).

**RH901 ★**

AM/FM stereo tuner/amplifier. Ranges: FM 87.5-104MHz, MW 214-577m, MW bandspread 182-214m, LW 870-2000m, SW 30.7-50.4m. Variable tuning. AFC. Ratio detector. Usable sensitivity: FM  $7\mu$ V for 26dB quieting, AM  $70\mu$ V for 26dB S/N ratio. Aerial input: 300 ohms balanced. Stereo decoder fitted. 25 transistors. Inputs: ceramic PU 210mV 350K, tape 400mV 500K. Noise level:  $-50$ dB. Output: 8W RMS per channel. Tone controls: bass  $\pm 9$ dB at 100 Hz, treble  $\pm 8$ dB at 10kHz. HD:  $< 2\%$  at 1kHz at 4.5W output per channel. Output impedance: 4 ohms. FR: 45Hz-20kHz  $\pm 3$ dB. Mains: 110, 127, 220, 240V AC. Size:  $20 \pm 3\frac{1}{4} \times 8\frac{3}{4}$ in. Finish: simulated walnut veneer. Price: (including two RH421 speakers) £87.27 (including VAT).

**■ PIONEER**

Distributors: Shiro (UK) Ltd,  
42 Russell Square, London, WC1B 5DF.  
Tel: 01-580 6996.

**SX2500 ★**

AM/FM stereo tuner/amplifier. Range: 87.5-108MHz, MW 187-562m. Variable and preset tuning. Two tuning meters. Sensitivity:  $1.6\mu$ V for 20dB quieting. Aerial input: 300 ohms balanced. Output from preamplifier: 1V. Stereo decoder fitted. AFC. Automatic tuning on AM and FM, also remote control for auto-tuning. Five ICs. Two crystal filters. Multiplex noise filter. Preset stations on FM stereo and local radio. Inputs: magnetic PU 2.7mV 50K, ceramic PU 60mV 100K, aux (2) 200mV 100K, tape (2) 200mV 100K. Noise level (magnetic PU) better than 80dB; (other inputs) 100dB. Controls: bass  $+12$ dB  $-9$ dB at 100Hz, treble  $+9$ dB  $-12$  dB at 10kHz, loudness  $+13$ dB at 50Hz,  $+6$ dB at 10kHz, low filter  $-8$ dB at 50Hz, high filter  $-10$ dB at 10kHz. Output: 84W RMS per channel into 8 ohms. HD:  $< 0.5\%$ . FR: 20Hz-70kHz  $\pm 2$ dB. Output impedance: 4-16 ohms. Mains: 110, 117, 130, 220, 240V AC. Size:  $19\frac{1}{8} \times 5\frac{3}{4} \times 15\frac{1}{8}$ in. Price: £337.47 (plus VAT).

**SX9000 ★**

AM/FM stereo tuner/amplifier. Range: FM

87.5-108MHz, 187-562m. Variable tuning. Two tuning meters. Sensitivity:  $1.6\mu$ V for 20dB quieting. Aerial input: 300 ohms balanced. Output of preamplifier: 1V. Stereo decoder fitted. AFC. FET front end. Four ICs in IF amplifier section. Inputs: magnetic PU (2) 2.5mV 50K, tape (2) 160mV 50K, aux (2) 160mV 50K, mic (2) 1.6mV 65K. Noise level: PU inputs better than 80dB, other inputs better than 100dB. Controls: bass  $+12.5$ dB  $-14$ dB at 100Hz, treble  $+9$ dB  $-11$ dB at 10kHz, loudness  $+12$ dB at 50Hz,  $+7$ dB at 10kHz, low filter  $-6$ dB at 50Hz, high filter  $-12$ dB at 10kHz. Reverberation time: 0-2 sec. Output: 62W RMS into 8 ohms. HD:  $< 0.5\%$ . FR: 10Hz-35kHz  $\pm 1$ dB. Output impedance: 4-16 ohms. Separate reverberation amplifier. Special tone colour selector. Combination of speaker switching. Microphone mixing on mono and stereo. Headphone socket. Mains: 110, 117, 130, 220, 240V AC. Size:  $20\frac{3}{8} \times 7\frac{3}{8} \times 13\frac{3}{8}$ in. Price: £303.26 (plus VAT).

**SX6000**

Full details of specification not obtainable at time of going to press. Price: £221.44 (plus VAT).

**SX828**

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-562m. Sensitivity: FM  $1.7\mu$ V, MW  $10\mu$ V. Power: 75W RMS per channel into 4 ohms. HD:  $0.5\%$ . FR: 5Hz-80kHz  $\pm 1$ dB. Inputs: mag PU 2.7mV 50K, mic 2.6mV 50K, tape 200mV 100K, aux 200mV 100K. Tone controls: bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz, low filter  $-3$ dB at 50Hz, high filter  $-3$ dB at 100kHz. 57 transistors, 38 diodes, 4 FETs. Price: £285.22 (plus VAT).

**SX626**

AM/FM stereo tuner/amplifier. Range: 87.5-108MHz, MW 187-562m. Variable tuning. Sensitivity: FM  $2\mu$ V, MW  $10\mu$ V. 41 transistors, 22 diodes, four ICs, four FETs. Meter tuning indicator. Switchable quiet tuning facility. Output: 40W RMS per channel into 4 ohms. HD:  $< 1\%$ . FR: 5Hz-80kHz  $\pm 1$ dB. Inputs: mag PU (2) 2.5mV 45K, mic 2.2mV 22K, aux 200mV 100K, tape 200mV 70K. AC mains. Price: £184.74 (plus VAT).

**SX727**

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-562m. Variable tuning. Sensitivity: FM  $1.8\mu$ V, MW  $10\mu$ V. 56 transistors, 37 diodes, four ICs, four FETs. Two tuning meters (one centre zero). Switchable quiet tuning facility. Inputs: mag PU (2) 3mV 50K, mic 2.7mV 50K, aux 200mV 100K, tape 200mV 100K. Output: 69W RMS per channel into 4 ohms. HD:  $< 0.5\%$  at rated output. FR: 7Hz-80kHz  $\pm 1$ dB. Output impedance: 4-16 ohms. AC mains. Price: £222.39 (plus VAT).



Rogers Ravensbrook



Rotel RX400A



Rotel RX150A



Rotel RX800A

### SX525

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-562m. Variable tuning. Sensitivity: FM 2.2µV, MW 15µV. Meter tuning indicator. Switchable quiet tuning facility. Output: 21W RMS per channel into 4 ohms. HD: <1% at rated output. FR: 15Hz-30kHz ± 1dB. Output impedance: 4-16 ohms. Inputs: mag PU 2.7mV 50K, mic 6mV 100K, aux 200 mV 70K, tape 1.2-200mV 70K. AC mains. Price: £134.87 (plus VAT).

### LX440

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-562m, LW 860-2000m. Variable tuning. Meter indicator. Sensitivity: 2.5µV for 20dB quieting. Aerial input: 300 ohms balanced. Output: 1V. Stereo decoder fitted. AFC. FET front end. Inputs: magnetic PU 3.6mV, tape 200mV, aux 160mV. Noise level: PU better than 75dB, other inputs better than 85dB. Controls: bass +13dB-11dB at 50Hz, treble +9.5dB-10dB at 10kHz, loudness +12 dB at 50Hz, +6dB at 10kHz. Power output: 12W RMS per channel into 8 ohms. HD: <1% at rated output. FR: 20Hz-70kHz ± 3dB. Output impedance: 4-16 ohms. Connections and switching for two separate speaker systems. Mains: 110, 117, 130, 220 and 240V AC. Size: 16 × 5½ × 15in. Price: £127 (plus VAT).

### ■ RGD

ITT Consumer Products (UK) Ltd,  
Maidstone Road, Sidcup, Kent, DA14 5HT.  
Tel: 01-300 7733.

### RA20

AM/FM stereo tuner/amplifier. Range: FM 87.5-104MHz, LW 1091-2041m, MW 186-588m,

SW 38.9-51.7m. Variable tuning plus four pre-sets. Switchable AFC. Stereo decoder and beacon. Stereo/mono over-ride control. Sockets for AM and FM aerials, tape record and playback, PU and speakers. Output: 8W per channel into 4.5 ohms. FR: 40Hz-20kHz 3dB. Output impedance: not less than 4 ohms. 23 transistors, 13 diodes, two ICs. Size: 19¼ × 3½ × 11½in. Weight: 11lb. Price: £82.50 (including VAT).

### ■ ROGERS DEVELOPMENTS (Electronics) LTD

4-14 Barmeston Road, Catford,  
London, SE6 3BN. Tel: 01-698 7424/4340.

### Ravensbrook ★

Integrated stereo tuner/amplifier. Range: 88-108MHz. Variable tuning. Quadrature detector. Aerial input 75 ohms coaxial and 300 ohms balanced. Phase lock loop stereo decoder. Three-gang FET front end. Dual ceramic IF filters using IC techniques. Inter-station quiet tuning. Output: 13W RMS per channel into 15 ohms, 20W RMS per channel into 8 ohms. HD: <0.1% at rated output. FR: 20Hz-50kHz -3dB. S/N: PU input -53dB. Pushbutton input selector. Controls: bass, treble, volume, balance, high filter, low filter. Tuning meter. Price: (chassis) £85.50 (plus VAT); (in cabinet) £93 (plus VAT).

### ■ ROTEL

Rank Audio Visual Ltd,  
PO Box 70, Great West Road, Brentford,  
Middlesex, TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.

**RX150A ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 188-545m. Variable tuning. Usable sensitivity: FM 5 $\mu$ V, MW 30 $\mu$ V. Meter tuning indicator. Aerial input: 300 ohms. Stereo decoder fitted. Inputs: mag PU 2.8mV 45K, ceramic PU 100mV 190K, aux 250mV 125K. Noise level: PU inputs -60dB, aux inputs -70dB. Output: 11W RMS per channel into 4 ohms. Output impedance: 4.8 ohms. Tone controls: bass +14dB-11.5dB, treble +11dB-14dB. HD: 0.35% at 30W. FR: 30Hz-20kHz at 30W. Mains: 240V AC. Size: 16 $\frac{3}{8}$  x 6 $\frac{7}{8}$  x 5 $\frac{1}{2}$  in. Weight: 10lb. Finish: wood grain. Price: £65.68 (including VAT).

**RX200A**

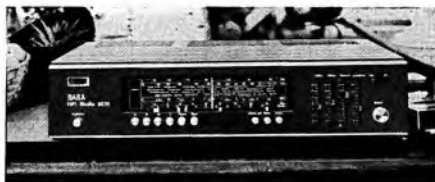
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-562m. Variable tuning. Meter indicator. Sensitivity: 3.5 $\mu$ V. Aerial input: 300 ohms balanced (can be changed to 75 ohms coaxial). Stereo decoder fitted. Inputs: mag PU 2mV 35K, crystal PU 200mV 150K, tape 250mV 13K, aux 130mV 50K. Noise level: -60dB on PU inputs, -70dB on other inputs. Output: 13W RMS per channel into 4 ohms, 10W RMS per channel into 8 ohms. Controls: bass +12dB-14dB at 50Hz, treble +13dB-12dB at 10kHz, loudness, balance, volume, tape monitor, tuning. HD: 0.2% at rated output. FR: 30Hz-20kHz-1.5dB at 10W. Output impedance: 4, 8, 16 ohms. Mains: 100, 120, 200, 240V 50-60Hz. Size: 14 $\frac{1}{4}$  x 4 x 8 $\frac{1}{4}$  in. Price: £84.10 (including VAT).

**RX400A ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-562m. Variable tuning. Meter indicator. Sensitivity: (FM) 2.5 $\mu$ V for 20dB quieting, (AM) 30 $\mu$ V. Aerial input: 300 ohms balanced (can be changed to 75 ohms coaxial). Stereo decoder fitted. FET front end. Integrated circuits. A plus B, or A and B speaker switching. Inputs: mag PU 3mV 50K, tape 400mV 15K, aux 200mV 100K. Noise level: PU -60dB, other inputs -70dB. Controls: bass +14dB-12dB at 50Hz, treble  $\pm$ 12dB at 10kHz, loudness, volume, tuning, balance, input selector. Output: 22W RMS per channel into 4 ohms, 20W RMS per channel into 8 ohms. FR: 15Hz-50kHz into 8 ohms. Output impedance: 4, 8, 16 ohms. Mains: 100, 120, 200, 240V 50-60Hz. Size: 17 $\frac{1}{8}$  x 5 x 12 $\frac{1}{2}$  in. Price: £101.01 (including VAT).

**RX600A**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 182-566m. Variable tuning. Meter signal strength indicator, centre-zero tuning meter. Sensitivity: FM 2.2 $\mu$ V. Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Inputs: mag PU (2) 2mV,



Saba Hi-Fi Studio 8035

crystal PU 100mV aux 130mV, H and N: (PU input) -67dB, (aux input) -80dB. Output: 55W RMS per channel into 4 ohms, 30W RMS per channel into 8 ohms. Tone controls: bass  $\pm$ 12dB, treble  $\pm$ 12dB. Output impedance: 4, 8, 16 ohms. HD: 0.2%. FR: 9Hz-100kHz. AC mains. Size: 17 $\frac{3}{8}$  x 5 $\frac{1}{2}$  x 21 $\frac{1}{2}$  in. Weight: 19 $\frac{1}{2}$  lb. Finish: wood cabinet with satin aluminium panel. Price: £140.01 (including VAT).

**RX800A ★**

AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 187-560m. Variable tuning. AM signal strength meter. Centre-zero FM tuning meter. Sensitivity: FM 1.7 $\mu$ V, MW 14 $\mu$ V. Stereo decoder fitted. Inputs: mag PU 2mV 45K, mag PU2 4mV 45K, aux (2) 115mV 73K, line IV 33K. H and N: (PU inputs) -65dB, (other inputs) -75dB. Output: 60W RMS per channel into 4 ohms, 40W RMS per channel into 8 ohms. Tone controls: loudness contour +10dB at 50Hz and +4dB at 10kHz, high filter -10dB at 10kHz, low filter -10dB at 50Hz, bass  $\pm$ 10dB at 50Hz, treble  $\pm$ 10dB at 10kHz. HD: <0.3% 20Hz-20kHz at 40W. Output impedance: 4, 8, 16 ohms. FR: 4Hz-75kHz-3dB. AC mains. Size: 16 $\frac{1}{2}$  x 12 x 5 $\frac{1}{2}$  in. Weight: 26lb. Finish: wood cabinet satin metal panel and trim. Price: £178.07 (including VAT).

**RX154A**

AM/FM four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. Tuning meter. Sensitivity: FM 4 $\mu$ V, MW 30 $\mu$ V. Stereo decoder fitted. Inputs: mag PU, aux. Output: 10W RMS per channel with four channels driven. Tone controls: bass  $\pm$ 12dB at 50Hz, treble  $\pm$ 12dB at 10kHz. HD: 0.5%. Output impedance: 4, 8, 16 ohms. FR: 20Hz-50kHz. AC mains. Size: 16 $\frac{3}{8}$  x 13 $\frac{3}{8}$  x 5 $\frac{1}{8}$  in. Weight: 17 $\frac{1}{4}$  lb. Finish: wood cabinet with metal front panel and knobs. Price: £121.68 (including VAT).

**■ SABA TELEVISION LTD**

6-12 Cornbrook Park Road,  
Manchester, M15 4EE. Tel: 061-872 7661.

**Hi-Fi Studio 8035 ★**

AM/FM stereo tuner/amplifier. Range: FM, LW, MW, SW. Variable tuning. Slider controls. Tuning meter. Output: 18W music power per

★ Indicates entry is illustrated

channel. HD: <0.25% at 12W output. 62 semi-conductors. Output impedance: 4-16 ohms. Output fully protected against short circuits. Headphone socket on front panel. Inputs for mag PU, crystal PU and tape recorder. Size:  $23\frac{3}{8} \times 5\frac{3}{8} \times 11\frac{3}{8}$ in. Finish: light walnut or white. Price: £110 (including VAT).

#### Hi-Fi Studio 8080 ★

AM/FM stereo tuner/amplifier. Range: FM, LW, MW, SW. Variable tuning plus six preset FM stations. Tuning meter. FET front-end on all bands. Quiet tuning facility on FM. 54 transistors, 30 diodes, one IC. Output: 30W RMS per channel. HD: <0.1%. Socket for reverberation unit. Output protected against short circuits. Mains: 110, 130, 220, 240V AC. Size:  $23\frac{3}{8} \times 5\frac{3}{8} \times 12\frac{1}{2}$ in. Finish: walnut or white. Price: £165 (including VAT).

#### Freiburg Telecommander ★

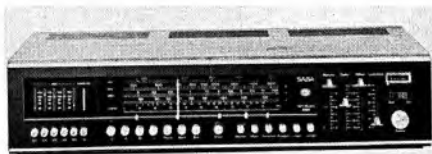
AM/FM stereo tuner/amplifier with ultra-sonic cordless remote control. Range: LW, MW, SW, FM/VHF. Variable tuning plus seven preset stations on FM. AFC. Meter tuning indicator. 69 transistors, 36 diodes, 13 rectifiers, 8 thyristors and 5 ICs. Output: 40W RMS per channel. Inputs for mag PU, tape, aux. Connection for reverberation unit. HD: <0.1%. Output circuits protected against short circuit. Silent tuning facility on FM. Size:  $29\frac{3}{8} \times 6\frac{3}{8} \times 13$ in. Finish: light walnut and white. Price: £259.85 (including VAT).

### ■ SANSUI

Vernitron Ltd,  
Thornhill, Southampton, SO9 5QF.  
Tel: Southampton 444811.

#### Six ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Meter tuning indicator. Ratio detector. Usable sensitivity: FM  $2\mu\text{V}$ . Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Inputs: mag PU 2.5mV 50K, aux 150mV 50K, tape 150mV 50K, noise reduction adaptor 150mV 50K, four-channel adaptor 150mV 50K, power amplifier 800mV 50K. Noise level: (mag PU input) better than 70dB, (other inputs) better than 80dB. Overload capability: (mag PU) 100mV. 73 transistors, 45 diodes. Output: 39W RMS per channel. Controls: bass  $\pm 15\text{dB}$  at 50Hz (3dB steps), treble  $\pm 15\text{dB}$  at 15kHz (3dB steps), low filter -10dB at 50Hz, high filter -10dB at 10kHz, loudness +10dB at 50Hz +3dB at 10kHz. HD: <0.3%. Output impedance: 4-16 ohms. FR: 20Hz-40kHz +1dB -1.5dB at 1W. Mains: 100, 117, 220, 240V 50-60Hz. Size:  $16\frac{3}{4} \times 5\frac{3}{8} \times 12\frac{1}{2}$ in. Finish: walnut cabinet, satin chrome front panel and satin chrome knobs. Facilities for



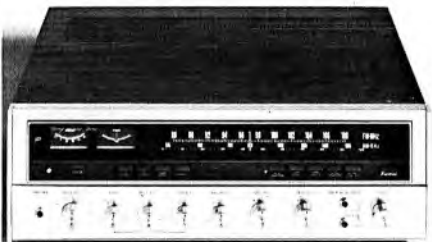
Saba Hi-Fi Studio 8080



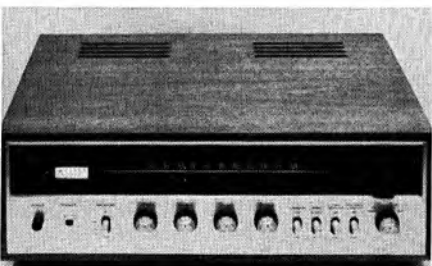
Saba Freiburg Telecommander



Sansui Six



Sansui Seven



Sansui 350A

two tape decks, a four-channel adaptor, noise reduction unit. Outlets for three pairs of speakers. Price: to be announced.

#### Seven ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning, AFC. Ratio detector. Tuning meters. Usable sensitivity: FM  $1.8\mu\text{V}$ . Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. 74 transistors, 46 diodes. Inputs: mag PU 2.5mV 50K, aux 150mV 50K, tape 150mV 50K, noise reduction unit 150mV 50K, four-channel adaptor 150mV 50K, power amplifier 800mV 50K. Noise level: (mag PU input) 70dB, (other inputs) 80dB. Overload capability: 100 mV. Output: 47W RMS per channel. Controls: bass  $\pm 15\text{dB}$  at 20Hz (3dB steps), mid-range  $\pm 5\text{dB}$  at 1.5kHz (1dB steps), treble  $\pm 15\text{dB}$  at 20kHz (3dB steps), low filter  $-10\text{dB}$  at 50Hz, high filter  $-10\text{dB}$  at 10kHz, loudness  $+10\text{dB}$  at 50Hz  $+8\text{dB}$  at 10kHz. HD:  $<0.3\%$ . Output impedance: 4-16 ohms. FR: 15Hz-40kHz  $+1\text{dB}$   $-1.5\text{dB}$  at 1W. Mains: 100, 117, 220, 240V 50-60Hz. Size:  $17\frac{3}{8} \times 15\frac{3}{8} \times 13\text{in}$ . Finish: walnut cabinet, satin chrome front panel, satin chrome trim and knobs. Facilities for two tape decks, four-channel adaptor, noise reduction unit. Two AC outlet sockets. Outlets for three pairs of speakers. Price: to be announced.

#### Eight

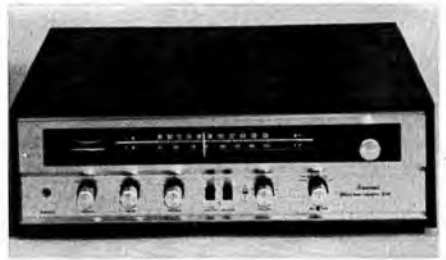
AM/FM stereo tuner/amplifier. Stereo decoder fitted. Output: 60W RMS per channel into 8 ohms. HD:  $<0.3\%$  at rated output. FR: 5Hz-50kHz. Sensitivity: FM  $1.4\mu\text{V}$ . Range: FM 88-108MHz. Pushbutton controls. Provision for three sets of speakers. Controls: bass, treble, mid-range, balance, volume, input selector, tuning. Sockets for headphones, tape record/play. Balance check pushbutton. High-pass and low-pass filters. FM quiet tuning. Price: £265-84 (plus VAT).

#### 350A ★

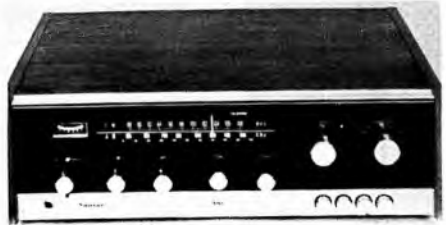
AM/FM multiplex stereo. Solid state. Range: 88-108MHz, 187-562m. Variable tuning with meter indicator. Sensitivity:  $2.5\mu\text{V} \pm 3\text{dB}$  (20dB quieting) FM:  $25\mu\text{V} \pm 3\text{dB}$  at 1MHz on AM. Inputs: pickup  $2.2\text{mV} \pm 3\text{dB}$ ; aux 150mV  $\pm 3\text{dB}$ ; tape monitor 150mV  $\pm 3\text{dB}$ ; H and N: pickup 60dB, aux 65dB. Power output: 20W per channel  $\pm 1\text{dB}$  at 8 ohms. FR: 30Hz-20kHz. Distortion: 1%. Dual speaker system. Aerial: 75 and 300 ohms. Controls: tuning, bass, treble, volume, balance, selector, switches for speakers, multiplex noise canceller, loudness, mono mode and tape monitor. Psn: 100, 117, 220 and 240V 50 or 60Hz. Size:  $4\frac{1}{2} \times 15\frac{1}{8} \times 13\frac{1}{8}\text{in}$ . Weight: 19.5lb. Price: £128-47 (plus VAT).

#### 210 ★

Stereo AM/FM tuner/amplifier. Range: FM 88-



Sansui 210



Sansui 310

108MHz, MW 187-560m. Variable tuning, AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $3\mu\text{V}$ , MW  $370\mu\text{V}$ . Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Mains: 100, 117, 220, 240V AC. Size:  $17\frac{1}{8} \times 11\frac{1}{8} \times 5\text{in}$ . Finish: light walnut cabinet. Output: 10W RMS per channel. Inputs for mag PU (3mV), tape, aux. Outputs for tape, headphones. Two AC outlet sockets. Price: £73-06 (plus VAT).

#### 310 ★

Stereo AM/FM tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning, AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $2.3\mu\text{V}$ , MW  $180\mu\text{V}$ . Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Mains: 100, 117, 220, 240V AC. Size:  $17\frac{1}{8} \times 11\frac{1}{8} \times 5\text{in}$ . Finish: light walnut cabinet with black facia. Output: 15W RMS per channel. Two speaker systems. Multiplex filter. Tape monitor socket. Price: £97-96 (plus VAT).

#### 1000X ★

Stereo AM/FM tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning, AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $2\mu\text{V}$ , MW  $150\mu\text{V}$ . Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Mains: 100, 117, 220, 240V AC. Size:  $16\frac{3}{8} \times 11\frac{7}{8} \times 5\frac{1}{8}\text{in}$ . Finish: light walnut cabinet, silver control panel, black dial. Output: 28W RMS per channel. Two sets of





Scan-Dyna 2000



Scan-Dyna 3000



Scan-Dyna 4000

speaker outlets. Sockets for tape, phones. Quiet tuning facility. Price: £152.70 (plus VAT).

#### ■ SANYO

Sanyo Marubeni (UK) Ltd, Sanyo House, Bushey Mill Lane, Watford, Herts.  
Tel: Watford 30421.

#### DCX2500K

Stereo tuner/amplifier. AM/FM. Stereo decoder included. Output: 10W sine per channel, 15W music power. Inputs: PU 2.5mV, aux 100mV, tape play 150mV. FR: 30Hz-40kHz. Controls: volume, bass, treble, input selector, mode selector, tape monitor, high filter and loudness. Bass control:  $\pm 10$ dB at 100Hz. Treble control:  $\pm 10$ dB at 10kHz. Loudness control:  $\pm 10$ dB at 100Hz. Signal to noise: better than 45dB. Meter tuning indicator. Outlet for stereo headphones, tape recorder, two sets of speakers. Price: £82.79 (including VAT).

#### DCX2300K

Stereo tuner/amplifier. AM/FM. Stereo decoder included. Output: 15W sine per channel, 22.5W music power. Inputs: PU 2.5mV, aux 100mV, tape play 150mV. Signal to noise: PU 60dB, aux 70dB. FR: 15Hz-80kHz. Sockets for stereo headphones, tape recorder, PU, microphone and speakers. Controls: volume, mic volume, bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz, loudness:  $\pm 10$ dB at 100Hz and  $+5$ dB at 10kHz, balance, plus switches for speakers, input selector, monitoring high filter and mono/stereo. 32 transistors, one IC, one FET. Mains: 120-240V AC. Usable sensitivity on radio: AM 25 $\mu$ V, FM 3 $\mu$ V. Price: £99.75 (including VAT).

#### DCX3000KA

AM/FM stereo tuner/amplifier. Full specification not available as this edition of the Year Book closed for press. Price: £124.75 (including VAT).

#### DCX3300KA

AM/FM stereo tuner/amplifier. Full specification not available as this edition of the Year Book closed for press. Price: £174.75 (including VAT).

#### ■ SCAN-DYNA

Scandinavian Audio Systems Ltd,  
Sun Alliance Building, 65 London Road,  
Gloucester, GL1 3HF.  
Tel: Gloucester (0452) 32971.

#### 2000 ★

AM/FM stereo tuner/amplifier. Range: 87-104MHz, MW 181-588m, LW 833-2069m. Variable tuning plus five presets on FM. Switchable AFC. Ratio detector. Meter for signal strength (AM) and tuning (FM). Usable sensitivity: FM 1.8 $\mu$ V, 1 $\mu$ V for 3dB S/N. Aerial input: 300 ohms balanced twin. Stereo decoder fitted. Inputs: mag PU 2mV, tape 200mV. Output: 25W RMS per channel. HD:  $< 1\%$ . FR: 20Hz-20kHz-1.5dB. Controls: tuning, volume on-off switch, bass  $\pm 15$ dB, treble  $\pm 15$ dB, balance (zero to maximum). Pushbuttons for wavebands, input selector, mono/stereo, AFC. Output impedance: 4-16 ohms. Headphone socket: 8-200 ohms. Mains: 220-240V 50Hz. Size: 21 $\frac{7}{8}$   $\times$  3 $\frac{1}{2}$   $\times$  9 $\frac{3}{8}$ in. Weight: 11 $\frac{1}{2}$ lb. Finish: black or black and silver. Price: £89.90 (including VAT).

**2400**

FM stereo tuner/amplifier. Range: FM 87-108MHz. Sensitivity:  $1.2\mu\text{V}$  (limiting  $0.8\mu\text{V}$  for 3dB S/N). Capture ratio: 2dB. Quiet tuning level:  $1\mu\text{V}$ - $1\text{mV}$  adjustable. Output: 30W RMS per channel into 8 ohms, 40W RMS per channel into 4 ohms. HD: 0.5% 20Hz-20kHz. Inputs: mag PU  $2\text{mV}$  47K, ceramic PU  $200\text{mV}$  470K, mic  $2\text{mV}$  22K, tape  $200\text{mV}$  470K. Tone controls: bass  $\pm 18\text{dB}$ , treble  $\pm 18\text{dB}$ . Output impedance: 4-16 ohms. Headphone outlets: 4 ohms and higher. Damping factor: 40 at 8 ohms. Standard finish. Price: £137.90 (including VAT).

**3000 ★**

AM/FM stereo tuner/amplifier. Range: FM 87-108MHz, MW 181-588m. Variable tuning. Switchable AFC. Ratio detector. Meter tuning indicator. Usable sensitivity:  $1.6\mu\text{V}$  (IHFM). Aerial input: 75 ohms coaxial and 300 ohms balanced twin. Stereo decoder fitted. 48 transistors, four ICs, 19 diodes. Inputs: mag PU  $3\text{mV}$  47K, tape  $200\text{mV}$  1M, monitor  $200\text{mV}$  0.5M. Output: 50W RMS per channel into 4 ohms. HD:  $< 1\%$  at rated output. FR: 20Hz-20kHz  $\pm 1.5\text{dB}$ . Controls: volume, bass, treble, balance, rumble filter (12dB per octave from 40Hz), scratch filter (18dB per octave from 4kHz). Mains: 110, 240V 50-60Hz. Size:  $21\frac{1}{2} \times 5 \times 10\text{in}$ . Finish: teak or rosewood. Price: £142.90 (including VAT).

**4000 ★**

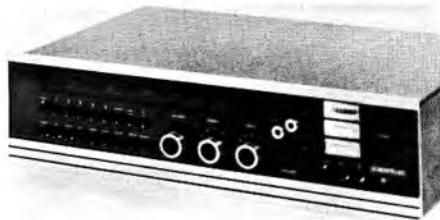
AM/FM stereo tuner/amplifier. Range: FM 87-108MHz, MW 181-588m, LW 833-2069m. Variable tuning. Tuning meter. Usable sensitivity:  $1.6\mu\text{V}$  (IHFM), MW  $1\mu\text{V}$  for 3dB S/N. Aerial input: 75 ohms coaxial, 300 ohms balanced twin. Stereo decoder fitted. 51 transistors, one IC, 28 diodes, eight valves. Inputs: mag PU  $3\text{mV}$  47K, tape  $200\text{mV}$  1M, monitor  $200\text{mV}$  0.5M. Output: 60W RMS per channel into 4 ohms. HD:  $< 1\%$  at rated output. FR: 20Hz-20kHz  $\pm 1.5\text{dB}$ . Controls: volume, bass, treble, balance, tuning, rumble filter ( $-12\text{dB/octave}$  from 40Hz), scratch filter ( $-18\text{dB/octave}$  from 4kHz). Pushbuttons for loudness, monitor 1, monitor 2, AFC. Mains: 110, 240V AC 50-60Hz. Size:  $21\frac{1}{2} \times 5\frac{1}{2} \times 10\text{in}$ . Finish: teak or rosewood. Price: £149.90 (including VAT).

**■ SCIENTELEC**

35a Beddington Lane, Croydon, Surrey, CR0 4TB. Tel: 01-686 9341/4.

**Club AT25 ★**

FM stereo tuner/amplifier. Range: 86-108MHz. Variable tuning plus four presets. AFC. Synchronous discriminator. Meter tuning indicator. Usable sensitivity:  $1\mu\text{V}$  for 28dB signal-to-noise

**Scientelec Club**

ratio. Aerial input: 75 ohms coaxial and 300 ohms balanced. Stereo decoder fitted. Tuner output:  $400\text{mV}$ . 46 transistors, 29 diodes, four varicaps, four integrated circuits. Inputs: mic  $1.2\text{mV}$  flat, mag PU  $3\text{mV}$  RIAA, radio, aux  $5\text{mV}$ . Noise level: (mic input) 53dB, (mag PU input) 50dB, (aux input) 64dB. Overload capability: (mic input)  $35\text{mV}$ , (mag PU input)  $100\text{mV}$ , (aux input)  $120\text{mV}$ . Output: 25W RMS per channel. Controls: twin slider volume, bass  $\pm 16\text{dB}$  at 20Hz, treble  $\pm 16\text{dB}$  at 10kHz, loudness switch, 30Hz switched filter, input selector buttons, 10kHz switched filter, mono/stereo switch, monitoring switch. One VU meter per channel. HD:  $0.1\%$ . Output impedance: 4 ohms. FR: 20Hz-30kHz  $\pm 3\text{dB}$ , (30Hz-20kHz  $\pm 1\text{dB}$ ). Mains: 220 or 240V AC 50Hz. Size:  $17\frac{3}{8} \times 12 \times 4\frac{3}{4}\text{in}$ . Finish: black with brushed aluminium panel and trim. Provision for two sets of speakers with front panel switching. Price: £203.20 (including VAT).

**Club AT40 ★**

Stereo FM tuner/amplifier with similar specification to Club AT25 above but with 40W RMS per channel output. Price: £218.24 (including VAT).

**■ SHARP**

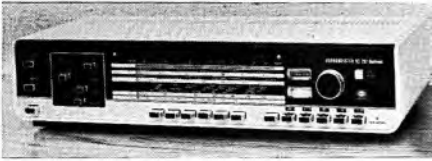
Sharp Electronics (UK) Ltd, 48 Derby Street, Manchester, M8 8HN. Tel: 061-832 6115.

**SA606**

Stereo AM/FM tuner/amplifier. Range: FM 88-108MHz, MW 189-560m, LW 1000-2000m, SW 16-50m. Variable tuning plus FM presets. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $5\mu\text{V}$ , AM  $100\mu\text{V}$ . Aerial input: 300 ohms balanced. Decoder included. Output: 4W RMS per channel DIN. Output impedance: 8 ohms. Mains: 110, 220, 240V AC. Finish: Cabinet PVC laminated veneer, front panel aluminium. Size:  $18\frac{3}{4} \times 13\frac{3}{4} \times 4\frac{1}{2}\text{in}$ . Price: £96.02 (plus £9.60 VAT).

**■ SIEMENS**

Interconti Electronic Ltd, Alhany House, Petty France, London, SW1H 9EA. Tel: 01-222 2523. Telex: 918770.



Siemens RS202

**RS202 ★**

Five-waveband AM/FM quadrasonic tuner/amplifier. 58 semiconductors and 20 ICs. Slide controls plus pushbuttons. Output: 15W per channel. Finish: white or brown. Full specification on request. Price: £135.48 (including VAT).

**RS172**

Five-waveband AM/FM quadrasonic tuner/amplifier. 87 semiconductors and 23 ICs. Slider controls plus 24 pushbuttons. Output: 50W per channel. Finish: white or light satinwood. Full specification on request. Price: £218.41 (including VAT).

**RS303**

Four-waveband AM/FM quadrasonic tuner/amplifier. AFC. Five preset FM stations. Special linear aural balance. Scratch and rumble filters. Presence control. Output: 30W per channel. Price: £182.01 (including VAT).

■ **SONAB LTD**

PO Box 4, Oldfield Road, Hampton, Middlesex, TW12 2HN. Tel: 01-979 0134.

**R7000 ★**

Stereo tuner/amplifier. Range: FM/VHF. Variable tuning. Tuning indicator. Aerial input: coaxial. Stereo decoder fitted. AFC. Transistors. Output: 50W RMS per channel into 8 ohms. HD: 0.02% at 1kHz and 30W into rated load (never more than 0.1% at all levels 25Hz-25kHz). FR: 25Hz-25kHz ±0.5dB. Size: 15 × 3 × 11in. Mains: 240V AC. Price: £220 (plus VAT).

**R4000/2**

FM stereo tuner/amplifier. Range: 87.5-104 MHz. Variable tuning plus four presets. AFC. Tuning and signal strength meter. Usable sensitivity: better than 2µV (300 ohms input) and 1µV (75 ohms input). Aerial input: 300 ohms balanced twin, 75 ohms coaxial. Stereo decoder fitted. Inputs: mag PU 2mV 68K, aux 100mV 100K, tape 100mV 100K. Overload capability: >36dB for low level inputs. Output: 70W RMS per channel into 4 ohms, 50W RMS per channel into 8 ohms. Controls: input selector, mono/stereo, loudness, high filter 12dB/octave -3dB at 8kHz, volume, bass ±12dB at 50Hz, treble ±8dB at 10kHz, balance, preset stations, AFC on-off. HD: <0.5% 20Hz-20kHz at 35W on single channel, <1.0% at 1kHz all levels up to

35W on both channels. Output impedance: (speakers) two pairs at 4-16 ohms, tape 10K, headphones 8-2000 ohms. FR: 15Hz-25kHz ±1.5dB. Mains: 110, 130, 220, 240V 50-60Hz. Size: 18½ × 9¾ × 4¾in. Finish: black. Price: £163.20 (plus VAT).

■ **SONY (UK) LTD**

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

**STR-6036 ★**

AM/FM stereo tuner/amplifier. Range: FM/VHF, MW. Variable tuning. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2µV, AM 30µV. Stereo decoder fitted. FET front end. 39 transistors and one FET. Inputs: mag PU 2.5mV 47K, mic 2mV 47K, aux 250mV 100K, tape 250mV 100K. Noise level: (low level inputs) 60dB, aux 70dB, tape 80dB. Output: 16W RMS per channel into 8 ohms. Tone controls: bass ±10dB at 100Hz, treble ±10dB at 10kHz. HD: 0.1% at 1W. FR: 30Hz-40kHz +0dB -3dB. Mains: 100, 120, 240V AC. Size: 17½ × 5¼ × 3¾in. Finish: wood grain cabinet with black and silver facing. PA facility. Loudness control. Price: £72 (plus VAT).

**STR-6046**

AM/FM stereo tuner/amplifier. Range: FM/VHF, MW. Variable tuning. Ratio detector. Meter tuning indicator. Usable sensitivity: MW 30µV, FM 1.4µV. Aerial input: 300 ohms balanced. Stereo decoder fitted. 44 transistors and one FET. Inputs: mag PU 2.5mV 47K, mic 2mV 47K, aux 250mV 100K, tape 250mV 100K. Noise level: (low level inputs) 60dB, aux 70dB, tape 80dB. HD: <1% at 1W output. Output: 25W RMS per channel into 8 ohms. FR: 30Hz-40kHz +0dB -3dB. Mains: 100, 120, 220, 240V AC. Size: 17½ × 5¼ × 13¾in. Finish: wood grain cabinet with black and silver panel. Input mixing facility. Illuminated mode display. Price: £105 (plus VAT).

**STR-6055 ★**

AM/FM stereo tuner/amplifier. Range: FM/VHF, MW. Variable tuning. Ratio detector. Meter tuning indicator. FET front end. Usable sensitivity: FM 1.8µV, MW 20µV. Aerial input: 300 ohms balanced. Stereo decoder fitted. 51 transistors and five FETs. Inputs: mag PU 1.8mV 47K, aux (2) 140mV 100K, tape 140mV 100K. Noise level: mag PU 70dB, other inputs 90dB. Output: 40W RMS per channel into 8 ohms. HD: <1% at 1W. FR: 10Hz-60kHz +0dB -3dB. Mains: 100, 117, 220, 240V AC. Size: 18 × 5¾ × 13¾in. Price: £140 (plus VAT).

**STR-6200F ★**

FM stereo tuner/amplifier. Range: 87.5-108 MHz. Variable tuning. FET front end. Ratio



Sonab R7000



Sony STR6036



Sony STR6055



Sony STR6200F



Tandberg TR200MPX

detector. Twin tuning meters. Usable sensitivity: 1.8 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. 71 transistors and 5 FE1s. Inputs: mag PU 1.4mV 47K, aux (3) 140mV 100K, tape (2) 140mV 100K. Output: 100W RMS per channel into 8 ohms. HD: <2%. FR: 10Hz-100kHz+0dB-3dB. Mains: 100, 117, 220, 240V AC. Size: 19 x 5 $\frac{3}{8}$  x 15 $\frac{3}{8}$  in. Finish: wood grain and brushed aluminium. Muting facility. Bass compensator. Price: £300 (plus VAT).

#### ■ STEEPLETONE

Steepletone Products Ltd, Cinema House, Middle Barton, Oxford, OX5 4DA.  
Tel: Steeple Aston 7116.

#### S500

Stereo FM tuner/amplifier. Range: 87.5-108 MHz. Five preset station buttons. Switchable AFC. Ratio detector. Usable sensitivity: 2 $\mu$ V. Aerial input: 240-300 ohms balanced twin, 70-80 ohms coaxial. Low level output 0.2V variable. Stereo decoder fitted. 37 transistors, 39 diodes, one IC. Inputs: mag PU 2mV 47K, radio 50mV 220K, tape 50mV 220K, aux (1) 100mV 470K, aux (2) 100 $\mu$ V 30-600 ohms. Noise level: mag PU input better than -66dB, other inputs better than -70dB. Overload capability: all inputs 30dB. Output: 25W RMS per channel. Controls: volume, balance, bass  $\pm$ 15dB at 40Hz, treble  $\pm$ 15dB at 14kHz, bass filter 12dB/octave from 80Hz, treble filter 18dB/octave from 8kHz, loudness, monitor switch, mono/stereo. HD: <0.1% at 20W, <0.05% at 5W. Output impedance: 8 ohms. FR: 40Hz-20kHz (PU input equalised to RIAA), 25Hz-25kHz  $\pm$ 2dB (radio and tape play inputs). Mains: 200-250V AC. Size: 21 x 4 $\frac{1}{4}$  x 8 $\frac{1}{2}$  in. Finish: teak with brushed aluminium. Price: £89.99 (including VAT).

#### ■ TANDBERG

Distributors: Farnell-Tandberg Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS3 1HR. Tel: 35111.

#### TR200MPX ★

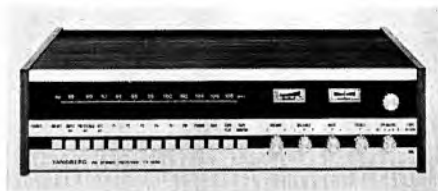
Stereo FM tuner/amplifier. Range: 87.5-108 MHz. Variable tuning plus five presets. AFC. Meter tuning indicator. Usable sensitivity: 1 $\mu$ V. Aerial input: 75 ohms coaxial. Stereo decoder fitted. Inputs: tape 250mV 30K, PU 2.3mV 47K, aux 100mV 100K. Noise level: -52dB. Output: 15W per channel into 8 ohms, 20W per channel into 4 ohms. Output impedance: 4 ohms. Tone controls: bass  $\pm$ 16dB at 50Hz, treble  $\pm$ 15dB at 10kHz. Loudness: +11dB at 50Hz. HD: 1% at rated output. FR: 20Hz-40kHz  $\pm$ 3dB. Size: 17 x 3 $\frac{1}{2}$  x 9 $\frac{1}{2}$  in. Speaker selector switch. Magnetic/crystal PU switch. Tape monitor switch. Headphone socket. Finish: teak or rosewood. Price: (teak) £111.20 (includ-

★ Indicates entry is illustrated

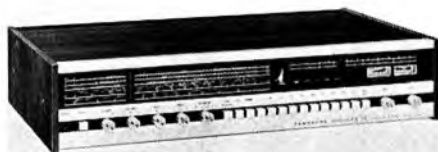
ing VAT); (rosewood) £114.50 (including VAT).

### TR1000MPX ★

Stereo FM tuner/amplifier. Range: 87.5-108 MHz. Variable tuning plus six presets. AFC. Phase locked loop discriminator. Meter tuning indicator. Usable sensitivity:  $2\mu\text{V}$ . Aerial input: 75 ohms coaxial. Stereo decoder fitted. Inputs: mag PU  $2\text{mV}$  47K, tape  $200\text{mV}$  100K, aux (2)  $200\text{mV}$  100K. Noise level:  $-70\text{dB}$ . Overload capability: (PU input)  $25\text{dB}$ , (other inputs)  $20\text{dB}$ . Output:  $50\text{W}$  RMS into 4 ohms,  $35\text{W}$  RMS into 8 ohms. Controls: bass  $\pm 16\text{dB}$  at  $50\text{Hz}$ , bass loudness  $+12\text{dB}$  at  $50\text{Hz}$ , high filter (1)  $-12\text{dB}$  at  $15\text{kHz}$ , high filter (2)  $-5\text{dB}$  at  $15\text{kHz}$ , treble  $\pm 14\text{dB}$  at  $10\text{kHz}$ , treble loudness  $+7\text{dB}$  at  $7\text{kHz}$ , low filter  $-8\text{dB}$  at  $50\text{Hz}$ . HD:  $0.1\%$  at  $1\text{dB}$  below rated output power. Output impedance: 8 ohms. FR:  $20\text{Hz}$ - $20\text{kHz}$   $\pm 2\text{dB}$  at  $50\text{W}$ . Mains:  $17 \times 4\frac{3}{4} \times 12\text{in}$ . Finish: teak or rosewood cabinet with black dial and satin finish front panel. Front jack for stereo headphones. Price: (teak) £163.71 (including VAT); (rosewood) £167.01 (including VAT).



Tandberg TR1000MPX



Tandberg Huldra 10

### TR1010MPX

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-579m. Variable tuning plus six presets. AFC. Phase locked loop discriminator. Meter tuning indicator, meter signal strength indicator. Usable sensitivity: FM  $1\mu\text{V}$ , MW  $600\mu\text{V}$ . Aerial input: 75 ohms coaxial. Stereo decoder fitted. 57 transistors, 34 diodes, 3 FETs. Inputs: mag PU  $1.8\text{mV}$  47K, tape  $130\text{mV}$  100K, aux  $130\text{mV}$  100K. Noise level:  $-70\text{dB}$ . Overload capability: (PU input)  $25\text{dB}$ , (other inputs)  $20\text{dB}$ . Output:  $50\text{W}$  RMS into 4 ohms,  $35\text{W}$  RMS into 8 ohms. Controls: bass  $\pm 16\text{dB}$  at  $50\text{Hz}$ , bass loudness  $+12\text{dB}$  at  $50\text{Hz}$ , treble  $\pm 14\text{dB}$  at  $10\text{kHz}$ , treble loudness  $+7\text{dB}$  at  $7\text{kHz}$ , low filter  $-8\text{dB}$  at  $50\text{Hz}$ , high filter (1)  $-12\text{dB}$  at  $15\text{kHz}$ , high filter (2)  $-5\text{dB}$  at  $15\text{kHz}$ . HD:  $0.1\%$  at  $1\text{dB}$  below rated output power. Output impedance: 4-8 ohms. FR:  $20\text{Hz}$ - $20\text{kHz}$   $\pm 2\text{dB}$  at  $50\text{W}$ . Mains:  $220$ - $240\text{V}$   $50$ - $60\text{Hz}$  (can be rewired for  $115\text{V}$  AC). Size:  $17 \times 4\frac{3}{4} \times 12\text{in}$ . Finish: teak or rosewood cabinet with black dial and satin finished metal panel. Quiet tuning facility. AFC over-ride. Price: (teak) £117.33 (including VAT); (rosewood) £180.63 (including VAT).



Teac AG6000



Teac AG6500

### Huldra 10 MPX ★

AM/FM stereo tuner/amplifier. Range: FM 87.5-108MHz, MW 187-579m, LW 1120-2000m, SW1 30-90m, SW2 15-30m, SW3 10-15m. Variable tuning plus four presets. AFC. Meter tuning indicator. Usable sensitivity: FM  $1\mu\text{V}$ , AM  $2\mu\text{V}$ . Aerial input: 75 ohms coaxial. Stereo decoder fitted. Inputs: mag PU  $2\text{mV}$  47K, tape  $200\text{mV}$  100K. Noise level:  $-70\text{dB}$ . Overload capability:  $25\text{dB}$ . Output:  $35\text{W}$  RMS per chan-



Teac AG7000

nel. Controls: bass  $\pm 17.5$ dB at 50Hz, treble  $\pm 15$ dB at 10kHz, loudness  $+12$ dB at 50Hz. HD: 0.2% at 35W RMS. Output impedance: 4.8 ohms. FR: 20Hz-20kHz  $\pm 2$ dB. Mains: 220-240V 50-60Hz. Size: 21  $\times$  4 $\frac{3}{4}$   $\times$  12in. Finish: teak or rosewood cabinet with black dials and satin finished metal panel. Outputs for four speakers. Quiet tuning facility. Price: (teak)  $\pounds 175$  (including VAT); (rosewood)  $\pounds 178.30$  (including VAT).

#### TEAC

Acoustico Enterprises Ltd,  
6-8 Union Street, Kingston-on-Thames,  
Surrey, KT1 1RP.  
Tel: 01-549 3471/3. Telex: 929916.

#### AG6000 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. Meter tuning indicator. Usable sensitivity: FM 1.8 $\mu$ V (IHF), MW 10 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Inputs: mag PU 2mV, aux 150mV, tape (2) 150mV. Output: 60W per channel into 4 ohms. Output impedance: 4.8 ohms. Tone controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 11$ dB at 10kHz, loudness  $\pm 10$ dB at 50Hz,  $+4$ dB at 10kHz, low filter  $-6$ dB/octave from 100Hz, high filter  $-12$ dB/octave from 5kHz. HD:  $<0.8$ %. FR: 20Hz-30kHz  $\pm 1$ dB. Mains: 100, 117, 220, 240V AC. Finish: walnut trim. Price:  $\pounds 200$  (plus VAT).

#### AG6500 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Two tuning meters. Usable sensitivity: FM 1.7 $\mu$ V, MW 10 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Output: 45W per channel. Output impedance: 8 ohms. HD:  $<0.5$ %. FR: 5Hz-20kHz  $+0$ dB  $-1$ dB. Mains: 100, 117, 220, 240V AC. Finish: walnut and black with silver trim. Price:  $\pounds 220$  (plus VAT).

#### AG7000 ★

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz. MW 187-560m. Variable tuning. AFC. Two tuning meters. Usable sensitivity: FM 1.2 $\mu$ V, MW 10 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Dual gate FET front end. 31 transistors, 4 FETs, 2 ICs. Inputs: mag PU 2mV 47K, tape 150mV, aux 150mV. Noise level: mag PU  $-65$  dB. Output: 65W RMS per channel. Output impedance: 8 ohms. Tone controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 11$ dB at 10kHz, loudness  $+10$ dB at 50Hz,  $+4$ dB at 10kHz, low filter  $-6$ dB at 100Hz, high filter  $-12$ dB/octave from 5kHz. HD:  $<0.5$ %. FR: 5Hz-35kHz  $\pm 1$ dB. Mains: 100, 117, 220, 240V AC. Size: 16 $\frac{1}{2}$   $\times$



Telefunken Concerto Hi-Fi 101

4 $\frac{3}{4}$   $\times$  14in. Finish: walnut. Price:  $\pounds 220$  (plus VAT).

#### TELEFUNKEN

AEG Telefunken (UK) Ltd, Bath Road,  
Slough, Bucks. Tel: Slough (75) 33311.

#### Concertino 301

Four waveband transistorised stereo tuner/amplifier with five FM station buttons. Ranges FM, SW, MW, LW. Separate flywheel FM and AM tuning. AFC with meter. Separate VU meter for station tuning control. Automatic stereo indicator. Sensitivity: FM 1 $\mu$ V for 26dB signal/noise ratio at 40kHz deviation. Output 15W per channel RMS. HD not greater than 1%. FR: ( $\pm 1.5$ dB) 20Hz-20kHz. Sockets for 240 ohms FM dipole, local FM dipole (attenuator fitted), AM aerial, PU (high impedance), tape recorder (record and playback), two extension speakers. Controls: volume, balance, bass, treble. Pushbuttons: on/off, stereo, PU/tape, wavebands, 5 FM stations, AFC. Mains: 110-127, 220-240V 50Hz. Price:  $\pounds 122.98$  (including VAT).

#### Concerto Hi-Fi 101 ★

Five waveband stereo tuner/amplifier. Range: 87.6-104MHz, 910-2000 metres, 186-212 metres, 211-578 metres, 19-51 metres. Variable tuning plus seven preset FM stations. Tuning meter. Sensitivity: FM 1 $\mu$ V for 26dB S/N; AM 6 $\mu$ V for 50mW output at 30% modulation, 15 $\mu$ V for 10dB S/N. Stereo decoder fitted. Stereo beacon. Switchable AFC. Inputs: magnetic PU, crystal PU, tape recorder. Controls: pushbuttons for preset FM stations, AFC, wavebands, mono/stereo, input selector. Rotary controls for tuning volume, balance, treble, bass. Output: 30W music power per channel, 22W RMS per channel. HD: better than 1% at rated output. FR: 20Hz-20kHz  $\pm 1.5$ dB. Output impedance: 4 ohms. Socket for stereo phones, 43 transistors, 20 diodes, 4 rectifiers. Mains: 110, 127, 220, 240V 50Hz. Two FETs in FM tuner stage. Variable capacity diode tuning. Price:  $\pounds 132.55$  (including VAT).

#### Hi-Fi Compact 2000

FM tuner/amplifier. Range: FM 87.6-104MHz.

★ Indicates entry is illustrated

Variable tuning. Stereo decoder fitted. Inputs: magnetic PU, crystal PU, tape. Controls: treble, bass, balance, volume, pushbutton function selectors. Switchable AFC. Output: 15W RMS per channel, 22W music power per channel. HD: <1% at rated output. FR: 20Hz-20kHz  $\pm 1.5$ dB. Output impedance: 4 ohms. 43 transistors, 10 diodes, 3 rectifiers. Stereo headphone socket. Mains: 110, 220V 50-60Hz. Consumption: 65W maximum. Sensitivity: 1.3 $\mu$ V for 26dB S/N. Price: £99.28 (including VAT).

#### **Hymnus 101 ★**

AM/FM stereo tuner/amplifier. Range: FM, MW, LW, SW. Variable and preset tuning. AFC. Meter tuning indicator. Stereo decoder fitted. Output: 30W RMS per channel. Mains: 220-240V AC. Size: 25  $\times$  10 $\frac{1}{2}$   $\times$  4 $\frac{3}{4}$ in. Finish: light matt walnut. Price: £147.18 (including VAT).

#### **TELETON**

Teleton Electro (UK) Ltd. Teleton House, Waterhouse Lane, Chelmsford, Essex, CM1 1BD  
Tel: Chelmsford (0245) 62442. Telex: 99338.

#### **TFS.50 LA**

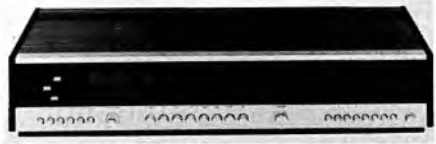
AM/FM stereo tuner/amplifier. Ranges: 87-108MHz, 187-565m. Sensitivity: FM 5 $\mu$ V (30dB quieting), AM 200 $\mu$ V/m (S/N 20dB). Multiplex separation: 35dB at 1kHz. Image rejection: FM 50dB, AM 60dB. Aerials: ferrite rod and 300 ohms balanced input. Output: 15W RMS per channel at 8 ohms. Controls: six rotary and ten push keys. Mains: 115, 230V AC. Dimensions: 19 $\frac{1}{2}$   $\times$  12 $\frac{1}{2}$   $\times$  4in. Price: £107.35 (including VAT).

#### **TFS50**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 184-555m. Variable tuning. Switchable AFC. Ratio detector. Tuning meter. Usable sensitivity: FM 2.5 $\mu$ V, AM 100 $\mu$ V. Aerial input: 300 ohms balanced twin. Stereo decoder fitted. 31 transistors, one FET, two ICs, 23 diodes. Inputs: mag PU 3mV 50K, crystal PU 100mV 300K, aux 200mV 50K, tape 200mV 50K. Output: 15W RMS per channel (both channels driven). Controls: volume, balance, bass, treble, loudness, quiet tuning, speaker selector, input selector. HD: 1%. Output impedance: 8 ohms. FR: 25Hz-15kHz -3dB. Mains: 110-240V AC. Size: 19 $\frac{3}{4}$   $\times$  4  $\times$  14in. Finish: brushed aluminium and walnut. Sockets for four speakers. Price: £93.37 (including VAT).

#### **TFS55**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 184-555m. Variable tuning. Switchable AFC. Ratio detector. Tuning meter. Usable sensitivity: FM 2.5 $\mu$ V, MW 100 $\mu$ V. Aerial input: 300 ohms balanced twin. Stereo



*Telefunken Hymnus 101*

decoder fitted. 31 transistors, one FET, two ICs, 23 diodes. Inputs: mag PU 3mV 50K, crystal PU 100mV 400K, aux 200mV 50K, tape 200mV 50K. Noise level: (PU inputs) -50dB, (other inputs) -60dB. Overload capability: (mag PU) 20dB, (crystal PU) 19dB, (other inputs) 23dB. Output: 15W RMS per channel (both channels driven). Controls: volume, balance, loudness, bass, treble, quiet tuning, input selector, speaker switches. HD: 1%. Output impedance: 8 ohms. FR: 20Hz-20kHz -3dB. Mains: 110-240V AC. Size: 19 $\frac{3}{4}$   $\times$  4  $\times$  14in. Finish: brushed aluminium and walnut. Sockets for four speakers. Price: £97.16 (including VAT).

#### **TRIO**

Distributors: B. H. Morris & Co (Radio) Ltd, Trio House, Hyde Industrial Estate, The Hyde, London, NW9 6JP. Tel: 01-205 6441.

#### **KR2120 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz. MW 187-550 metres. Variable tuning. Meter tuning indicator. Sensitivity: 2.3 $\mu$ V (IHF standard). Aerial impedance: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Inputs: PU (1) 2.5mV 50K, PU (2) 2.5mV 50K, aux/tape 180mV 30K. Noise level: PU inputs -60dB, aux/tape -70dB. Controls: volume, treble, bass, loudness, balance, input selector. Output: 12W RMS per channel. HD: 0.2% at rated output. FR: 25Hz-20kHz (IHF standard). Output impedance: 4-16 ohms. Mains: 110-120 and 220-240V 50-60Hz. Size: 16 $\frac{3}{4}$   $\times$  5 $\frac{1}{2}$   $\times$  12 $\frac{3}{4}$ in. Circuit incorporates FETs, ICs, step-type tone controls, two sets speaker outlets. Price: £82.50 (plus VAT).

#### **KR7070 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-556 metres. Variable and automatic tuning. Meter tuning indicator. Sensitivity: 1.5 $\mu$ V (IHF standard). Aerial impedance: 75 ohms coaxial and 300 ohms balanced. Stereo decoder fitted. Inputs: magnetic PU (1) 0.05mV 200 ohms, magnetic PU (2) 2.5mV 50K, microphone 2.5mV 100K, aux/tape play 200mV 100K. Noise level: PU (1) -45dB, PU (2) -65dB, mic -67dB, aux/tape -75dB. Controls: volume, bass, treble, balance, mono/stereo, input selector, filters, loudness, presence. Output:

90W RMS per channel. HD: <0.05% at rated output. FR: 10Hz-30kHz (IHF standard). Output impedance: 4-16 ohms. Automatic and remote station tuning. Tape dubbing facilities. Full range of filters. Mains: 110-120V and 220-240V 50-60Hz. Size:  $17 \times 6\frac{1}{2} \times 15$ in. Price: £250 (plus VAT).

**KR2200**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-556 metres. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity: FM 2.5µV, AM 25µV. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. One FET, 32 transistors, 30 diodes, one zener. Inputs: mag PU 3mV 50K, mic 3mV 50K, aux 120mV 30K. Noise level: (PU and mic inputs) 60dB, (aux input) 70dB. Output: 10W RMS per channel. Output impedance: 4-16 ohms. Tone controls: bass  $\pm 8$ dB at 100Hz, treble  $\pm 8$ dB at 10kHz. Loudness:  $-30$ dB + 8dB at 100Hz. A-B speaker switching. Mode: mono, stereo, quadrix, discrete. HD: 0.8% at rated output, 0.2% at  $-3$ dB. FR: 25Hz-35kHz  $\pm 2$ dB. Mains: 110-120V, 220-240V AC. Size:  $17\frac{3}{8} \times 4\frac{3}{8} \times 15\frac{1}{2}$ in. Finish: wood case with satin aluminium fascia. Price: £72.50 (plus VAT).

**KR5200**

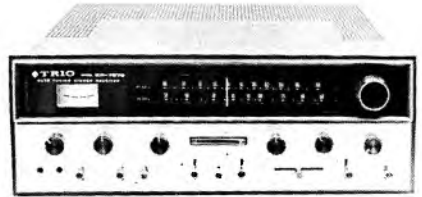
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-556 metres. Variable tuning. AFC. Sensitivity: FM 1.8µV, MW 15µV. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder included. Two FETs, one IC, 52 transistors, 48 diodes. Inputs: mag PU 2.5mV 50K, mic 3mV 50K, aux (1) 125mV 30K, aux (2) 125mV 30K, tape play (A and B) 125mV 30K. Noise level: mic input 55dB, PU input 65dB, aux and tape inputs 75dB. Tone controls: bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz, high filter  $-10$ dB at 10kHz, low filter  $-7$ dB at 100Hz. Loudness:  $-30$ dB + 10dB at 100Hz, + 5dB at 10kHz. Switch for speakers A + B + C; A + B and A + C. Quiet tuning facility on FM. Output: 40W RMS per channel. Output impedance: 4-16 ohms. HD: 0.5% at rated output, 0.1% at  $-3$ dB. FR: 20Hz-40kHz  $\pm 2$ dB. Mains: 110-120V, 220-240V AC. Size:  $17\frac{1}{8} \times 5\frac{3}{8} \times 14$ in. Finish: wood case with satin aluminium fascia. Price: £142 (plus VAT).

**KR6170 Jumbo**

AM/FM stereo tuner/amplifier with electronic rhythm and percussion generators built in. Range: 88-108MHz, MW 187-556 metres. Variable tuning. Tuning meter. Left- and right-channel level meters. Usable sensitivity: FM 1.9µV, MW 25µV. Inputs: mag PU (2) 2.5mV 50K, mic 2mV 10K, guitar 15mV 30K, aux (2) 150mV 100K, tape play (2) 150mV 100K. Output: 55W per channel into 8 ohms. Output im-



Trio KR2120



Trio KR7070

pedance: 4-14 ohms. HD: 0.1% at  $-3$ dB rated power. Power bandwidth (IHF) 17Hz-30kHz. Electronic rhythm produces 12 different rhythms and five different percussions. Reverberation control 0-2 seconds. Echo sound output for four-channel reproduction. Four sets of speaker terminals. Three-step power limiter for speaker protection. Two-hour timer for automatic switch off. Two sets of headphone jack sockets. Mains: 110-120V, 220-240V AC. Size:  $21\frac{3}{4} \times 6\frac{3}{4} \times 16\frac{1}{4}$ in. Weight: 35lb. Accessories: (included in price) dynamic microphone, foot switch for rhythm composer. Price: £225 (plus VAT).

**KR3200**

AM/FM stereo tuner/amplifier. Range: FM 86-108MHz, MW 187-556m. Variable tuning. Usable sensitivity: (FM) 2.3µV. Tuning meter. Aerial input: 75 ohms coaxial and 300 ohms balanced twin. Stereo decoder fitted. Inputs: mag PU 3mV 50K, aux 180mV 30K, tape 200mV 45K. Noise level: (mag PU input)  $-63$ dB, (other inputs)  $-75$ dB. Output: 18.5W RMS per channel. Output impedance: 4-16 ohms. FR: 25Hz-35kHz. Mains: 110, 230V AC. Two sets of speaker outlets. Controls: bass  $\pm 10$ dB at 100 Hz, treble  $\pm 10$ dB at 10kHz, loudness + 10dB at 100Hz. Size:  $17\frac{1}{8} \times 5\frac{3}{8} \times 13\frac{5}{8}$ in. Weight: 20 $\frac{1}{4}$ lb. Finish: walnut case with aluminium fascia. Price: £99 (plus VAT).

**KR7200**

AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 187-556m. Signal strength meter, centre-zero tuning meter. Usable sensitivity: 1.6µV (IHF). Variable tuning. Aerial input: 75



★ Indicates entry is illustrated

ohms coaxial, 300 ohms balanced twin. Inputs: mag PU (2) 2.5mV 50K, mic 1.2mV 10K, aux (2) 180mV 80K, tape (2) 1-520mV 50K and 2-180mV 50K. Noise level: (mag PU input) -65dB, (mic input) -55dB, (other inputs) -75dB. Controls: bass  $\pm 12$ dB at 100Hz, treble  $\pm 12$ dB at 10kHz, middle  $\pm 8$ dB at 1kHz, loudness  $+10$ dB at 100Hz and  $+5$ dB at 10kHz. Provision for three sets of speakers (A+B+C, A+B, A+C). Output: 70W RMS per channel. Output impedance: 4-16 ohms. FR: 20Hz-40kHz. Mains: 110, 230V AC. Three power outlet sockets (two switched, one non-switched). Size:  $17\frac{1}{8} \times 5\frac{3}{4} \times 14$ in. Weight: 29.5lb. Finish: walnut case with aluminium fascia. Price: £192 (plus VAT).

#### ■ WHARFEDALE

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### Denton

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 187-555m. Sensitivity: FM 4 $\mu$ V, AM 30 $\mu$ V. Variable tuning. Meter tuning indicator. Capture ratio: 5dB typical. Inputs: mag PU 2mV, ceramic PU 200mV, tape 200mV. H and N: -60dB all inputs. Tone controls: bass  $+14$ dB -12dB at 50Hz, treble  $\pm 11$ dB at 10kHz. Output: 9W RMS per channel (both channels driven). FR: 30Hz-30kHz -3dB at 1W. HD: 0.5%. Headphone socket. Outlets for two pairs of speakers. Loudness control. Stereo decoder and beacon. Mains: 100, 120, 200, 240V 50-60Hz. Size:  $14\frac{1}{2} \times 4 \times 8\frac{1}{2}$ in. Weight: 11lb. Finish: teak, walnut or white. Price: £95 (including VAT).

#### Linton

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 188-600m. Sensitivity: FM 2.5 $\mu$ V (IHF), MW 30 $\mu$ V (IHF). Variable tuning. Meter tuning indicator. Capture ratio: 3dB. Inputs: mag PU 3mV, monitor 400mV, aux 200mV. H and N: -60dB. Tone controls: bass  $+14$ dB -12dB at 50Hz, treble  $\pm 12$ dB at 10kHz. Damping factor: 30 at 8 ohms. Output: 17W per channel into 6 ohms (both channels driven). HD:  $<0.2\%$  at 12W. FR: 15Hz-50kHz  $+0$ dB -1.5dB. Outlet for two sets of speakers. Loudness control. Headphone socket. Mains: 100, 120, 200, 240V 50-60Hz. Size:  $17\frac{1}{2} \times 5 \times 12\frac{1}{2}$ in. Weight: 15 $\frac{1}{2}$ lb. Price: £107.66 (including VAT).

#### Triton

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, 188-600m. Variable and preset tuning. Sensitivity: FM 4 $\mu$ V, MW 30 $\mu$ V typical. Tuning meter. AFC. Capture ratio: 8dB. Inputs: mag PU 2.5mV 47K, ceramic PU 80mV 100K, tape 130mV 100K. Noise level: (PU input) -65dB,

(tape input) -70dB. Tone controls: bass  $\pm 12$ dB at 50Hz, treble  $\pm 12$ dB at 10kHz. Output: 25W RMS per channel into 6 ohms. FR: 25Hz-70kHz -3dB. HD: 0.3% at 1W, 0.5% at 20W. Damping factor: 30 at 6 ohms. Scratch filter: -9dB at 10kHz. Five preset FM stations. Headphone socket. Outlets for two pairs of speakers. Quiet tuning facility. Loudness control. Stereo decoder with beacon. Mains: 100, 120, 200, 240V 50-60Hz. Size:  $17\frac{1}{2} \times 5 \times 12\frac{1}{2}$ in. Weight: 44lb. Price: £160 (including VAT).

#### ■ YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road, North Wembley, London, HA9 8QL. Tel: 01-904 0141.

#### CR-500

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 186-560m. Variable tuning. AFC. Meter tuning indicator. Usable sensitivity: AM 20 $\mu$ V, FM 2 $\mu$ V. Aerial input: 300 ohms balanced. Stereo decoder included. Output: 22W RMS per channel. Two mic inputs with separate volume control. Auto stereo beacon. Mains: 110-240V AC. Finish: steel grey cabinet with brushed chrome fascia. Sizes:  $17 \times 12 \times 6$ in. Price: £129.66 (including VAT).

#### CR-700

AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 186-560m. Variable tuning. Auto-touch AFC switching. Meter tuning indicator. Usable sensitivity: AM 15 $\mu$ V, FM 1.7 $\mu$ V. Aerial input: 300 ohms balanced. Auto-touch FM tuning. Two-stage RF circuit. High-pass and low-pass filters. Output: 40W RMS per channel. Finish: walnut cabinet with brushed chrome fascia. Size:  $16\frac{1}{2} \times 6 \times 12$ in. Price: £168.21 (including VAT).

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## LEADER LE720 by **bryan**

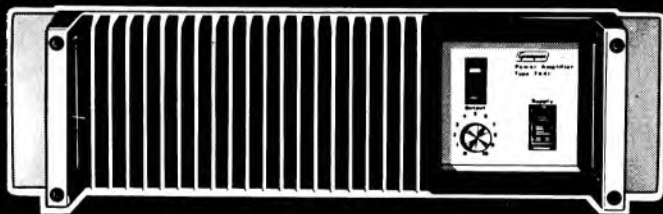
The new amplifier with looks to match its performance. A power output of over 35 watts RMS into 8 ohms per channel, a signal to noise ratio of 70dB, a wide input capacity and harmonic distortion of 0.05%. Output protection circuits that also protect your loudspeakers.

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## Turntable 666



It is the most advanced in our line of manual turntables. As with the "555", there is a free floating suspension incorporating the platter and the fictitious pivot arm. In addition the axis of the fictitious pivot with the "666" arm is at the level of the record, and thus warp wow is eliminated. This is an ERA first.

The "666" is fitted with American oiled walnut woodwork. It is packed with its perspex cover.

- Synchronized 48 Pole Motor with stabilized voltage control from 20V to 5000V
- Heavy Die cast 12 inch non ferrous turntable
- Flexible neoprene drive belt
- Wow and Flutter better than .04% 033 RPM
- Rumble better than .73 O/B Din
- Neoprene "Silentblock" internal suspension
- Featuring the "Unique" frictionless Pivot formed by a network of opposing springs giving the ultimate in stylus tracking

## Amplifier ST 50



- Power rated at 2 x 25 R.M.S.
- Power Band width 30 30,000 hz
- Tone Control Featuring independent Bass and Treble channel  
Degree of Bass + 18db at 70hz  
Degree of Treble + 14db at 10Kh2
- Coefficient of Distortion at maximum 0.5%
- Signal to Noise Ratio 50db
- Input Phone Magn 4mv at 1000hz  
Tuner 55mv  
Tape 450mv at Recording  
340mv
- Output Loudspeaker Boxes contacts for DIN and R.C.A. normal

With 2 x 25 Watt and a coefficient of distortion of 0.5% the new amplifier ERA ST 50 shows first-rate original powers and presents you, especially by using the ERA-boxes coordinated to it, an excellent sound comfort. As speciality it has input and output contacts for the DIN- and RCA-normal, and contacts for monitoring and headphone complete the image of a first rate amplifier element. In spite of a low price its design finish is remarkable, too: Chassis of black varnished steel, front plate and keys of aluminium.

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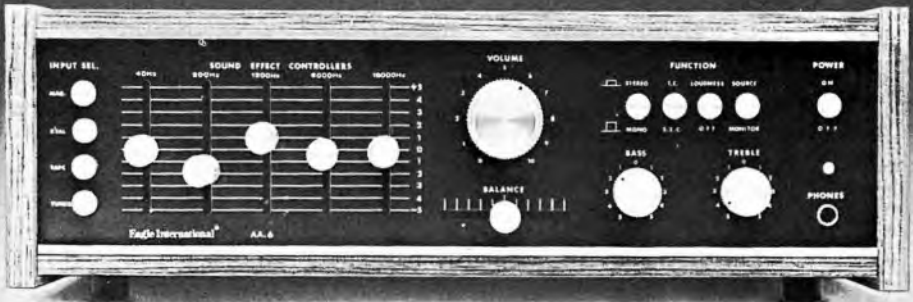
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RECEIVERS · TURNTABLES  
STEREO CASSETTE DECK  
MODULAR UNITS · SPEAKERS  
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# YAMAHA

**Jonathan Fallowfield Ltd**, Sole UK Distributors,  
Strathcona Road, North Wembley, Middlesex HA9 8QL.



## To boost the violins, slide the fourth knob from the left upwards.

To boost the bass trombones,  
slide the first knob upwards.

To get Gigli or Sinatra to sing  
out, slide the third knob upwards.  
It gives the human voice more  
'presence'.

We could go on, but by now  
you'll take the point.

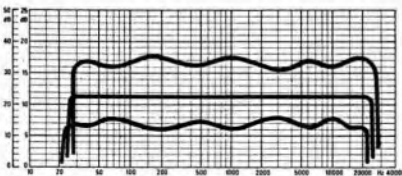
With the Eagle AA6 amplifier,  
you have complete control over  
the sound you hear.

Much more than you ever had  
with normal Bass and Treble  
controls.

Why?

Because the five slide con-  
trollers allow you to boost or cut  
five separate sectors across the  
whole frequency range, around  
40, 200, 1,200, 6,000, and  
15,000 Hz.

As opposed to ordinary Bass  
and Treble controls which simply  
give you 'blanket' cut or boost,  
generally around 100 and  
10,000 Hz.



Graph shows degree of control throughout frequency range  
with Sound Effect Controllers in maximum and minimum  
positions.

The difference is amazing.

With the AA6, you can literally  
pick and choose what you hear.

You can create entirely new  
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Or you can compensate for  
poor room acoustics.

Or poor recordings.

Or quirks in your other hi-fi  
components.

And when you're not listening  
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simple Bass and Treble controls  
merely by pushing a button.

Now there's something you  
must do. Visit your Eagle dealer  
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More than any other amplifier,  
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# Directory of Amplifiers and Control Units

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOUSTICAL MANUFACTURING

See Quad.

## ■ ACOUSTIC RESEARCH INTERNATIONAL

High Street, Houghton Regis, Beds.  
Tel: Dunstable 603151. Telex: 825467.

### AR Universal Amplifier

Integrated stereo amplifier. Inputs: magnetic PU 2.5mV (adjustable) 50K, tape 200mV 150K, aux 200mV 150K. Noise level: PU input 57dB, other inputs 75dB. Controls: bass, treble, balance, volume, input selector, mono/stereo mode. Output: 60W RMS per channel. HD: <0.5%. FR: 20Hz-20kHz ± 1dB. Output impedance: 4-16 ohms. Mains: 100, 120, 220, 240V 50-60Hz. Size: 15½ × 4½ × 10in. Price: £121 (including VAT).

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222.

### AA5200 ★

Integrated stereo amplifier. Inputs: mag PU 3mV, aux 150mV, line 775mV, tape 150mV. Output: 20W RMS per channel into 8 ohms. HD: <0.1% at 10W. FR: 20Hz-50kHz ± 3dB. H and N: (PU input) -65dB, (other inputs) -70dB. Tone controls: ± 10dB at 100Hz, treble ± 10dB at 10kHz, loudness +7dB at 100Hz ± 4dB at 10kHz, high filter -7dB at 10kHz, low filter -12dB at 50Hz. 15 transistors, four ICs, 8 diodes. Mains: 100-240V 50-60Hz. Size: 17¼ × 5½ × 13¼in. Weight: 19.8lb. Price: £93.50 (including VAT).

### AA5500 ★

Integrated stereo amplifier. Inputs: mag PU 3mV, aux 150mV, line 775mV, tape 150mV, mic 3mV. Output: 30W RMS per channel into 8 ohms. HD: <0.05% at 20W. FR: 20Hz-50kHz ± 3dB. H and N: (mag PU) -65dB, (other inputs) -80dB. Tone controls: bass ± 10dB at 100Hz, treble ± 10dB at 10kHz, loudness +7dB

at 100Hz +4dB at 10kHz, high filter -7dB at 10kHz, low filter -12dB at 50Hz, 19 transistors, 10 diodes, five ICs. Mains: 100-240V 50-60Hz. Size: 17¼ × 5½ × 13¼in. Weight: 21¼lb. Price: £118.80 (including VAT).

### AA5800

Integrated stereo amplifier. Inputs: mag PU 3mV, aux 150mV, line 775mV, tape 180mV, mic 3mV. Output: 45W RMS per channel into 8 ohms. HD: <0.05% at 20W. FR: 10Hz-50kHz -3dB. H and N: (PU input) -65dB, (other inputs) -80dB. Tone controls: bass ± 10dB at 100Hz, treble ± 10dB at 10kHz, loudness +7dB at 100Hz +4dB at 10kHz, high filter -7dB at 10kHz, low filter -12dB at 50Hz. 42 transistors, two ICs, 10 diodes. Mains: 100-240V AC. Size: 17¼ × 5½ × 13¼in. Weight: 25¼lb. Price: £178.20 (including VAT).

## ■ ALBA (RADIO & TELEVISION) LTD

Tabernacle Street, London, EC2A 4DY.  
Tel: 01-253 1322.

### UA700 ★

Integrated stereo amplifier. Inputs: mic 2.3mV 50K, aux (1) 2V 3M, aux (2) 375mV at 500K, radio 100mV 150K, magnetic PU 5mV 50K, ceramic PU 60mV. Controls: volume, bass ± 15dB at 60Hz, treble ± 15dB at 14kHz, loudness, balance, input selector pushbuttons. Output: 15W per channel (20W per channel IHF rating). HD: <0.1% up to rated output. FR: 30Hz-18kHz ± 1dB. Noise level: (magnetic PU) -55dB, (aux and radio) -63dB. Crosstalk: better than -38dB. Output impedance: 8-15 ohms. AC mains 240V 50-60Hz. Size: 16½ × 4 × 7⅝in. Finish: teak end pieces, black leathercloth top and brushed aluminium front panel. Price: £41.72 (including VAT).

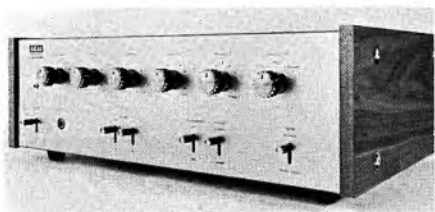
## ■ ALBANY HOUSE

Interconti Electronics Ltd, Albany House, Petty France, London, SW1H 9EA.  
Tel: 01-222 2523.

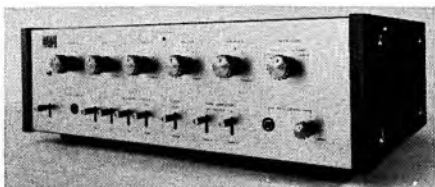
### AM108 ★

Integrated stereo amplifier. 18 transistors, 6 diodes. Inputs: mag PU 4mV 50K, crystal PU 150mV 700K, radio 250mV 100K, tape 280mV 100K. Overload capability: (mag PU) 40mV, (crystal PU) 1.5V, (radio) 2.2V, (tape) 3.6V. Output: 8W RMS per channel. Controls: mains on/off, loudness +10dB at 50Hz +5dB at 10kHz, volume, bass ± 10dB at 100Hz, balance, treble ± 12dB at 10kHz, scratch filter -5dB at 10kHz, mode, input selector. HD: 1% at rated output. Output impedance: 8 ohms. FR: 35Hz-30kHz ± 1dB at 1W. AC mains. Size: 15⅝ × 9 × 2⅞in. Incorporates quadrosound facility. Finish: wood grain effect cabinet with silver and black panel. Price: £33.40 (plus VAT).





Akai AA5200



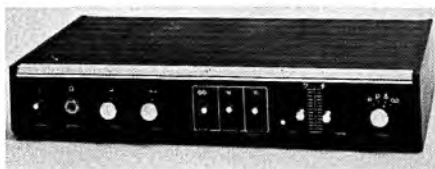
Akai AA5500



Alba UA700



Albany House AM108



Albany House AM208



Ampcron D60

**AM208 ★**

Integrated stereo amplifier. Identical electrical specification to the AM108 but different front panel layout with matt black finish. Cabinet wood grain effect. Price: £33.40 (plus VAT).

■ **ALPHA**

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

**FA200 ★**

Integrated stereo amplifier. 18 transistors. Inputs: mag PU 3mV 50K, crystal PU 250mV 1M, aux 200mV 22K, radio 200mV 22K, tape 200mV 22K. Noise level: (mag PU) 60dB, (other inputs) 70dB. Output: 10W RMS per channel. Output Impedance: 8 ohms. Tone controls: bass slider +14dB -12dB at 50Hz, treble slider +12dB -14dB at 10kHz, HF filter switch -8dB at 10kHz, HD: <0.4% at 8W output. FR: 20Hz-25kHz ± 3dB. Finish: teak with brushed aluminium. Size: 13½ × 5 × 9½ in. Mains: 110, 240V AC. Price: £34.50 (plus VAT).

**FA300 ★**

Integrated stereo amplifier. 18 transistors. Inputs: mag PU 3mV 50K, crystal PU 250mV 1M, aux 200mV 22K, radio 200mV 22K, tape 200mV 22K. Noise level: (mag PU) 60dB, (other inputs) 70dB. Output: 14W RMS per channel. Tone controls: bass slider +14dB -12dB at 50Hz, treble slider +12dB -14dB at 10kHz, loudness switch +12dB at 50Hz +3dB at 10kHz, HD: <0.5% at 12W. Output impedance: 8 ohms. FR: 20Hz-25kHz ± 3dB at 12W. Finish: teak and brushed aluminium. Size: 13½ × 5 × 9½ in. Mains: 110, 240V AC. Price: £42.50 (plus VAT).

**FA400 ★**

Integrated stereo amplifier incorporating 17 transistors and two ICs. Inputs: mag PU 3mV 50K, crystal PU 250mV 1M, aux 200mV 22K, radio 200mV 22K, tape 200mV 22K. Noise level: (mag PU) 60dB, (other inputs) 70dB. Output: 18W RMS per channel. Output impedance: 8 ohms. Tone controls: bass slider +14dB -12dB at 50Hz, treble slider +12dB -14dB at 10kHz, loudness switch +12dB at 50Hz and +3dB at 10kHz. Low filter -10dB at 50Hz. High filter -12dB at 10kHz. HD: 0.5% at 15W. FR: 20Hz-30kHz ± 3dB at 15W. Finish: teak and brushed aluminium. Size: 14½ × 5 × 9½ in. Mains: 110, 240V AC. Price: £49.50 (plus VAT).

**Executive 0030**

Integrated stereo amplifier. Inputs: mag PU 5mV 47K, radio 150mV 47K, tape 300mV 47K. Overload capability: 26dB on all inputs. Output: 15W RMS per channel. Output impedance: 8 ohms. Controls: volume, balance +6dB -infinity, bass ±12dB at 50Hz, treble ±12dB at 15kHz, scratch filter -8dB at 15kHz, loudness +8dB at 50Hz and +6dB at 15kHz. HD: better

than 0.5% at full power, better than 0.1% at 75 per cent power. FR: 20Hz-20kHz  $\pm$  1dB. Size: 16 $\frac{3}{4}$   $\times$  6  $\times$  3 $\frac{1}{4}$  in. Finish: teak veneer. Output for tape recorder: 150mV 47K. Headphone socket: 1W into 8 ohms. Hum and noise: (mag PU) -60dB, (other inputs) -70dB. Mains: 110 or 240V 50-60Hz. Fully protected output circuits. Price: £42.50 (plus VAT).

#### Executive 0050

Integrated stereo amplifier. Specification and size identical to the 0030 except more powerful output stages. Output: 25W RMS per channel. Price: £49.50 (plus VAT).

#### AMCRON

Macinnes Laboratories Ltd, Stonham, Stowmarket, Suffolk, IP14 5LB. Tel: Stonham (044 971) 486.

#### D60 ★

Stereo power amplifier. Output: 62W RMS per channel into 4 ohms, 42W RMS per channel into 8 ohms, 100W RMS into 8 ohms mono. HD: <0.05%. Intermodulation distortion: <0.05% from 10mW to 30W. FR: 5Hz-30kHz  $\pm$  1dB at 30W. Damping factor: >200 from 0-1kHz. H and N: -106dB at 30W. Input: 0.775V for 30W into 8 ohms. Mains: 117, 234V 50Hz. Size: 17  $\times$  8 $\frac{3}{4}$   $\times$  1 $\frac{3}{4}$  in. Weight: 10lb. Fully protected against short circuit or mismatch. Outlet socket for headphones on front panel. Price: £140 (plus VAT).

#### D150

Stereo power amplifier. Output: 140W RMS per channel into 4 ohms, 100W RMS per channel into 8 ohms, 330W RMS into 8 ohms mono. HD: <0.05% at 75W. Intermodulation distortion: <0.05% from 10mW to 75W. FR: 5Hz-20kHz  $\pm$  1dB at 75W. Damping factor: >200 from 0-1kHz. H and N: -110dB at 75W. Input: 1.19V for full output. Mains: 117, 234V 50Hz. Size: 17  $\times$  5 $\frac{1}{4}$   $\times$  9in. Weight: 22lb. Price: on application.

#### DC300A ★

Stereo power amplifier. Output: 500W RMS per channel into 2.5 ohms, 350W RMS per channel into 4 ohms, 200W RMS per channel into 8 ohms, 650W RMS into 8 ohms or 4 ohms mono. HD: <0.05% from 0-20kHz. Intermodulation distortion: <0.05% 10mW to 150W into 8 ohms. FR: DC to 20kHz  $\pm$  0.1dB. Damping factor: >200 from DC to 1kHz. H and N: -110dB at 150W. Input: 1.75V for 150W output. Mains: 117, 234V 50Hz. Size: 19  $\times$  7  $\times$  9 $\frac{3}{4}$  in. Price: on application.

#### IC-150 ★

Stereo preamplifier and tone control unit incorporating IC circuitry. Comprehensive specification. Full details on request. Price: on application.

#### AMSTRAD

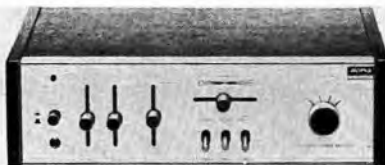
AMS Trading (Amstrad) Ltd, 89 Ridley Road, London, E8. Tel: 01-249 5237.



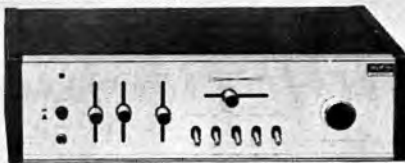
Amcron DC300A



Amcron IC-150



Alpha FA200



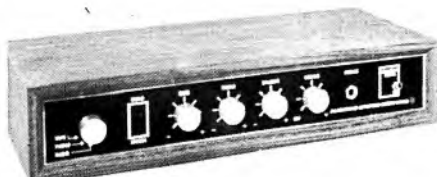
Alpha FA300

Alpha FA400

★ Indicates entry is illustrated

### 8000 Mk II ★

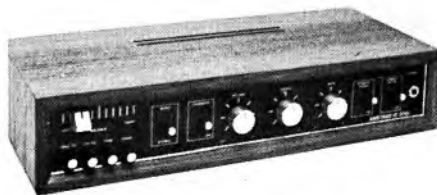
Stereo transistor amplifier. Inputs: magnetic PU 4mV 47K, ceramic PU 80mV, crystal PU 350mV, radio 100mV, tape 100mV. Noise level: -55dB on all inputs. Overload capability: 25dB on all inputs. Output: 7W RMS per channel. Controls: bass, treble, balance, volume, scratch filter, mono/stereo. HD: 0.5% at 5W. Output impedance: 8 ohms. FR: 25Hz-20kHz  $\pm$  3dB. Mains: 220-240V 50Hz. Size: 17  $\times$  3  $\times$  7in. Finish: teak cabinet with black trim. Price: £29.95 (plus VAT).



Amstrad 8000 Mk II

### IC 2000 ★

Stereo amplifier incorporating integrated circuits. Inputs: magnetic PU 3mV 47K, ceramic PU 60mV, tape 100mV, radio 100mV. Noise level: magnetic PU -55dB, other inputs -60 dB. Overload capability 33dB on all inputs. Output: 18W RMS per channel. Controls: volume, balance, bass, treble, loudness, scratch filter, rumble filter, mono/stereo. HD: 0.5% at 18W. Output impedance: 8 ohms. FR: 20Hz-25kHz  $\pm$  3dB. Mains: 220-240V 50Hz. Size: 17  $\times$  3  $\times$  7in. Finish: teak cabinet with black facia and silver trim. Price: £46.25 (plus VAT).



Amstrad IC 2000

### Integra 4000 ★

Integrated stereo amplifier. Two integrated circuits, 12 transistors and two diodes. Inputs: mag PU 2.5mV, ceramic PU velocity loaded, radio 50mV, tape 70mV. Noise level: (mag PU input) -54dB, (other inputs) -60dB. Overload capability: 30dB all inputs. Output: 12W RMS per channel. Controls: bass, treble, middle, scratch filter, rumble filter, loudness control, mono/stereo mode, Headphone input. HD: better than 0.5% at rated output. Output impedance: 8 ohms. FR: 20Hz-25kHz  $\pm$  2dB. Mains: 220-240V AC. Size: 13  $\frac{1}{2}$   $\times$  2  $\frac{1}{2}$   $\times$  9in. Finish: teak cabinet with brushed aluminium panel. Price: £35.50 (plus VAT).



Amstrad Integra 4000

### ■ A/R/D

Audio Research and Development Ltd,  
PO Box 73, Hounslow, Middlesex, TW3 1RD  
Tel: 01-570 0471.

### 2000 Series 2 ★

Solid state stereo amplifier. Power output 15W RMS into 8 ohms. HD: 0.25% at 15W RMS. FR: 20Hz-20kHz  $\pm$  0.5dB. Controls: bass  $\pm$  12 dB at 50Hz; treble  $\pm$  12dB at 10kHz; volume, balance. Pushbuttons for on/off, radio, tape record. Inputs: PU sockets with DIN duplicates for tape and radio; tape record, tape play, radio tuner, ceramic pickup, magnetic pickup, with RIAA equalisation. Psn: 190/225V 50Hz or 110-120V 60Hz. Dimensions: 7  $\times$  4  $\frac{1}{2}$   $\times$  12in. Price: (grey case) £54 (plus VAT); (teak veneered case) £58 (plus VAT)



ARD 2000



Armstrong Audio 621

### ■ ARMSTRONG AUDIO LTD

Wartlers Road, Holloway, London, N7 0RZ.  
Tel: 01-607 3213.

#### Model 621 ★

Integrated stereo amplifier. 24 transistors, 19 diodes. Inputs: mag PU 2.7mV and 10mV switchable 47K, tape 250mV 68K, radio 120mV 68K, aux 120mV 68K. Noise level: (all inputs) better than -65dB. Overload capability: (mag PU inputs) 70mV and 300mV, (tape input) 7V, (other inputs) 3V. Output: 40W RMS per channel into 8 ohms, 50W RMS per channel into 4 ohms. Controls: bass  $\pm 15$ dB at 70Hz, treble  $\pm 13$ dB at 14kHz, electronic gate input selector, switches for two pairs of speakers, loudness, tape monitor, mono/stereo, high filter, low filter. HD:  $< 0.08\%$ . Output impedance: 4-16 ohms. FR: 25Hz-25kHz  $\pm 1$ dB at 1W. Mains: 105-135V, 215-250V AC. Size:  $12\frac{1}{2} \times 3\frac{1}{2} \times 11\frac{1}{4}$  in. Finish: zinc diecast front panel, case in teak or rosewood. All sockets DIN type. Outlet socket for AC mains. Price: £75.90 (including VAT).

### ■ ASTRONIC

Associated Electronic Engineers Ltd,  
Dalston Gardens, Stanmore, Middlesex,  
HA7 1BL. Tel: 01-204 2125.

Manufacturers of high quality preamplifiers, amplifiers and mixer units. No product information obtainable as this edition of the Year Book closed for press.

### ■ BANG & OLUFSEN UK LTD

Eastbrook Road, Gloucester, GL4 7DE.  
Tel: Gloucester 21591.

#### Beolab 1700 ★

Integrated stereo amplifier with ambiophonic facility. Output: 20W RMS into 4 ohms. Distortion:  $< 0.5\%$  at 20W. FR: 20Hz-30kHz  $\pm 1.5$ dB. S/N ratio: mag PU  $> 55$ dB;  $> 65$ dB other inputs. Inputs: magnetic PU 2.4mV 47K, tape 150mV 1M, tuner 150mV 350K. Controls: volume, bass, treble, balance, pushbuttons for sound sources, mono, loudness, speakers, ambio filter and power. Outputs: 4 ohms, headphones 100 ohms minimum. Mains: 110-130 and 220-240V AC 50-60Hz. Size:  $19.7 \times 9.1 \times 2.9$  in. Finish: teak or rosewood. Price: (teak) £69.90; (rosewood) £70.90. Including VAT.

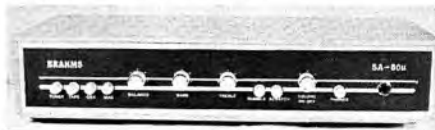
### ■ BRADMATIC LTD

338 Aldridge Road, Streetly, Sutton Coldfield,  
Warwickshire. Tel: 021-353 3171.

Solid state mono and stereo power amplifiers manufactured to order. Enquiries welcomed and full details of service offered provided on request.



Bang & Olufsen Beolab 1700



Brahms SA80U

### ■ BRAHMS

Brahms Manufacturing and Development Co,  
Unit E, Rochester Airport, Maidstone Road,  
Rochester, Kent, ME1 3QJ.  
Tel: Medway (0634) 48816.

#### SA50U

Integrated stereo amplifier. 18 transistors, 6 diodes. Inputs: mag PU 3.5mV, ceramic PU 65mV, tape 130mV, radio 60mV. Noise level: (PU inputs) -54dB, (other inputs) -60dB. Overload capability: (PU inputs) 26dB, (other inputs) 20dB. Output: 12.5W RMS per channel (both channels driven). Controls: volume, bass, treble, balance, scratch, rumble. HD: 0.2%. Output impedance: 8 ohms. FR: 30Hz-30kHz -2dB at full power. Mains: 230-250V AC. Size:  $15 \times 3\frac{1}{2} \times 7\frac{1}{2}$  in. Finish: teak case, two-tone silver facia. Low profile construction. Price: £40.64 (including VAT).

#### SA80U ★

Integrated stereo amplifier. 18 transistors, 6 diodes. Inputs: mag PU 3.5mV, ceramic PU 65mV, tape 130mV, radio 60mV. Noise level: -54dB on PU inputs, -60dB on other inputs. Overload capability: (PU inputs) 26dB, (other inputs) 20dB. Output: 20W RMS per channel (both channels driven). Controls: volume, bass, treble, balance, scratch filter, rumble filter. HD: 0.2%. Output impedance: 8 ohms. FR: 30Hz-30kHz -2dB at full power. Mains: 230-250V AC. Size:  $16 \times 3\frac{1}{2} \times 7\frac{1}{2}$  in. Finish: teak case, matt black and silver facia. Low profile construction with full length extruded heat sink. Price: £46.14 (including VAT).

### ■ BRYAN AMPLIFIERS LTD

18 Greenacres Road, Oldham, Lancs, OL4 1HA.  
Tel: 061-624 4074.

#### 9000/50

Integrated stereo amplifier and control unit. Output: 25W per channel into 15 ohms. HD: better than 0.1%. FR: 35Hz-33kHz  $\pm 1$ dB at

★ Indicates entry is illustrated

1W. Feedback — 60dB. Output impedance 4-15 ohms. Inputs: magnetic pickup, 3mV, 50K, noise level — 70dB; ceramic pickup, 40mV, 100K, noise level — 60dB; radio, tape and aux, 75mV, 50K, noise level — 60 to — 70dB. Controls: volume and on/off; balance; bass; treble; selector; mode; monitor; rumble filter. Mains powered. Dimensions:  $13\frac{3}{4} \times 5\frac{1}{4} \times 10\frac{3}{8}$ in. Price: (chassis) £61 (plus VAT), (cabinet model) £66 (plus VAT).

#### The Leader LE720

Integrated stereo amplifier, 45 transistors and 14 diodes. Inputs: mag PU 3mV 50K, tape 100mV 50K, radio (1) 100mV 50K, radio (2) 500mV 250K, aux (1) 100mV 50K, aux (2) 1V 500K. Noise level: — 70dB. Overload capability: mag PU input 30dB. Output: at least 35W RMS per channel. Controls: balance (zero to max each channel), treble  $\pm 12$ dB at 10kHz, bass  $\pm 15$ dB at 50Hz, filter 3dB roll-off at 5-8-11kHz (8dB in first octave, 20dB in second octave), quiet listening + 10dB at 50Hz and + 5dB at 10kHz. HD: < 0.1%. Output impedance: 4-15 ohms. FR: 20Hz-50kHz  $\pm 3$ dB. Mains: 100, 110, 220, 240V AC. Size:  $18 \times 3 \times 10\frac{1}{2}$ in. Finish: teak cabinet with extruded aluminium front and rear. Full protection against DC offset on both speaker systems. Price: £96 (plus VAT).

#### ■ BUSH-ARENA

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### A220

Integrated stereo amplifier. Inputs: mag PU 2-25mV 47K, ceramic PU 42mV 500K, tape 90mV 200K, radio 70mV 150K. FR: 25Hz-20kHz — 3dB. HD: < 1%. Controls: volume on/off, bass + 12dB — 15dB at 100Hz, treble + 11dB — 13dB at 10kHz, balance, mono/stereo, input selection. Output: 10W RMS per channel into 4 ohms. Output impedance: 4-15 ohms. Outlets for tape recorder (38mV 47K) and stereo headphones (4ohms). Mains: 220, 240V 50Hz. Size:  $13\frac{3}{8} \times 3\frac{3}{8} \times 8\frac{3}{8}$ in. Price: £37.65 (including VAT).

#### ■ BUSH NELSON LTD

Bush House, 6 Yattendon Road, Horley, Surrey. Tel: Horley 5983.

#### Integrated transistor stereo amplifier

Controls: on/off, mono/stereo, volume, balance, bass, treble. Output: 35W music (total). FR: 15Hz-30kHz  $\pm 1$ dB at 1W. Size:  $12 \times 6 \times 2$ in. Price: £31 (plus VAT).

#### ■ CAMBRIDGE AUDIO

Cambridge Audio Ltd, The River Mill, St Ives, Huntingdon, PE17 4EP. Tel: St Ives (Hunts) 62901.

#### P50 ★

Stereo integrated amplifier. Output: 25W per channel into 8 ohms, 15W into 15 ohms (both at 1kHz). FR: 25Hz-25kHz  $\pm 0.5$ dB. HD: < 0.05% at all levels up to rated output. Intermodulation distortion: < 0.1% at all levels up to rated output. S/N: > 60dB on pickup input, > 70dB on tuner input (both figures unweighted and unaffected by volume setting). Inputs: PU 3mV 47K, PU 100mV 100K (both RIAA equalised), radio 25mV 180K flat, aux 150mV 100K flat. Tape monitor: 500mV. Tape output: 250mV. Crosstalk: better than 50dB at 1kHz. Size:  $16\frac{1}{2} \times 9\frac{3}{8} \times 2$ in. Price: £89.95 (plus VAT).

#### P100

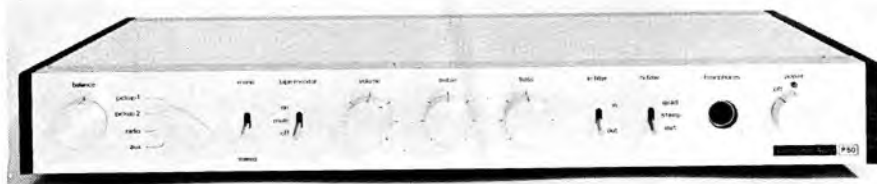
Similar specification to the P50 amplifier but power output 50W per channel into 8 ohms, 36W per channel into 5 ohms. Also PU2 3mV 47K. Price: £139 (plus VAT).

#### ■ CANTERBURY AUDIO

4 Station Road West, Canterbury, Kent. Tel: Canterbury 60431.

#### Stereo 80 Series

Modular construction integrated stereo amplifier. Inputs: pickup, tape and radio with individual preset gain controls. Tone controls: bass  $\pm 15$ dB at 100Hz, treble  $\pm 15$ dB at 10kHz. Scratch filter: — 12dB/octave from 5kHz. Rumble filter: — 12dB/octave from 100Hz. Output: 35W RMS per channel. Output impedance: 4 ohms (also suitable for 8 and 15 ohm



Cambridge Audio P50

speakers but will supply reduced power). S/N ratio: better than 65dB. FR: 25Hz-25kHz  $\pm$  1dB. HD: 0.2% at 1kHz. Mk I with integral input selector module. Mk II with separate input selector module adaptable to different inputs. Price: (Mk I) £31.95; (Mk II) £33.45; (regulated modular power supply) £6.95; (Mk I in cabinet with power supply) £38; (Mk II in cabinet with power supply) £39.75. All prices exclude VAT.

### ■ DARBY INDUSTRIES

38-42 Chestnut Grove, New Malden, Surrey, KT3 3JW. Tel: 01-942 1598.

#### Elegance

Integrated stereo amplifier. Inputs: mag PU, radio, tape. Controls: bass, treble, balance, volume. Pushbuttons for mains on/off, input selector, mono/stereo. Output: 5W RMS per channel. Neon indicator light. Output impedance: 8 ohms. Finish: eggshell black or white. Supplied in mail order pack. Price: £22.50 (plus VAT).

#### Symphony

Similar specification to the Elegance but with rotary input selector instead of pushbuttons. Supplied in mail order pack. Price: £20 (plus VAT).

#### Amplifier

Integrated stereo amplifier. Inputs: mag PU 2.7mV 47K, mic 2.5mV 47K, aux 75mV 100K, tape 75mV 100K. Overload capability: 32dB. S/N ratio: 60dB. Controls: treble  $\pm$  14dB at 10kHz, bass  $\pm$  14dB at 100Hz. HD: 0.1% at all powers into 8 ohms, 0.25% at all powers into 4 ohms. Output impedance: 4-16 ohms. FR: 20Hz-30kHz-1dB. Output suitable for one 4 ohm speaker per channel, or one or two 8 ohm or 15 ohm speakers per channel. Socket for headphones (mono or stereo 8-2000 ohms). 27 silicon transistors. Robust desk-type cabinet with slider controls. Price: £85 (plus VAT).

### ■ DUAL

Audiodecks Ltd, Farnell House, 81 Kirkstall Road, Leeds, LSI 1HR. Tel: Leeds 35111.

#### CV120

Integrated stereo amplifier. 30 transistors, 14 diodes. Inputs: mic 2mV 47K, mag PU 2.5mV 47K, radio 300mV 470K, tape 300mV 470K, aux 300mV 470K. Noise level: (mic input) -50dB, (mag PU input) -62dB, (other inputs) -78dB. Output: 40W RMS per channel. Six slider controls for volume, bass, treble, balance, rumble, noise. HD: 0.2%. Output impedance: 4-16 ohms. FR: 20Hz-30kHz  $\pm$  0.5dB; 15Hz-60kHz  $\pm$  1.5dB. Mains: 110, 117, 220, 240V AC. Size: 16 $\frac{1}{2}$   $\times$  4 $\frac{1}{4}$   $\times$  13 $\frac{1}{4}$  in. Finish: walnut or white with matt black panel. Overload circuit with



Dynaco PAT-4



Dynaco ST-120

visual indicator. Price: (walnut) £142.13 (including VAT); (white) £143.36 (including VAT).

### ■ DYNACO

Distributors: Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

#### PAT.4 ★

Transistorised stereo control unit. Inputs: PU (low level), PU (high level), tape head, tape amplifier, radio, aux (high level), aux (high level) to socket on front panel. Noise level: -70 dB on low level inputs, -85dB on high level inputs. Controls: selector, volume, balance, bass (left and right), treble (left and right), filter, loudness, tape monitor, bass filter, mode, on/off. Mains: 120-240V 50-60Hz. Designed for use with Dynaco Stereo 120 or other similar high quality amplifiers. Size: 13 $\frac{1}{2}$   $\times$  4 $\frac{1}{4}$   $\times$  9in. Price: (ready assembled) £86 (plus £8.60 VAT).

#### Stereo 120 ★

Transistor stereo power amplifier. Output: 35W RMS per channel. HD: less than 0.25% up to 60W 20Hz-20kHz. FR: 5Hz-100kHz  $\pm$  0.5dB. Noise: 95dB below stated output (unweighted). Input: 1.5V for stated output. Output impedance: 4-16 ohms. Output transistors: selected RCA 2N3055. Mains: 220-240V AC. Size: 13  $\times$  10 $\frac{1}{2}$   $\times$  4in. Designed for use with Dynaco PAT.4 or any other similar high quality stereo control unit. Price: (ready assembled) £115 (plus £11.50 VAT).

#### SCA-80

Solid state stereo amplifier. Power output: 50W per channel RMS, 4-16 ohms. HD: less than 0.5%. FR: 15Hz-50kHz  $\pm$  1dB. NL: better than

★ Indicates entry is illustrated

-60dB. Inputs: pickup, 3mV, 47K. Controls: tape monitor switch, blend, treble for each channel, rumble filter, bass for each channel, balance, volume, loudness. Mains powered. Size:  $13\frac{1}{2} \times 4\frac{1}{2} \times 10$ in. Price: (ready assembled) £152 (plus £15.20 VAT).

#### ST-80

Solid state stereo amplifier. Power output: 50W per channel RMS, 4-16 ohms. HD: less than 0.5%. FR: 15Hz-50kHz  $\pm 1$ dB. NL: better than -60dB. Mains powered. Dimensions:  $13\frac{1}{2} \times 4\frac{1}{2} \times 9$ in. Control unit: Dynaco PAT.4, or others. Price: (ready assembled) £102 (plus £10.20 VAT).

#### ST-400 ★

Stereo power amplifier. Output: 200W RMS per channel stereo. Controls: linear phase 12dB/octave, low-pass roll-off frequency -3dB at 15kHz, high-pass roll-off frequency -3dB at 50Hz. HD: <0.25% at rated power. Output impedance: 8ohms. FR: 20Hz-20kHz  $\pm 0.25$ dB. Size:  $16 \times 12\frac{1}{2} \times 7$ in. Finish: metal cabinet and front panel. Overload protection device (Dyna-guard) with settings at 20, 40, 80, 120 and 200W. Price: £297 (including VAT).

### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

#### TSA.149 ★

Integrated stereo amplifier. Output: 7W RMS per channel. FR: 25Hz-18kHz. Inputs: magnetic PU 3.5mV, ceramic PU 100mV, tape 200mV, radio 200mV. S/N: better than 50dB. All silicon transistors. Wood cabinet. Size:  $11\frac{1}{4} \times 3\frac{3}{8} \times 8\frac{5}{8}$ in. Price: £32.66 (plus VAT).

#### TSA.151

Integrated stereo amplifier. Output: 15W RMS per channel. FR: 20Hz-40kHz. Inputs: magnetic PU 3mV, ceramic PU 100mV, tape 100mV, radio 200mV. S/N: better than 60dB. Silicon transistors. Wood cabinet. Size:  $13 \times 4 \times 8\frac{3}{4}$ in. Price: £45.30 (plus VAT).

#### AA2

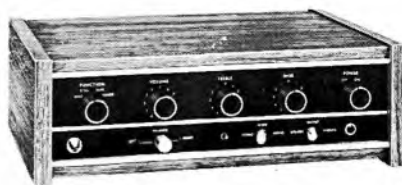
Integrated stereo amplifier. Output: 10W RMS per channel. FR: 25Hz-20kHz  $\pm 2$ dB. Inputs: magnetic PU 3mV 47K, ceramic PU 80mV 100K, radio 180mV 100K, tape 180mV 100K. Noise level: magnetic PU 64dB, ceramic PU 66dB, other inputs 68dB. Controls: bass, treble, volume, balance, on/off, rumble filter, scratch filter. HD: 0.5%. Output impedance: 8-16 ohms. Mains: 240V AC. Size:  $10\frac{3}{4} \times 8\frac{3}{4} \times 3\frac{3}{4}$ in. Finish: teak cabinet with metal fascia. Price: £40.03 (plus VAT).

#### AA4 ★

Integrated stereo amplifier. Output: 20W RMS per channel. FR: 20Hz-36kHz  $\pm 2$ dB. Inputs:



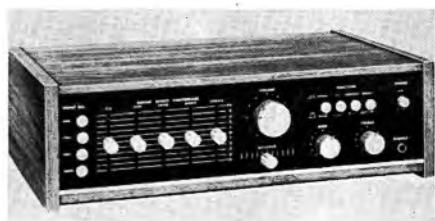
Dynaco ST400



Eagle TSA149



Eagle AA4



Eagle AA6



Eagle FF11



EMI 1515 amplifier

magnetic PU 3mV 47K, ceramic PU 80mV 100K, radio 180mV 100K, tape 180mV 100K. Noise level: magnetic PU 66dB, ceramic PU 68dB, other inputs 70dB. Controls: bass, treble, volume, balance, on/off, rumble filter, scratch filter. HD: 0.2%. Output impedance: 8-16 ohms. Mains: 240V AC. Size:  $13 \times 10\frac{1}{2} \times 3\frac{3}{8}$  in. Finish: teak cabinet with metal fascia. Price: £55.84 (plus VAT).

#### AA6 ★

Integrated stereo amplifier. Output: 14W RMS per channel. FR: 20Hz-36kHz  $\pm 2$ dB. Inputs: magnetic PU 3mV 47K, ceramic PU 80mV 100K, radio 180mV 100K, tape 180mV 100K. Noise level: magnetic PU 63dB, ceramic PU 65dB, other inputs 70dB. Controls: bass, treble, volume, balance, on/off, pushbutton input selectors, five sound effect controllers giving  $\pm 5$ dB over five channels in the audio spectrum. Finish: teak cabinet with metal fascia. Price: £72.70 (plus VAT).

#### AA10 and AA26

See Quadraphonic Section for details of the Eagle AA10 and AA26 four-channel quadrasonic synthesiser.

#### FF11 ★

Stereo frequency controller and preamplifier. Eight transistors. Inputs: mag PU 3mV 50K (RIAA), tape 200mV 100K, aux 200mV 100K. Tape outlet: 200mV 100K. Main output: 200mV at more than 50K per channel. Controls:  $\pm 10$ dB at 40Hz,  $\pm 10$ dB at 200Hz,  $\pm 10$ dB at 1.2kHz,  $\pm 10$ dB at 6kHz,  $\pm 10$ dB at 15kHz. Power supply: 18V internal battery. Size:  $9\frac{7}{8} \times 7\frac{1}{8} \times 1\frac{1}{2}$  in (sloping down to  $1\frac{1}{8}$  in). Finish: black crackle. Price: £31.30 (plus VAT).

#### ■ ELGAR

English Audio (1970) Ltd.  
North Station Road, Colchester, Essex.  
Tel: Colchester (0206) 73467.

#### Elgar

Integrated stereo amplifier. Inputs: mag PU 3.5mV 56K, ceramic PU 20mV 33K, radio

100mV 100K, tape 100mV 100K. Noise level:  $-65$ dB on all inputs. Output: 18W per channel. HD:  $<0.5\%$  at all levels up to rated output. FR: 20Hz-20kHz  $\pm 3$ dB. Overload capacity: 29dB on all inputs. Independent outlet for tape provides 200mV irrespective of volume setting. Controls: (rotary) bass, treble, volume, balance and input selector. (slide switches) mono/stereo, HF filter, loudness, phones/speaker. Indicator light. Output impedance: 8-16 ohms. Connections by DIN plugs. Finish: teak case. Price: approximately £60 (plus VAT).

#### ■ ELOWI

Lynthorpe Factors, 90 Dragon Parade,  
Harrogate, Yorks, HG1 5DQ.  
Tel: Harrogate 3540.

#### MX5000

Integrated stereo amplifier. Inputs: mag PU 2.5mV 47K, crystal PU 380mV 500K, mic 2.5mV 10K, radio 6mV 47K, tape 380mV 500K. Output: 35W RMS per channel, both channels driven. FR: 15Hz-25kHz  $\pm 1.5$ dB. Tone controls: bass  $\pm 19$ dB at 40Hz, treble  $\pm 19$ dB at 20kHz. 22 transistors, four diodes, four zeners. Mains: 220/240V 50/60Hz (switchable to 110V AC). Full specification and price on request.

#### ■ EMI SOUND & VISION

EMI Pathe Division, 252 Blyth Road, Hayes,  
Middlesex, UB3 1HW.  
Tel: 01-573 3888. Telex: 22417.

#### 1515 ★

Integrated stereo amplifier. Output: 15W RMS per channel. HD:  $<0.2\%$  at 1kHz at rated output. FR: 25Hz-25kHz  $\pm 1$ dB. Signal-to-noise level: better than  $-50$ dB on all inputs. Inputs: mag PU, radio, tape, microphone, aux. Low pass filter. Two-switched mains outlet sockets incorporated. Price: £46.50 (including VAT).

#### ■ FAL

Futuristic Aids Ltd, Henconner Lane,  
Leeds, LS134LQ. Tel: Pudsey 5478.

#### Phase 44

Stereo transistorised integrated amplifier. Inputs: PU 2.5mV 47K (magnetic), PU 35mV 47K (ceramic), radio 175mV 68K, tape 175mV 68K. Noise level:  $-65$ dB all inputs. Outlet for tape 200mV. Controls: treble  $\pm 15$ dB at 14kHz, bass  $\pm 15$ dB at 40Hz, volume, balance, filter  $-6$ dB at 9kHz, 12dB/octave roll-off. Output: 30W per channel into 4 ohms, 20W per channel into 8 ohms, 10W per channel into 15 ohms. HD: 0.05% at 10W RMS 1kHz. FR: 10Hz-70kHz at 3dB points. Output impedance: 8 or 15 ohms. Mains: 230-240V AC. Consumption: 50W. Size:  $15 \times 9\frac{1}{2} \times 4\frac{1}{2}$  in. Finish: teak veneered cabinet with satin aluminium panel. Price: £46.75 (including VAT).



★ Indicates entry is illustrated

### Phase 25 'Class A' ★

Stereo transistorised integrated amplifier. Inputs: PU (magnetic) 2.5mV 47K, radio 175mV 68K, tape 175mV 68K. Noise level -70dB all inputs. Outlets for tape recorder 200mV. Controls: treble  $\pm 15$ dB at 14kHz, bass  $\pm 15$ dB at 40Hz, volume, balance +1dB -zero, filter 9kHz, 12dB/octave roll-off. Output: 12W per channel into 8 ohms, 10W per channel into 15 ohms. HD: 0.02% at rated output. FR: 15Hz-68Hz at 3dB points at -10dB full power. Output impedance 8 or 15 ohms. Mains: 230-240V AC. Size:  $14\frac{3}{4} \times 11 \times 4\frac{3}{4}$ in. Finish: teak veneered cabinet with satin aluminium panel. Price: £59.40 (including VAT).



FAL Phase 25



Ferrograph F307

### ■ FANTAVOX

Joint distributors: Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288. E.R. (Factors) Ltd, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.

### A3550

Integrated stereo amplifier. 14 transistors and two diodes. Inputs: mag PU 3mV 50K, ceramic PU 300mV 50K, radio 200mV 50K, aux 200mV 50K. Noise level: mag PU input -50dB, other inputs -60dB. Output: 20W RMS per channel. Tone controls: bass  $\pm 10$ dB at 70Hz, treble  $\pm 10$ dB at 15kHz. Loudness control. HD:  $< 1\%$  at 1kHz at rated output. Output impedance: 4-16 ohms. Mains: 240V AC. Socket for AC outlet. Size:  $12 \times 4\frac{1}{2} \times 9\frac{3}{4}$ in. Finish: Metal case with simulated wood grain finish, brushed gold facia. Price: £53.46 (including VAT).

### A3525

Integrated stereo amplifier. 12 transistors and two silicon diodes. Inputs: mag PU 3mV 50K, ceramic PU 300mV 50K, radio 250mV, 50K, aux 250mV 50K. Noise level: mag PU input -50dB, other inputs -60dB. Output: 9W RMS per channel. HD:  $< 1\%$  at 1kHz at rated output. Output impedance: 4-16 ohms. FR: 30Hz-30kHz  $\pm 2$ dB. Mains: 240V AC. Unswitched socket for AC outlet. Size:  $10 \times 4\frac{1}{2} \times 7\frac{3}{4}$ in. Finish: metal case with simulated wood grain finish, brushed gold facia. Price: £40.10 (including VAT).

### ■ FERROGRAPH CO LTD

Auriema House, 442 Bath Road, Cippenham, Slough, Bucks, SL1 6BB. Tel: Burnham 062-86 62511. Telex: 847297.

### F307 ★

Stereo amplifier styled to match Ferrograph Series 7 recorder. Per channel: 20W into 8 ohms or 15W into 15 ohms. Total HD: less than 0.25% at 1kHz all levels. FR: ( $\pm 1$ dB) 20Hz-25kHz,

( $\pm 1$ dB - 3dB) 15Hz-30kHz. Inputs: ceramic PU, tuner and aux, 100mV-5V at 2M; magnetic PU (RIAA), 3mV at 100K, 68K or 47K; tape, 150mV at 50K. Outputs: speaker 8-16 ohms, phones 8 ohms or greater; tape 50K or greater. H and N: less than -65dB (except magnetic PU which is less than -60dB). Bass control  $\pm 17$ dB at 50Hz, treble control  $\pm 13$ dB at 15kHz. Pushbutton low-pass filters -3dB at 10, 7 and 5kHz. Mains: 117, 220, 240V 50-60Hz. Size:  $16\frac{1}{8} \times 5 \times 9\frac{3}{8}$ in. Price: £68 (plus VAT).

### ■ FIDELITY RADIO LTD

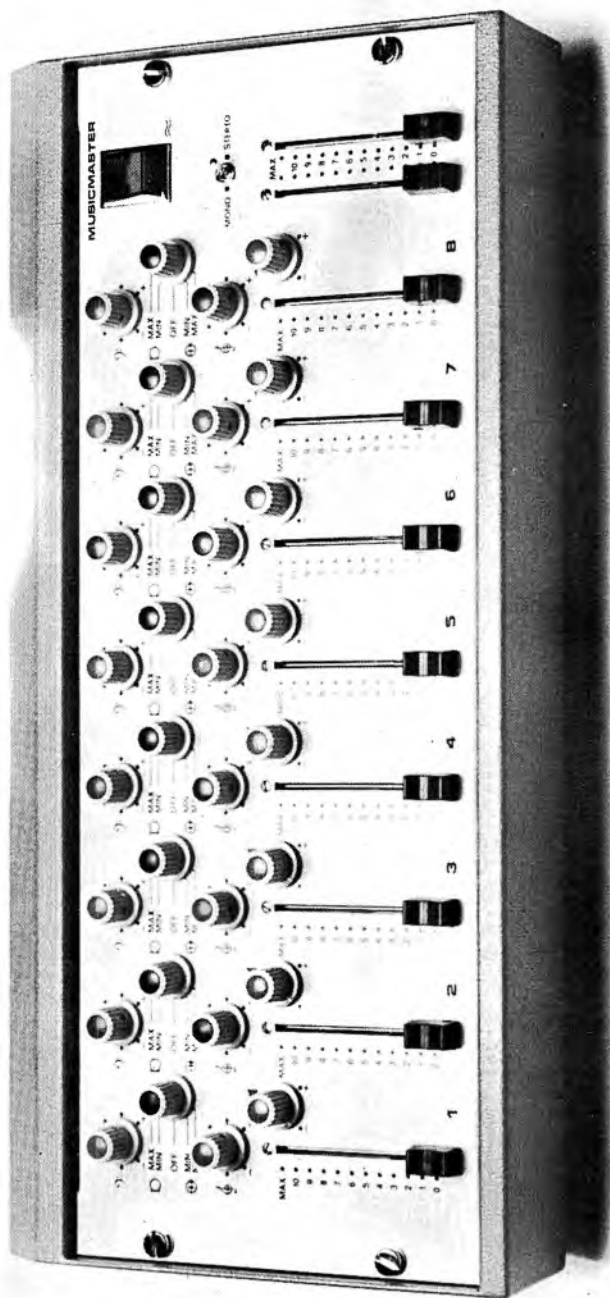
6 Olaf Street, London, W11. Tel: 01-727 0131.

### 20/20 Amplifier

Integrated stereo amplifier. Inputs: mag PU 3mV 50K, ceramic PU 70mV 50K, tape monitor 250mV 25K, aux 250mV 25K, radio 250mV 25K. Output: 20W RMS per channel into 8 ohms. HD: (overall)  $< 0.2\%$  (power amplifier only)  $< 0.1\%$  at 20W output. FR: 20Hz-26kHz  $\pm 2$ dB, 30Hz-16kHz  $\pm 1$ dB. Noise level: (mag PU input) -65dB, (other inputs) -70dB. Controls: bass +16dB -18dB at 50Hz, treble +16dB -15dB at 10kHz, scratch filter -3dB at 6kHz 12dB/octave, rumble filter -3dB at 100Hz 10dB/octave, contour +16dB at 50Hz and +9dB at 10kHz. Outlet for tape recorder. Stereo headphone jack (not less than 8 ohms). Socket for connection to external quadraphonic equipment. Automatic overload protection circuit. Size:  $18 \times 3 \times 8\frac{3}{4}$ in. Weight: 7 $\frac{1}{4}$ lb. Finish: satin black with wood grain end pieces. Price: £49 (including VAT).

### ■ FISHER

ICP Ideal Computer Processors Ltd, Hainault House, Hainault Street, New Eltham, London SE9. Tel: 01-850 0828.



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Millbank Electronics Group, Uckfield, Sussex TN22 1PS, England. Tel: UCK (0825) 41166. From Europe: 892-96-4166. Telex: 28604. Manufacturers of specialist audio equipment for industrial and entertainment applications. Sound mixers, tuners, sound systems, loudspeakers, tuner amplifiers, audio modules and amplifiers.

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# ONKYO

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Onkyo The Grand Prix Hi-Fi award winners offers a wide range of Amplifiers, Tuners, Tuner Amplifiers, Turn Tables, Hi-Fi Head Phones and the famous Quadrophonic 4 channel stereo surround system. Onkyo dominates the Hi-Fi market in Japan, their Home Country.

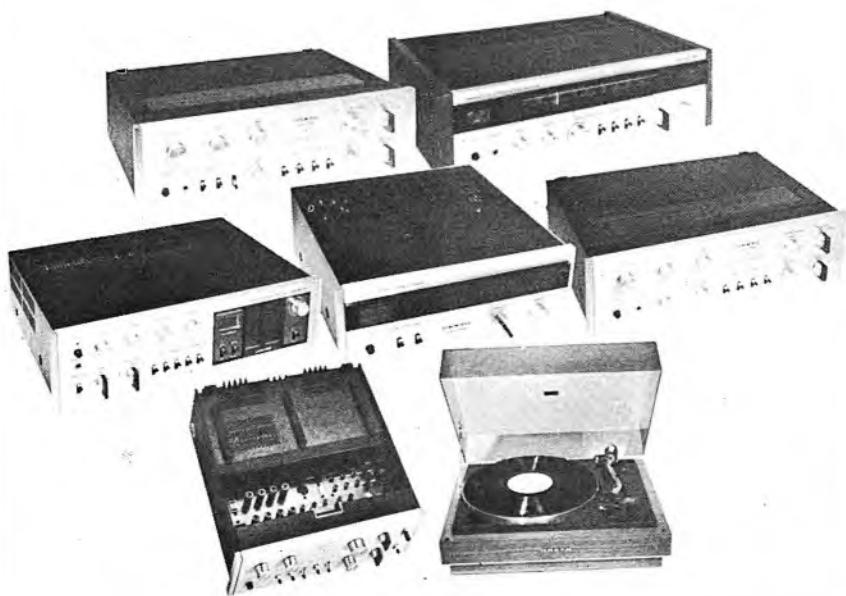
*For your nearest stockist write to*

Sole U.K. Distributors

J. Parker & Co. (London) Ltd.,

Parker House, Beresford Avenue, Wembley, Middx.

Tel: 01-903 5211.



Completely new range of Fisher tuner/amplifiers, amplifiers and speakers being imported for 1973/1974 season. No product details obtainable at the time this edition of the Year Book went to press.

#### ■ A. R. FRANKLIN

(Audio engineer) 4 Birch House, Howard Road, Penge, London, SE20 8HJ. Tel: 01-659 0912.

##### **Stereo mixer/control unit**

Three stereo plus three mono inputs. Inputs: (2) stereo mag PU 4mV 47K RIAA corrected, (3) mono microphone 1mV 200 ohms with auto matching for dynamic units. (1) stereo line 250 mV 47K. Make-and-break jacks on microphone inputs allow for up to three different stereo inputs of 250mV 47K or use with filter unit. Outputs: stereo line output (1V 22K) prior to tone controls, stereo line output (250mV 600 ohms) after tone controls, stereo line output (1V 4.7K) after tone controls. Slider faders on all inputs and on stereo output. Controls: bass  $\pm 14$ dB, treble  $\pm 14$ dB. Headphone socket for monitoring or pre-fade listen on pickup inputs. HD:  $< 1\%$ . FR: 20Hz-30kHz  $\pm 3$ dB. H and N:  $-60$ dB. Mains: 110-240V 50-60Hz. Size:  $15\frac{3}{4} \times 5\frac{1}{2} \times 3\frac{1}{2}$  in. Weight:  $3\frac{1}{4}$  lb. Price: £85 (plus VAT).

Units built to individual requirements. Send s.a.e. for full particulars.

#### ■ GRAMPIAN REPRODUCERS LTD

19 Hanworth Trading Estate, Feltham, Middx. Tel: 01-894 9141.

##### **Grampian 666 Ambiphonic unit**

Enables one to four small speakers to be fed with amplified and delayed signal from main amplifier output. Delay device consists of two parallel springs and transducers as used in Grampian reverberation unit. Provides echoes similar to those produced by room  $32 \times 42$ ft. Volume of delayed signals controllable by listener. Twin high-impedance line-bridging input connections. Output:  $2\frac{1}{2}$ W push-pull power amplifier with 5 ohms and twin 600-ohm outputs. Fully transistorised. Mains: 100-125V or 200-250V. Consumption: 8W. Size:  $18 \times 4\frac{3}{4} \times 5\frac{1}{4}$  in. Weight: 7lb. Price: £68.25 (plus VAT).

#### 743

Solid-state mono power amplifier. Input: balanced or unbalanced 600 ohms (to match 10K input) at 800mV for rated output. Output: 50W RMS. Output impedance: 4-8 ohms, 100V line. FR: 100Hz-10kHz  $\pm 0$ dB,  $-1$ dB; 50Hz-15kHz  $\pm 0$ dB,  $-3$ dB. HD:  $< 1\%$  100Hz-10kHz at rated output. S/N: greater than 70dB. Controls: on/off switch, single gain control giving zero to rated output. Mains: plug-in voltage selection giving 100-125V in 5V steps, 200-250V in 10V steps. Size:  $19 \times 5\frac{1}{2} \times 12\frac{1}{2}$  in. Weight: 32lb. Full

specification leaflet on request. Price: £128 (plus VAT).

#### 7431

Specification as for the 743 but is fitted with  $1\frac{1}{2}$ in peak reading output meter. Price: £134 (plus VAT).

#### 744

Specification as for the 743 but with 100W RMS output. Weight: 40lb. Price: £142 (plus VAT).

#### 7441

Specification as for the 744 but with cover over output control and no supply on/off switch. Price: £148.50 (plus VAT).

#### ■ HANIMEX (UK) LTD

Hanimex House, 15-24 Great Dover Street, London, SE1. Tel: 01-407 8161.

New range of hi-fi stereo amplifiers to be introduced under the Hanimex brand name. No details of models available as this edition of the Year Book closed for press.

#### ■ HARMAN-KARDON

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

##### **Citation 11**

Stereo preamplifier. 13 transistors. Inputs: mag PU (2) 1.5mV 47K, aux (2) 150mV 20K, aux 300mV 20K. Noise level: mag PU input 66dB, other inputs 80dB. Output: 6V RMS per channel at 500 ohms. Tone controls: bass  $\pm 12$ dB at 60Hz,  $\pm 12$ dB at 320Hz,  $\pm 12$ dB at 1kHz,  $\pm 12$ dB at 12kHz, high-cut filter  $-8$ dB (6dB/octave) at 10kHz, sub-sonic filter  $-12$ dB (6dB/octave) at 15Hz. Two low impedance headphone outlets. HD: 0.05% at 6V. Output impedance: 500 ohms. FR: 2Hz-250kHz  $\pm 1$ dB at 6V output. Mains: 110-240V AC. Audio equaliser control. Size:  $16\frac{1}{4} \times 4\frac{3}{4} \times 12$ in. Price: £185 (plus VAT).

##### **Citation 12**

Stereo power amplifier designed for use with Harman-Kardon Citation 13 speakers or other similar high quality systems. Input: 1.6V 47K. Noise level: 100dB. Output: 60W RMS per channel. HD: 0.06% at 60W. Output impedance: 8 ohms. Separate power supply unit for left and right channels. FR: 1Hz-100kHz  $\pm 1$ dB. Mains: 110-240V AC. Size:  $12\frac{5}{8} \times 5\frac{1}{2} \times 12\frac{5}{8}$  in. Finish: black case with brushed aluminium panel. Price: £185 (plus VAT).

#### ■ HARWELL INSTRUMENTS

5-9 Anerley Station Road, London, SE20. Tel: 01-778 9456/7.

★ Indicates entry is illustrated

### Sixty-Two

Integrated stereo amplifier. 32 transistors, 16 diodes. Inputs: mag PU 1mV 47K, radio 100mV 47K, tape 100mV 47K, aux 100mV 47K. Output: 25W RMS per channel. Controls: sliders for volume (left and right), bass (left and right), treble (left and right). Low-pass filter, high-pass filter, channel selector (left or right), mono/stereo, input selector, speakers (A or B or A + B). Mains: 200-250V AC (110V AC to order). Size:  $15\frac{1}{4} \times 3\frac{3}{8} \times 9\frac{1}{2}$  in. Finish: cast aluminium front panel, black knobs, black steel case. Price: £80 (plus VAT).

### 100

Mono power amplifier. Nine transistors, 11 diodes. Input: 1V RMS 22K. Noise level: -100dB. Control: input volume. Output: 110W RMS into 8 ohms. Mains: 200-250V AC (110V AC to order). Size:  $18 \times 3\frac{1}{2} \times 9$  in. Finish: cast aluminium panel, steel case. Peak level overload indicator. Price: £80 (plus VAT).

### HEATHKIT

See Constructional Kits Section.

### P. F. & A. R. HELME

Summerbridge, Harrogate, Yorks, HG3 4DR.  
Tel: Darley (0423-72) 279.

### Atlantis 100

Integrated stereo amplifier. Inputs: mag PU 2mV, mic 0.5mV, tape play 150mV, radio 150mV, aux 150mV. Overload capability: better than 30dB. Noise level: mic input -45dB, mag PU input -60dB, other inputs -70dB. Output: 55W RMS per channel into 8 ohms, 50W RMS per channel into 4 ohms, 28W per channel into 16 ohms. Tone controls: bass  $\pm 15$ dB at 40Hz, treble  $\pm 10$ dB at 20kHz. Rumble filter: -6dB/octave at 20Hz. HF filter: 20dB/octave at 7kHz. HD: <0.3% at full output (55W). FR: 20Hz-20kHz. Size:  $14\frac{3}{4} \times 4 \times 10\frac{1}{4}$  in. Channel balance:  $\pm 1$ -6dB. Crosstalk: -45dB at 1kHz. Nine pushbutton selectors. Outlet for tape recorder: 200mV 1K. Jack socket for stereo headphones. Dynamic matching control (DMC) to match amplifier to characteristics of speakers. Price: £119 (plus VAT).

### H/H ELECTRONIC

Industrial Site, Cambridge Road, Milton, Cambridge, CB4 4AZ. Tel: Cambridge 65945.

### IC-100S

Professional power amplifier with two input channels and mono power output. Transistors and ICs. Inputs: (two) 25mV 100K. Noise level: -70dB all inputs. Overload capability: 35dB. Output: 100W RMS into 8 ohms. Bass control: +18dB -9dB at 30Hz. Treble control: +8dB -10dB at 15kHz. Presence control: +10dB at

2kHz. FR: 20Hz-20kHz  $\pm 0.5$ dB. HD: <0.2% at 80W 20Hz-20kHz (typically 0.05% at 1kHz). Slave output at 500mV 50 ohms. Mains: 115, 210, 220, 230 and 240V AC. Size:  $26\frac{3}{8} \times 4\frac{1}{4} \times 11\frac{1}{2}$  in. Finish: top and bottom ABS plastic with bison grain, bright aluminium front panel. Price: £96 (plus VAT).

### IC-100

Professional power amplifier with two input channels and mono power output. Designed for use with musical instruments. Input: (two) 25mV 100K. Noise level: (power amplifier) -90dB. Bass control: +18dB -20dB at 20Hz. Treble control +16dB -18dB at 15kHz. Presence control: +12dB at 1kHz. Brilliance control: +10dB at 2kHz. Output: 100W RMS into 7.5 ohms, 120W RMS into 4 ohms. Output impedance: 4-15 ohms. Output protected against short-circuit and open-circuit operation. Mains: 115, 210, 220, 230 and 240V AC. Size:  $26\frac{3}{8} \times 4\frac{1}{4} \times 11\frac{1}{2}$  in. Finish: top and bottom ABS plastic with bison grain, bright aluminium front panel. Price: £129 (plus VAT).

### TPA Series D

Professional power amplifiers with outputs from 50W-200W RMS. Modular construction. Bench or rack mounting. Full range of accessories. Full details and specifications on request.

### Mixer amplifiers

See Mixer section for full details of the H/H Electronic's mixer amplifiers.

### HITACHI SALES (UK) LTD

New Century House, Coronation Road, Park Royal, London, NW10 7QN.  
Tel: 01-965 9861.

### IA1000

Integrated stereo amplifier. Inputs: mag PU (1) 2mV 50K, mag PU (2) 5mV 50K, aux (1) 140mV 100K, aux (2) 140mV 100K, radio 140mV 100K, mic 2mV 35K. 37 transistors, 18 diodes, two ICs. Output: 50W RMS per channel into 4 ohms (both channels driven). HD: <0.1%. FR: 10Hz-100kHz. Damping factor: 50 at 8 ohms. Tone controls: bass  $\pm 12$ dB at 100Hz, treble  $\pm 12$ dB at 10kHz, high filter -10dB at 10kHz, low filter -8dB at 50Hz. Size:  $17\frac{3}{8} \times 5\frac{3}{8} \times 13$  in. Weight: 27 $\frac{1}{2}$ lb. Two VU meters. Microphone input mixing. Two-system speaker connections. Finish: rosewood sidepanels and drawn aluminium control panel. Price: £148 (including VAT).

### IA600

Integrated stereo amplifier. Inputs: mag PU (low) 2.5mV 50K, mag PU (high) 6mV 50K, aux (1) 220mV 100K, aux (2) 220mV 100K, mic 2.5mV 25K, tape 220mV. 19 transistors, 13 diodes, two ICs. Output: 27W RMS per channel into 4 ohms (both channels driven). HD:



Howland-West DA1000



IMF Galactron Mk 10

<0.1%. FR: 10Hz-100kHz. Damping factor: 50 at 8 ohms. Tone controls: bass  $\pm$ 12dB at 100Hz, treble  $\pm$ 12dB at 10kHz, high filter -8dB at 10kHz. Size:  $16\frac{1}{4} \times 4\frac{3}{4} \times 12\frac{3}{8}$  in. Weight:  $19\frac{1}{4}$  lb. Solid wood end pieces, drawn aluminium panel. Price: £95 (including VAT).

■ **HOWLAND-WEST LTD**

3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293.

**DA1000 ★**

Integrated stereo amplifier. Inputs: mag PU 3-5mV, ceramic PU 100mV, radio 100mV, tape 100mV. Noise level: (mag PU input) 50dB, (other inputs) 60dB. Output: 10W RMS per channel. Controls: bass, treble, volume, input selector, mono/stereo, remote/main speaker, phones/speakers, on-off. Output impedance: 8 ohms. FR: 30Hz-18kHz. Mains: 240V AC. Size:  $14\frac{3}{4} \times 4\frac{1}{4} \times 7\frac{3}{8}$  in. Finish: wood cabinet with metal control panel and trim. Price: £29-70 (including VAT).

■ **IMF ELECTRONICS LTD**

Westbourne Street, High Wycombe, Bucks.  
Tel: High Wycombe 35166.

**Galactron 10 Mk 10 ★**

Integrated stereo amplifier. 24 transistors, 34 diodes, four to eight ICs. Inputs: mag PU 1.5mV 47K, line 160mV 100K. Noise level: (PU input) -60dB, (other inputs) -73dB. Overload capability: (PU input) 50mV or 30dB. Inputs interchangeable with mixing facilities. Output: 75W RMS per channel  $\pm$ 0.5dB. Controls: volume sliders, faders between inputs, separate treble for each channel, separate bass for each channel, high-pass filter, low-pass filter, mono/stereo/reverse stereo, speakers/headphones, tape monitor, muting, loudness. HD: 0.2% from

0.1W to 70W at 20Hz-20kHz. Damping factor >80. Power bandwidth: 10Hz-50kHz -3dB. Mains: 230V  $\pm$ 5% AC. Size:  $18 \times 6 \times 12$  in. Finish: white wood sides with black control panel. Links permit use of preamplifier stages or output amplifiers separately. Price: £298 (plus VAT).

■ **IMPEX**

McArdle & Brainsby (Import & Export) Ltd,  
PO Box 2BB, Newcastle upon Tyne, NE99 2BB.

'Hi-Fi Sound' 10-20

Integrated stereo amplifier design published by 'Hi-Fi Sound' magazine. See Constructional Kits Section for details of parts and prices.

**MS7 and MS24**

Stereo pickup amplifiers. See Pickup Accessories Section for full specification and prices.

■ **JVC-NIVICO**

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

**VN300**

Integrated stereo amplifier. Inputs: crystal PU, mag PU, radio, tape, mic, aux. Output: 18W RMS per channel. FR: 20Hz-40kHz. Price: £69.85 (including VAT).

**VN700**

Integrated stereo amplifier. Inputs: crystal PU, mag PU, radio, tape, mic, aux. Treble and bass controls. Rumble and scratch filters. Five-stage sound effect amplifier (SEA) tone system. Output: 40W RMS per channel. FR: 20Hz-50kHz. Price: £140.25 (including VAT).

**VN900**

Integrated stereo amplifier. Inputs: crystal PU, mag PU, radio, tape, mic, aux. Controls: treble, bass, rumble filter, scratch filter. Seven-stage sound effect amplifier (SEA) tone system. Output: 60W RMS per channel. FR: 20Hz-50kHz. Price: £169.40 (including VAT).

**4VN550**

Integrated four-channel amplifier. Inputs: mag PU, radio, tape, mic, aux. Tone controls: treble, bass, rumble filter, scratch filter. Output: 12.5W RMS per channel (four channels). FR: 20Hz-50kHz. Price: £104.50 (including VAT).

**4VN880**

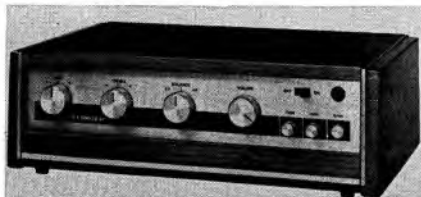
Integrated four-channel amplifier. Inputs: mag PU, radio, tape, mic, aux. Tone controls: treble, bass, rumble filter, scratch filter. Facilities for four-channel synthesised sound. Output: 28W RMS per channel (four channels). FR: 10Hz-50kHz. Price: £170.50 (including VAT).

**4VN990**

Integrated four-channel amplifier. Inputs: mag

★ Indicates entry is illustrated

PU, radio, tape, mic, aux. Tone controls: treble, bass, rumble filter, scratch filter. Facilities for four-channel synthesised sound. Sound effect amplifier (SEA) tone system. FR: 10Hz-50kHz. Output: 38W RMS per channel (four channels). Price: £236.50 (including VAT).



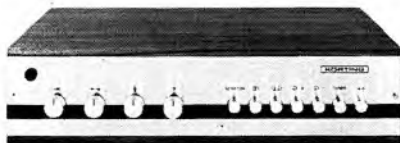
Klinger KC93

### ■ KELETRON

K & K Electronics Ltd,  
60 St Mark's Rise, London, E8 2NR.  
Tel: 01-254 9941/4.

### KSA1500 Mk II

Integrated stereo amplifier. Output 30W music power per channel. No further details available at time of going to press. Price: £45.10 (plus VAT).



Korting A500

### KSA700 Mk II

Integrated stereo amplifier. Output 14W music power per channel. No further details available at time of going to press. Price: £34.10 (plus VAT).



Leak Delta 30

### ■ KLINGER

Klinger Controls Ltd, Spencer Court,  
7 Chalcot Road, London, NW1 8LU.  
Tel: 01-586 2922/3.

### KC92

Integrated stereo amplifier. 28 transistor circuit. Inputs: mag PU 2mV 47K, radio 50mV 220K, tape 50mV 220K, ceramic PU 100mV 470K, aux (mic) 0.15mV 30 ohms. Noise level: (mag PU) 66dB, (other inputs) 70dB. Overload capability: 30dB. Tone controls: bass  $\pm 15$ dB, treble  $\pm 15$ dB, scratch filter 18dB/octave from 8kHz, rumble filter 12dB/octave from 80Hz. Full-range balance control. HD: 0.1% at 20W. Output: 25W RMS per channel. Output impedance: 8 ohms. Tape outlet: 100mV. FR: 25Hz-35kHz  $\pm 2$ dB at 20W. Stabilised power supply. Two stereo headphone sockets. Switching for two pairs of speakers. Switched mains outlet socket. Finish: teak with diecast enamelled sides. Size:  $17\frac{1}{4} \times 4\frac{1}{4} \times 8\frac{1}{2}$  in. Price: £49.50 (plus VAT).



Leak Delta 70

### KC93 ★

Integrated stereo amplifier. 18 transistor circuit. Inputs: mag PU 3mV 47K, ceramic PU 40mV 470K, radio 50mV 470K, tape 50mV 470K. Noise level: (mag PU) 60dB, (other inputs) 66dB. Overload capability: 30dB. Output: 10W RMS per channel. Output impedance: 8 ohms. Tape outlet: 100mV. Tone controls: bass  $\pm 15$ dB, treble  $\pm 15$ dB. HD: better than 0.5% at 10W. FR: 40Hz-18kHz  $\pm 2$ dB at 10W. Stereo headphone socket. Switched and direct mains outlet sockets. Finish: teak with enamelled sides. Size:  $13 \times 4\frac{1}{4} \times 8\frac{1}{2}$  in. Mains: 120-240V AC. Price: £33 (plus VAT).



Leavers-Rich LR720

**KORTING**

Europa Electronics Ltd, Howard Place,  
Shelton, Stoke-on-Trent, ST1 4NW.  
Tel: Stoke-on-Trent 29316.

**A500, Type 29833 ★**

Stereo amplifier. 21 transistors. Pushbuttons for stereo, scratch, tape, pickup 1 and 2, tuner and on/off. Controls: treble, bass, balance and volume, with indicator lamp. Sockets: diode output for tuner; crystal, ceramic or magnetic pickup; tape recorder; speakers. Output: 10W per channel. Drift power transistors and triple negative feedback. Cabinet in natural walnut colour, satin finish. Size:  $3\frac{1}{2} \times 14 \times 9$ in. Price: £42.35 (including VAT).

**A710**

Integrated stereo amplifier. 25 transistors, one diode. Ten pushbutton controls. Sliders for volume, balance, treble and bass. Tone controls: bass  $\pm 15$ dB, treble  $\pm 15$ dB. Inputs: mag PU, radio, tape, ceramic PU. Output: 20W RMS per channel (DIN). Finish: walnut, satin finish or white. Full specification on request. Price: £74.25 (including VAT).

**LEAK**

Rank Radio International Ltd,  
Power Road, Chiswick, London, W4 5PW.  
Tel: 01-994 6491.

**Delta 30 ★**

Transistorised integrated stereo amplifier. Inputs: PU (1) 2mV 47K; PU (2) high sensitivity 10mV 33K, low sensitivity 30mV 100K; tuner/mic 25mV 47K; tuner (2) high sensitivity 60mV 50K; low sensitivity 250mV 50K; replay 400mV 47K. Output: 15W per channel 8 ohms, 20W per channel 4 ohms. Controls: input selector, bass, treble, balance, filter, volume, tape monitor, 6kHz filter. Headphone socket. H and N:  $-87$  dB. HD: 0.1% up to 12W at 1kHz into 8 ohms. Mains: 110-250V 40-60Hz. Size:  $13\frac{1}{2} \times 4\frac{3}{4} \times 10$ in. Price: £76.89 (including VAT).

**Delta 70 ★**

Transistorised integrated stereo amplifier. Inputs: PU (1) 2mV 47K RIAA, PU (2) 10mV 33K RIAA, radio 25mV 47K or 2mV 47K, aux 60mV 50K or 250mV 50K, tape replay 400mV 47K. Controls: bass  $\pm 16$ dB at 50Hz, treble  $\pm 16$ dB at 14kHz, volume, balance, input selector, pushbuttons for tape monitor, treble filter, speaker on/off. Headphone socket. Output 35W RMS per channel into 8 ohms. HD: 0.1% all powers up to 25W RMS. FR: 30Hz-20kHz  $\pm 1$ dB. Will drive two pairs of loudspeakers. Size:  $13\frac{1}{2} \times 4\frac{3}{4} \times 10$ in. Price: £94.49 (including VAT).

**LECSON AUDIO LTD,**

Burrel Road, St Ives, Hunts.  
Tel: St Ives (Hunts) 64124 (STD code 0480).

**AC1**

Stereo preamplifier control unit. 65 transistors, 12 diodes. Inputs: mag PU 2.5mV 47K, radio 125mV 68K, aux 1 125mV 68K, aux 2 125mV 68K. Noise level: mag PU input 70dB, other inputs 80dB. Overload capability: mag PU input 50dB, other inputs 25dB. Output: 500mV or 1.2V to main amplifier, 100mV to tape recorder, 2W max to headphones. Controls: treble  $\pm 10$ dB at 10kHz, bass  $\pm 12$ dB at 100Hz, high frequency filter (Bessell characteristic)  $-3$ dB at 5, 8 and 13kHz  $\pm 10\%$  (slope 18dB/octave), low frequency filter (Bessell characteristic)  $-3$ dB at 35Hz (slope 12dB/octave). HD:  $<0.05\%$  at 1kHz. Output impedance: 100 ohms. FR: 10Hz-20kHz  $\pm 1$ dB. Mains: 120-240V AC. Size:  $14\frac{3}{8} \times 1\frac{3}{8} \times 10\frac{1}{2}$ in. Finish: black anodised frame with glass top. Facilities for addition of four-channel decoding matrices and remote control unit. Price: £110 (including VAT).

**API**

Stereo power amplifier. 26 transistors, 11 diodes. Input: 500mV 10K. Noise level: better than 90dB. Output: 35W RMS per channel into 8 ohms with distortion below 0.05%, 55W RMS per channel into 8 ohms with distortion below 0.1%. HD: typically 0.005% at 35W at 1kHz. Output load: 8 ohms (output impedance less than 0.2 ohms). FR: 10Hz-20kHz  $\pm 1$ dB. Mains: 100-130V, 200-260V AC. Size:  $5\frac{3}{8}$ in diameter,  $11\frac{1}{2}$ in high. Finish: anodised aluminium (black). Patented circuitry designed to eliminate transient distortion effects. Price: £82.50 (including VAT).

**AP2**

Stereo power amplifier. Similar specification to the model API except for power rating. Output: 70W RMS per channel into 8 ohms with distortion below 0.05%, 100W RMS per channel into 8 ohms with distortion below 0.1%. Price: £104.50 (including VAT).

**LEEVEES-RICH EQUIPMENT LTD**

319 Trinity Road, Wandsworth, London,  
SW18 3SL. Tel: 01-874 9054/6. Telex: 923455.  
Cables: Leemag, London, SW18.

**7 Band Audio Equaliser Model LR720 ★**

Wide range equaliser covering spectrum in 7 separately adjustable and overlapping bands, suitable for use in transcription to match widely differing recordings to a common quality standard. Price: £195 (plus VAT).

**LOEWE OPTA**

Distributors: SED Television Ltd, Salisbury,  
Wilts. Tel: 0722 4201.

Hokushin Audio Visual Ltd,  
2 Ambleside Avenue, London, SW16.  
Tel: 01-677 9919.



★ Indicates entry is illustrated

New range of high quality audio equipment being introduced to the UK market during 1973-74 but no details of models available as this edition of the Year Book closed for press.

### ■ LOWTHER ACOUSTICS LTD

Lowther House, St Mark's Road,  
Bromley, Kent, BR2 9HQ.  
Tel. 01-460 5225. Cables, Lowther, Bromley.

#### **L18 amplifier**

18W. Distortion  $< 0.1\%$ . Input for specified output 0.75V. Response 20Hz-40kHz  $\pm 1$ dB. Feedback 20dB. Noise level -85dB. Output impedance, 16 ohms with adjustment. Output: EL506 distributed load circuitry. Pat. Size: 12 x 6 x 6in. To operate with SCU/T control unit. Price: £27 (plus VAT).

#### **LL26 Mk II amplifier ★**

26W. Dist  $< 0.1\%$ . Input for spec output 0.75V. Response 20Hz-70kHz  $\pm 1$ dB. Feedback 22dB. NL -90dB. Output imp 16 ohms with adjustment. Output: EL34s. Lowther linear. Size: 11 x 12 x 7½in. Weight: 33lb. To operate with SCU/T control unit. Price: £47 (plus VAT).

#### **L18S stereo amplifier**

18W output on each channel. Distortion 0.1%. Input for specified output 0.75V. Response 20 Hz-40kHz  $\pm 1$ dB. Noise level -85dB. Output imp 8.4 or 16 ohms. Output EL506 ultra linear. Size: 11 x 12 x 7½in. To operate with SCU/T control unit. Price: £47 (plus VAT).

#### **I.A.20 ★**

Integrated stereo amplifier with Class A output. Inputs: magnetic PU 1-10mV (switched 47K RIAA); radio 100mV. aux 100mV, tape record and replay. Output: 10W RMS per channel into 15 ohms. HD: 0.1%. H and N:  $> 65$ dB RIAA. Controls: bass  $\pm 16$ dB at 50Hz, treble  $\pm 16$ dB at 15kHz. Low filters: (switched) 40Hz, 80Hz, 160Hz, 270Hz. High filters: (switched) 3.2kHz, 4.5kHz, 9kHz and 11kHz. Balance control: zero to maximum each channel. Switch for main speaker, auxiliary speaker and phones. DIN correction. AC outlet sockets. Mains: 110, 220, 240V 40-60Hz. Finish: teak or walnut cabinet with satin chrome panel (or black Perspex with rear lighting). Size: 15 x 5½ x 12½in. Price: £82 (plus VAT).

#### **SCU/T**

Stereo control unit. Output: 0.750mV RMS per channel at 5K. Specifications as I.A.20. Price: £47 (plus VAT).

### ■ LUSTRAPHONE HI-FI LTD

Unit 2, Browells Lane, Feltham,  
Middlesex, TW13 7EL. Tel: 01-890 0887/9.

#### **LP100**

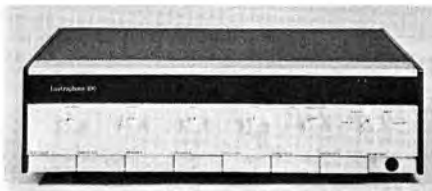
Integrated stereo amplifier. Inputs: mag PU (1) 2mV 47K, mag PU (2) 2mV 47K, radio 100mV



Lowther LL26 amplifier



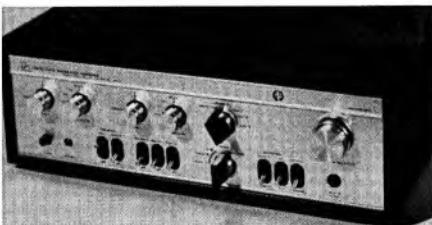
Lowther I.A.20



Lustraphone L100



Lux SQ707



Lux 507X

100K, aux 100mV 100K. Controls: bass, treble, balance, volume, on/off, main/remote speakers, hi/lo gain switch, rumble filter, treble filter. Headphone socket. Output: 50W RMS per channel into 8 ohms. HD: 0.03% at all levels and frequency. H and N: better than -70dB. Mains: 110/250v 50/60Hz. Size:  $16\frac{1}{2} \times 13 \times 4\frac{1}{2}$  in. Price: £118 (plus VAT).

#### ■ LUX

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

#### SQ707 ★

Integrated stereo transistor amplifier. Inputs: PU 2mV 50K, radio 120mV 50K, tape recorder 120mV 50K, aux 120mV 50K. Noise level: -60dB on magnetic PU, -65dB all other inputs. Controls: two bass, two treble, mild/intense tone operation, function selector, volume, mono/stereo, balance, A/B speaker switch for two systems. Output: 17W RMS per channel into 8 ohms, 20W RMS per channel into 4 ohms. HD: <1% at maximum output. FR: 30Hz-30kHz  $\pm$  1dB. Output impedance: 8 ohms. Mains: 240V AC. Size:  $14\frac{3}{4} \times 5 \times 9$  in. Polished wood veneered case. Price: £72 (plus £7.20 VAT).

#### SQ202

Integrated stereo transistor amplifier. Inputs: PU (1) 2mV 30-100K, PU (2) 2mV 30-100K, microphone-mixer 2.5mV 50K, aux (1) 110mV 100 ohms, aux (2) >110mV 100K, aux (3) 110mV 100K. Noise level: -66dB on PU and mic inputs, -80dB on all other inputs. Comprehensive range of 25 controls. Output: 80W RMS per channel into 8 ohms. HD: <0.05% at 5kHz. FR: 20Hz-70kHz at less than  $\pm$  1dB. Output impedance: 8 ohms. Size:  $18\frac{7}{8} \times 6\frac{1}{2} \times 11$  in. Price: £243 (plus £24.30 VAT).

#### 507X ★

Integrated stereo amplifier. 39 transistors. Inputs: PU (1) 2mV 30K/50K/100K switched, PU (2) 2mV 50K, aux (1) 90mV 50K, aux (2) 90mV 200K. Noise level: PU inputs -63dB, aux inputs -80dB. Output: 50W RMS per channel. Output impedance: 8 ohms. Tone controls: bass defeat 150, 300, 600Hz; treble defeat 6kHz, 3kHz, 1.5kHz; bass cut -6dB/octave from 70Hz, treble cut -6dB/octave from 6kHz. HD: 0.04%. FR: 10Hz-60kHz -1dB. Size:  $17\frac{3}{4} \times 10\frac{5}{8} \times 6\frac{3}{8}$  in. Finish: rosewood cabinet with white/gold metal fascia. Price: £180 (plus £18 VAT).

#### SQ505X

Integrated stereo amplifier. 37 transistors. Inputs: mag PU (2) 2mV at 30K, 50K or 100K selectable, aux (3) 80mV 30K. Noise level: (PU) 63dB, (aux) 80dB. Output: 35W RMS per channel. Controls: bass defeat (150, 300, 600Hz), treble defeat (1.5, 3, 6kHz), bass filter -6dB at 70Hz, treble filter -6dB at 6kHz. HD: <0.04%



Marantz 1120

at 1kHz at 1V. Output impedance: 8 ohms. FR: 10Hz-60kHz -1dB. Mains: 120, 240V. Size:  $17\frac{3}{4} \times 6\frac{3}{8} \times 10\frac{5}{8}$  in. Finish: rosewood cabinet with champagne panel. Price: £165 (including VAT).

#### ■ MARANTZ

Pyser-Britex (Swift) Ltd, Fircroft Way, Edenbridge, Kent.  
Tel: Edenbridge (0732-71) 4111.

#### Model 1030

Integrated stereo amplifier: 22 transistors and 14 diodes. Inputs: mag PU 2.1mV 47K, mic 2.1mV 47K, aux 150mV 100K. Noise level: (PU input) -93dB. Overload capability: (PU input) 100mV. Output: 15W RMS per channel, both channels driven. Output impedance: 8 ohms. Tone controls: bass  $\pm$  12dB at 50Hz, treble  $\pm$  12dB at 15kHz, high filter 16dB/octave from 5kHz, low filter 16dB/octave from 100Hz. HD: 0.5% from 40Hz-20kHz. FR: 20Hz-20kHz  $\pm$  1dB at 1W. Output circuits automatically protected. Mic input on front panel. Main and remote speakers and headphones. Size:  $14\frac{1}{2} \times 4\frac{3}{4} \times 12$  in. Finish: gold anodised front panel. Price: £75 (plus £7.50 VAT).

#### Model 1060

Integrated stereo amplifier. 35 transistors and 14 diodes. Inputs: mag PU 1.8mV 47K, mic 1.8mV 47K, aux 180mV 100K. Noise level: (PU input) -96dB. Overload capability: (PU input) 100mV. Output: 30W RMS per channel, both channels driven. Output impedance: 8 ohms. Tone controls: bass  $\pm$  15dB at 50Hz, treble  $\pm$  12dB at 15kHz, high filter 16dB/octave from 5kHz, low filter 16dB/octave from 100Hz, middle control  $\pm$  6dB at 700Hz. HD: 0.5% 20Hz-20kHz. FR: 20Hz-20kHz  $\pm$  0.5dB at 1W. Automatic protection of output circuits. Three-zone tone controls. Front panel sockets for mic and aux. Size:  $14\frac{1}{2} \times 4\frac{3}{4} \times 14$  in. Finish: gold anodised front panel. Price: £110 (plus £11 VAT).

#### Model 1120 ★

Integrated stereo amplifier. Inputs: mag PU 1.38mV 47K, mic 1.38mV 47K, aux 138mV 125K. Overload capability: (low level inputs)



Marantz 1200

100mV. Output: 60W RMS per channel from 20Hz-20kHz at 0.08% distortion. Controls: six-position input selector, high filter 9kHz slope 12dB/octave, low filter 50Hz slope 12dB/octave, four slider type graphic tone controls (one for each channel), tape monitor push buttons, loudness switch, muting switch, main remote speaker switch. Tape dubbing jacks. HD: 0.08% 20Hz-20kHz. Output impedance: 8 ohms. FR: 5Hz-50kHz +0.5dB -3dB at 1W, 20Hz-20kHz ±0.3dB at 1W. Mains: 120, 220, 240V AC. Size:  $15\frac{3}{8} \times 5\frac{3}{4} \times 14$ in. Finish: simulated walnut with gold anodised front panel. Automatic overload protection for circuit and speakers. Price: £220 (plus £22 VAT).

**Model 1200 ★**

Integrated stereo amplifier. 63 transistors and 23 diodes. Inputs: mag PU 1.35mV 47K, aux 134mV 100K. Output: 100W per channel RMS, both channels driven. Output impedance: 8 ohms. High filter: 5kHz, 9kHz. Low filter: 20Hz, 100Hz. HD: 0.15% 20Hz-20kHz. FR: 20Hz-20kHz ±0.1dB at 1W. Centre channel output facility. Fully protected output circuits. Slider type graphic tone controls. Tape dubbing jack sockets on front panel. Size:  $15\frac{3}{8} \times 5\frac{3}{4} \times 14$ in. Finish: gold anodised front panel. Price: £375 (plus £37.50 VAT).

**Model 3300**

Stereo preamplifier control unit. 22 transistors and 10 diodes. Inputs: mag PU 1.35mV 47K, mic 1.35mV 47K, aux 135mV 50K. Outputs: (main) 3V into 47K, (tape) 3V into 47K, (centre channel) 3V into 47K, (headphones) 3V into 8 ohms. Tone controls: treble ±10dB at 10kHz, bass ±10dB at 100Hz, high filter 5kHz and 9kHz switchable, low filter 50Hz and 100Hz switchable. HD: <0.02% at 3V 20Hz-20kHz. FR: 6Hz-80kHz ±0.3dB, 20Hz-20kHz ±0.25dB. Tape dubbing jack sockets on front panel. Centre channel output. Slider type graphic tone controls. Tape monitoring facility for two or three head decks. Size:  $15\frac{3}{8} \times 5\frac{3}{4} \times 8\frac{3}{4}$ in. Finish: gold anodised front panel. Price: £235 (plus £23.50 VAT).

**Model 250**

Stereo power amplifier. 45 transistors and 18

diodes. Input sensitivity: 1.35V for rated power. Input impedance: 100K. Noise level: better than 106dB below rated power into 8 ohms. Output: 125W per channel RMS, both channels driven. HD: <0.1% 20Hz-20kHz. Output impedance: 8 ohms. FR: 20Hz-20kHz +0.1dB, 2Hz-100Hz ±1.5dB at 1W. VU meters. Relay-operated overload protection. Direct-coupled output circuitry. Size:  $15\frac{3}{8} \times 6\frac{1}{8} \times 9\frac{1}{2}$ in. Gold anodised front panel. Price: £305 (plus £30.50 VAT).

**McINTOSH**

Wilmex Ltd, 24-26 Ensign Street, London, E1 8JD. Tel: 01-949 2545.

Range of high quality audio amplifiers being introduced and distributed but no product details obtainable as this edition of the Year Book closed for press.

**METRO SOUND**

Metrosound Manufacturing Co Ltd, Audio Works, Cartersfield Road, Waltham Abbey, Essex, EN9 1JF. Tel: Waltham Cross 31933.

**ST20 Mk II ★**

Transistorised stereo amplifier. Output: 10W RMS per channel. HD: less than 1% at rated output. FR: 30Hz-30kHz ±2dB at rated output. Noise level: -70dB. Inputs: mag PU 2.5mV, ceramic PU 150mV, radio 150mV. Noise level: mag PU input -65dB, other inputs -70dB. Overload capability: mag PU input >30dB. Output impedance: 8 ohms. Mains: 200-250V AC (100-120V to special order) 20 transistors, 2 diodes. Controls: pushbutton controls for mains on/off, mono/stereo, tape, tuner, mag PU, ceramic PU. Rotary controls for treble, bass, balance and volume. Bass control: ±12dB at 40Hz. Treble control: ±12dB at 14Hz. Tape outlet: 300mV per channel at 5K. Automatically switchable headphone socket, 4-16 ohms. Finish: anodised brushed silver facia with polished trim and knobs, teak veneer cabinet. Size:  $3\frac{1}{2} \times 15\frac{1}{4} \times 10$ in. Price: £42 (plus VAT).

**ST40 ★**

Integrated stereo amplifier. 26 transistors, 10 diodes. Inputs: mag PU 2.5mV 50K, crystal PU 100mV 1.5M, radio 100mV 1.5M, tape 100mV 1.5M. Output: 20W RMS per channel. Controls: volume, bass ±12dB at 40Hz, treble ±12dB at 14kHz, balance. HD: <0.1% at rated output. Output impedance: 8 ohms. FR: 20Hz-30kHz +0dB -1dB at full power. Mains: 200-250V AC (100-120V AC to special order). Size:  $14\frac{7}{8} \times 3\frac{1}{4} \times 10\frac{1}{2}$ in. Finish: anodised aluminium wrap-round panel with teak grained end panels. Outlets for tape recorder and headphones. Price: £54 (plus VAT).



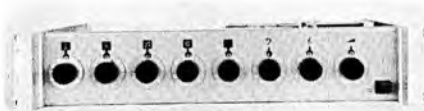
Metrosound ST20 Mk II



Metrosound ST40



Millbank MEX-3



Millbank MEX-5

**ST60**

Integrated stereo amplifier. Output: 30W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-50kHz  $\pm 2$ dB. HD: 0.08%. H and N: (mag PU) 65dB. (other inputs) 70dB. Tone controls: bass  $\pm 14$ dB at 40Hz, middle  $\pm 10$ dB at 800Hz, treble  $\pm 14$ dB at 14kHz. Inputs: mag PU 3mV or 10mV at 47K, radio 5mV 120K, tape 5mV 120K, aux 5mV 120K. Filter: switched at 10kHz, 7kHz, 4kHz, variable from 0-20dB per octave. Outlets: two pairs of separately switched speaker sockets. Mains: 200-250V AC (100-120V AC to special order). Two switched mains outlet sockets. Tape outlet: 250mV. Piano style keys, slider controls. Finish: aluminium fascia, teak cabinet, padded ends. Size:  $20\frac{1}{8} \times 3\frac{3}{8} \times 12\frac{1}{2}$  in. Weight: 20lb. Price: £70 (plus VAT).

**MILLBANK ELECTRONICS GROUP**

Bellbrook Estate, Uckfield, Sussex, TN22 1PS.  
Tel: Uckfield (0825) 4166.

**MEX-3 ★**

Integrated mono amplifier. 17 transistors, 13 diodes. Range of plug-in modules to suit all signal sources, also tone and alarm generators, etc. Output: (nominal) 30W, 50W or 100W to choice. Controls: three independent input gain controls, one master gain, bass  $\pm 12$ dB at 100Hz, treble  $\pm 12$ dB at 10kHz. HD: typically  $< 0.2\%$  at 1kHz at rated output. Output impedance: 8 ohms or 50V or 100V line. FR: 30Hz-20kHz  $-3$ dB at half rated output. Mains: 220, 235, 250V 50-60Hz. Size:  $19 \times 3\frac{1}{2} \times 15$  in. Price: (30W) £94.05 (plus VAT); (50W) £110.55 (plus VAT); (100W) £150.15 (plus VAT).

**MEX-5 ★**

Integrated mono amplifier. 19 transistors, 13 diodes. Range of plug-in modules to suit all signal sources, also tone and alarm generators, etc. Output: (nominal) 30W, 50W or 100W to choice. Controls: five independent input gain controls, one master gain, bass  $\pm 12$ dB at 100Hz, treble  $\pm 12$ dB at 10kHz. HD: typically  $< 0.2\%$  at 1kHz at rated output. Output impedance: 8 ohms or 50V or 100V line. FR: 30Hz-20kHz  $-3$ dB at half rated power. Mains: 220, 235, 250V 50-60Hz. Size:  $19 \times 3\frac{1}{2} \times 15$  in. Price: (30W) £101.20 (plus VAT); (50W) £117.70 (plus VAT); (100W) £167.20 (plus VAT).

**MEX-1001C**

Mono power amplifier. 12 transistors, 13 diodes. Input: 775mV at 10K. Noise level:  $-80$ dB. Output: (nominal) 100W. HD: typically 0.1% at 1kHz at rated power. Output impedance: 8 ohms. FR: 30Hz-20kHz  $-3$ dB at half rated output. Mains: 220, 235, 250V 50-60Hz. Size:  $19 \times 3\frac{1}{2} \times 15$  in. Price: £145 (plus VAT).

**NATIONAL PANASONIC (UK) LTD**

Whitby Road, Trading Estate, Sough, Bucks.  
Tel: Slough 34522. Telex: 847652.

**SU3000**

Integrated stereo amplifier. Full specification on request. Price: £69.95 (including VAT).

**SU3400**

Integrated stereo amplifier. Full specification on request. Price: £124.95 (including VAT).

**SU3600**

Integrated stereo amplifier. Full specification on request. Price: £159.95 (including VAT).

**NIKKO**

Nikko Electric Mfg Co Ltd,  
Distributors: Howland-West Ltd,  
3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293/4/5.

**TRM-1200**

Integrated transistor stereo amplifier. Inputs:



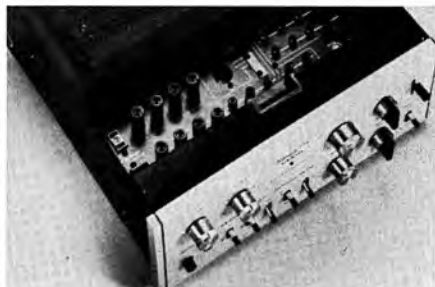
Nikko TRM-300



Nikko TRM-500



Nikko TRM-400



Onkyo Integra 725

mic 2mV 50K, tape 220mV 100K, PU 1.2mV 50K, radio 220mV 100K, aux 220mV 100K. Signal to noise: tape, tuner and aux inputs 85dB; mic and PU 70dB. Controls: function, volume, balance, tone controls in/out, low filter, high filter, speakers switching, mode, tape monitor on/off, base right, base left, treble right, treble left, on/off, meter level control, loudness. Output: 40W RMS into 8 ohms. HD: 0.9% at rated output. FR: 13Hz-50kHz  $\pm$  1dB at 30W. Output impedance: 4-16 ohms. Mains: 117-240V 50-60 Hz. Size:  $15\frac{1}{4} \times 12\frac{1}{4} \times 4\frac{1}{2}$  in. Price: £120 (plus £12 VAT).

#### TRM-300 ★

Integrated stereo amplifier. 26 transistors. Inputs: mag PU 1.8mV 70K, PU (2) 120mV 50K, radio 200mV 100K, aux 150mV 100K, tape monitor 190mV 50K. Noise level: PU (2) input 60dB, other inputs  $>$  -70dB. Output: 12W RMS per channel. Output impedance: 8 ohms. Controls: bass, treble, balance, volume, input selector, loudness, tape monitor, mono/stereo. HD: 1%. FR: 30Hz-20kHz  $\pm$  1dB at rated output. Size:  $12 \times 8\frac{1}{2} \times 3\frac{3}{4}$  in. Price: £44.50 (plus £4.45 VAT).

#### TRM-400 ★

Integrated stereo amplifier. 22 transistors, two ICs. Inputs: mag PU 1.8mV 35K, tape head 1.8mV 200K, PU (2) 120mV 35K, radio 200mV 220K, aux 150mV 220K, tape monitor 190mV. Noise level: tape head and PU inputs -60dB, other inputs -70dB. Output: 16W RMS per channel. Output impedance: 8 ohms. Controls:

bass, treble, balance, volume, A+B speakers, low filter, high filter, loudness, tape monitor. HD: 1%. FR: 30Hz-20kHz. Size:  $12 \times 8\frac{1}{2} \times 3\frac{3}{4}$  in. Price: £56 (plus £5.60 VAT).

#### TRM-500 ★

Integrated stereo amplifier. 29 transistors, 9 diodes. Inputs: mag PU 2mV 47K, tape 150mV 50K, aux 150mV 50K, radio 150mV 50K. Noise level: (mag PU input) -60dB, (other inputs) -80dB. Output: 26W RMS per channel. Controls: bass  $\pm$  10dB at 70Hz, treble  $\pm$  10dB at 10kHz, loudness +11dB at 70Hz+7dB at 10kHz, low filter -8dB at 70Hz, high filter -7dB at 10kHz, speaker switch (A, A+B, B), tape dubbing. HD: 0.2% at 1W, 0.8% at rated output. Output impedance: 8 ohms. FR: 20Hz-30kHz  $\pm$  2dB. Mains: 100, 120, 220, 240V 50-60 Hz. Size:  $15 \times 8\frac{3}{8} \times 11\frac{1}{8}$  in. Finish: wood cabinet with metal trim. Price: £87.45 (including VAT).

#### TRM-600

Full technical specification not available as this edition of the Year Book closed for press. Integrated stereo amplifier. Finish: wood cabinet with metal control panel. Price: £103.95 (including VAT).

#### ONKYO

J. Parkar & Co (London) Ltd, Parkar House, 1 Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.

#### Integra 725 ★

Integrated stereo amplifier. Inputs: PU (1) 2.4mV 50-100K, PU (2) 2.4mV 50-100K, tuner

100mV 100K. H and N: (PU input) better than 75dB, (tuner input) better than 90dB. Overload capability: PU input 200mV. Tone controls: bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz, low filter  $-6$ dB/octave at 70Hz, high filter  $-6$ dB/octave at 8kHz. Output: 22W RMS per channel into 8 ohms. HD:  $< 0.1\%$  at rated output. FR: 15Hz-70kHz at rated output. Output impedance: 4-16 ohms. Loudness control. Headphone and mains outlets. Mains: 100-120V or 220-240V AC 50-60Hz. Size:  $12\frac{3}{8} \times 5\frac{3}{8} \times 13\frac{1}{2}$ in. Weight: 17 $\frac{1}{2}$ lb. Price: £97.88 (plus VAT).

733

Stereo control unit. 50 transistors, 19 diodes. Inputs: mag PU (1) 2.4mV 30-50K, mag PU (2) 2.5mV 50K, mic 1.8mV 50K. Noise level: mag PU inputs  $-75$ dB, mic input  $-55$ dB. Output: rated 1V, maximum 4V. Controls: tone defeat, high filter 12dB/octave from 10kHz, low filter 12dB/octave from 70Hz, loudness, muting, volume. HD:  $< 0.05\%$  at 1V at 1kHz output. Output impedance: 2-2K. FR: 10Hz-70kHz  $+0$ dB  $-1$ dB at 1V. Mains: 100, 120, 220, 240V AC. Size:  $17\frac{1}{2} \times 14 \times 5\frac{1}{2}$ in. Finish: brushed aluminium. Top entry terminals for easy accessibility. Price: £155 (including VAT).

#### ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

#### RH-580 ★

Solid state stereo amplifier. Power output: 7W per channel RMS into 8 ohms: provision for 4 ohms (reduced power). HD:  $< 1.5\%$  at 5W per channel. FR: 65Hz-20kHz  $\pm 3$ dB. Noise level: 55dB below 6W (overall). Output transistors: two AD161/162. Psn 110, 127, 220, 240V. Inputs: magneto/dynamic pickup 3mV, 47K; crystal pickup 100mV 60K; tuner and tape 100mV 140K. Controls: volume (with bass compensation  $+8$ dB max at 65Hz); bass  $\pm 13$ dB at 65Hz; treble  $+11$  to  $-10$ dB at 10kHz; balance. Dimensions:  $2\frac{3}{8} \times 13\frac{3}{8} \times 8\frac{1}{2}$ in. Price: £33.55 (including VAT).

#### RH520 ★

Integrated stereo amplifier. 26 transistors, 11 diodes. Inputs: mag PU 2mV 50K, ceramic PU 50mV 100K, tape 250mV 100K, radio 100mV 100K. Noise level:  $-60$ dB. Overload capability: (mag PU input) 35dB, (other inputs) 33dB. Output: 15W RMS per channel. Controls: balance, bass  $\pm 14$ dB at 50Hz, treble  $\pm 13$ dB at 10kHz, volume, contour, rumble, scratch, mono/stereo, input selector, headphones. HD:  $\leq 1\%$ . Output impedance: 4 ohms. FR: 20Hz-20kHz  $\pm 1$ dB at 50mW. Mains: 110, 127, 220, 240V 50-60Hz. Size:  $19 \times 7\frac{1}{2} \times 14$ in. Finish: walnut and brushed aluminium. Separate illuminated output meters. Four channel surround sound facilities. Price: £85 (including VAT).



Philips RH580



Philips RH520

#### RH521

Integrated stereo amplifier. 32 transistors. Inputs: mag PU 2mV 50K, radio 100mV 100K, tape 250mV 100K, aux 100mV 1M, microphone 1mV 2K. Noise level:  $-90$ dB. Output: 30W RMS per channel. Controls: volume, balance, bass  $\pm 14$ dB, treble  $\pm 15$ dB, presence  $\pm 6$ dB at 2kHz, loudness (three positions) scratch filter, rumble filter, monitor. Output impedance: 4 ohms. HD:  $< 0.1\%$  at 20W per channel. FR: 15Hz-40kHz  $+0$   $-5$ dB,  $-3$ dB at 30W per channel. Mains: 110, 127, 220, 240V AC. Size:  $18\frac{1}{2} \times 4\frac{3}{8} \times 11$ in. Microphone input. Two sets of speaker outlets. Headphone socket. Finish: walnut veneer cabinet with brushed aluminium fascia. Price: £119.90 (including VAT).

#### ■ PHOENIX

H. L. Audio Ltd, 9B Garman Road, Tottenham, London, N17. Tel: 01-808 6127.

#### Phoenix 77

Integrated stereo amplifier. Inputs: mag PU, ceramic PU, radio, tape. Output: 10W RMS per channel. FR: 40Hz-20kHz. Controls: bass, treble, balance, volume, scratch filter. Switched headphone socket. Finish: black and brushed aluminium fascia. Price: £29 (plus VAT).

#### ■ PIONEER

Distributors: Shriro (UK) Ltd, 42 Russell Square, London, WC1B 5DF. Tel: 01-580 6996.

#### SA1000

Integrated stereo amplifier. Inputs: mag PU 2.9mV 50K, ceramic PU 58mV 100K, mag PU

★ Indicates entry is illustrated

2.9mV 20-100K switchable, mic 115 $\mu$ V 30 ohms, mic 2.2mV 50K, radio 200mV 200K, aux (2) 200mV 200K, tape (2) 200mV 200K. Output: 94W RMS per channel into 4 ohms. HD: <0.3% at rated output. FR: 20Hz-60kHz  $\pm$  1dB. Output impedance: 4-16 ohms. Centre channel output: 500mV. AC mains: 110, 120, 220, 240V. Price: £168.29 (plus VAT).

#### SA600

Integrated stereo amplifier. Inputs: mag PU (2) 2.3mV 50K, mic 3.3mV 20K, radio 200mV 95K, aux (2) 200mV 95K, tape (2) 200mV 95K. 21 transistors, 8 diodes. Output: 31W RMS per channel into 4 ohms. HD: <0.5%. FR: 15Hz-70kHz  $\pm$  1dB. Output impedance: 4-16 ohms. AC mains. Price: £103.12 (plus VAT).

#### SA500A ★

Integrated stereo amplifier. Inputs: magnetic PU 2.5mV 47K, radio 200mV 100K, tape 200mV 100K, aux 200mV 100K. Noise level: PU input 75dB, other inputs 90dB. Controls: bass  $\pm$  13dB at 50Hz, treble +8dB -11dB at 10kHz, loudness +12dB at 50Hz, +5.5dB at 10kHz. Output: 13W RMS into 8 ohms. HD: <0.5% at 1kHz. FR: 20Hz-50kHz  $\pm$  1dB. Output impedance: 4-16 ohms. Mains: 110, 117, 130, 220, 240V AC. Size: 13  $\times$  4  $\frac{1}{2}$   $\times$  12  $\frac{3}{8}$  in. Price: £50.87 (plus VAT).

#### SC700

Multi-amplifiers. Full details not available at time of going to press. Price: £58.51 (plus VAT).

#### SR-202W

Reverberation amplifier for adding natural depth to stereo tapes and recordings. Employs double-scatter system by blending direct signals

from source with reverberation effect. A variety of effects can be achieved. Easily connected to existing amplifier and tape unit. Adjustable reverb time. Full descriptive leaflet on request. Price: £59.32 (plus VAT).

#### ■ QUAD

Acoustical Manufacturing Co Ltd,  
St Peter's Road, Huntingdon, PE18 7DB.  
Tel: Huntingdon (0480) 52561.  
Cables: Acoustical.

#### Quad 33 control unit

Transistorised mono/stereo control unit. Inputs: PU from 2mV, radio (1) 100mV 100K, radio (2) 100mV 100K, tape from 100mV 40K. Signal-to-noise level: -70dB on PU, -85dB on all other inputs. Output: 0.5V. Controls: volume, balance, bass, treble, filter slope, filter frequency. Mains powered. Designed for use with Quad 303 amplifier but suitable for operation with other high quality equipment. Size: 10  $\frac{1}{2}$   $\times$  3  $\frac{3}{8}$   $\times$  6  $\frac{1}{2}$  in. Price: £52 (plus VAT).

#### Quad 50/E

High quality transistor power amplifier primarily intended for professional and industrial use. Input: 500mV RMS into 14 to 50K according to gain control setting for 50W output, or standard 600-ohm line bridging input. Output: 50W. Output transformer secondaries linked by output connector to provide for 4 to 300 ohm loads. Damping factor 10. Total harmonic distortion: 0.1% at 1kHz at any level up to 50W output. Hum better than 80dB. Consumption: 24-150W depending on power output. Mains: 100-127V or 200-250V 50-60Hz. Size: 12  $\frac{3}{4}$   $\times$  6  $\frac{1}{2}$   $\times$  4  $\frac{1}{2}$  in. Weight: 24lb. Price on application.



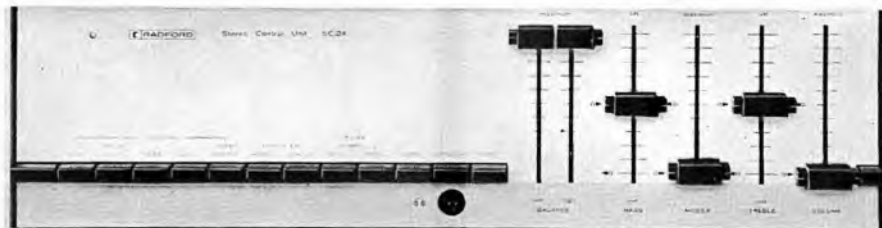
Quad 303 power amplifier



Pioneer SA-500



Revox A78



Radford SC24

**Quad 303 power amplifier ★**

Transistorised stereo power amplifier. Output: 45W into 8 ohms. HD: 0.03% at 70Hz and 700 Hz, 0.1% at 10kHz. FR: -1dB 30Hz-35kHz into 8 ohms, -1dB 20Hz-35kHz into 16 ohms. Noise level: -100dB. Sensitivity: 0.5V. Output impedance: 4-16 ohms. Output transistors: High voltage 2N3055. Mains. Designed for use with Quad 33 control unit but can be used with other high quality equipment. Size:  $4\frac{3}{4} \times 6\frac{1}{2} \times 12\frac{3}{4}$  in. Price: £62 (plus VAT).

**■ RADFORD AUDIO LTD**

Ashton Vale Road, Bristol, BS3 2HZ.  
Tel: Bristol 662301.

**SC-24 ★**

Stereo control unit. Transistors. Inputs: PU 2mV 50K, aux (1) 2mV 50K, aux (2) 80mV 100K, radio 80mV 100K, tape monitor 80mV 100K. Noise: (2mV inputs) -70dB; (80mV inputs) -75dB. Output: 1V RMS. Controls: balance, bass, middle, treble, input selector, filter 4, 7 and 10kHz at 12dB/octave. Designed for use with Radford SPA-50 amplifier but suitable for any power amplifier. AC mains. Size:  $17 \times 4\frac{3}{4} \times 8\frac{3}{4}$  in. Price: £97.50 (plus VAT).

**SPA-50**

Stereo power amplifier. Transistors. Output: 50W RMS per channel into 8 ohms. HD: 0.025% at rated output. FR: 10Hz-70kHz -3dB at 50W output. Noise: -95dB. Input: 1V RMS for rated output. Mains: 110, 120, 130, 220, 240V AC. Size:  $17 \times 4\frac{3}{4} \times 8\frac{3}{4}$  in. Price: £97.50 (plus VAT).

**PA-50**

Mono power amplifier. Transistors. Output: 50W RMS into 8 ohms. HD: 0.025% at rated output. Noise: -95dB. Input: 1V RMS. FR: 10Hz-70kHz -3dB at 50W. Mains: 110, 120, 130, 220, 230, 240V AC. Size:  $8\frac{1}{2} \times 4\frac{3}{4} \times 12\frac{3}{4}$  in. Price: £65 (plus VAT).

**■ RADON**

Radon Industrial Electronics Co Ltd,  
Orme Road, Worthing, Sussex.  
Tel: Worthing 34904.

**System 60**

Integrated stereo transistor amplifier. Inputs: PU (1) 180mV, PU (2) 45mV, radio 150mV, aux 150mV. Output: 4W RMS per channel. Controls: bass, treble, volume, balance, selector, mode. HD: better than 0.2% at rated output. FR: 40Hz-20kHz. Noise: -60dB. Output impedance: 15 ohms. Mains: 240V AC. Price: approximately £28 (plus VAT).

**■ REVOX**

Distributors: C. E. Hammond & Co Ltd,  
Lamb House, Church Street, London, W4 2PB.  
Tel: 01-995 4551. Telex: 934047.

**Revox A78 ★**

Stereo amplifier. Output: 40W RMS per channel into 4-8 ohms, 25W RMS per channel into 16 ohms. HD: less than 0.1% at 1kHz, 0.3% 40Hz-15kHz. FR: 20Hz-20kHz  $\pm 1$ dB. Inputs: mag PU 3mV, ceramic PU 230mV, tape 100mV, aux 100mV, radio 100mV, tape monitor 250mV. Treble control:  $\pm 12$ dB at 12kHz. Bass control  $\pm 12$ dB at 60Hz. Mains: 110, 130, 150, 220, 240, 250V 50-60Hz. 30 silicon transistors, 3 rectifiers, 14 diodes. Size:  $6\frac{1}{4} \times 16\frac{3}{8} \times 9\frac{5}{8}$  in. Weight: 18lb. Price: £149 (plus VAT).

**■ RICHARDSON ELECTRONICS LTD**

57 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 0723/4874.

**SCP.2P**

Stereo self-powered control unit. Modular construction with pluggable circuits. FET high Z input. Silicon semi-conductors. Stabilised power supply. Low noise and distortion 0.01% for 1V output. Bass  $\pm 20$ dB. Treble  $\pm 16$ dB. Rumble filter on disc. Quiet listening tape monitor. Mag pickup 2mV inputs (two); high Z 2Mohms 50 mV; aux 250mV (two). Size:  $14\frac{3}{8} \times 14\frac{3}{8} \times 10\frac{1}{2}$  in. Psn 200-250V 50 or 60Hz. Price: on application.

**StA.100 ★**

Stereo integrated amplifier and control unit. Pre-amplifier specification as for SCP 2P. Power amplifier incorporates advance design complementary push-pull output to reduce crossover distortion. Output: 30W RMS per channel into



★ Indicates entry is illustrated

8 ohms. HD: 0.04%. Output protected against short circuit. Stable at all loads. Mains: 200-250V AC 50-60Hz. Price: on application.

#### STA.200

Stereo transistor amplifier. Output: 100W RMS per channel into 8 ohms. 175W RMS per channel into 4 ohms. Mono version available giving balanced output of 50V into 8 ohms. Price: on application.

#### STA.100

Stereo transistor amplifier. Output: 50W RMS per channel into 8 ohms. 85W RMS per channel into 4 ohms. Price: on application.

#### SA170 Mk 2 and MA135 Mk 2

Valve power amplifiers. Full specification and prices on application.

### ■ ROGERS DEVELOPMENTS (Electronics) LTD

4-14 Barmeston Road, Catford, London, SE6 3BN. Tel: 01-698 7424/4340.  
Cables: Rodevco, London, SE6.

#### Ravensbourne ★

Solid state stereo amplifier and control unit. Power output: 4, 8 and 16 ohms; 35W per channel RMS. HD: 0.1% average (0.06% at 15W). FR: 25Hz-25kHz  $\pm$  1dB at 25W. Feedback: 36 dB. N/L: -80dB. Output transistors: 2N3055. Power consumption: quiescent 40W; at 25W + 25W into 15 ohms 110W. Inputs: disc, sensitivity 2, 4, 50, 100mV impedance 50K, noise level -60-65dB; aux. radio and tape, sensitivity 200mV, impedance 100K, N/L: -75dB. Controls: pushbutton input selector, volume, bass and treble, balance, low pass filter and slope, function, headphone. Dimensions: case 14 $\frac{3}{8}$  x 10 $\frac{1}{4}$  x 5 $\frac{1}{2}$  in; chassis 13 $\frac{3}{4}$  x 10 $\frac{1}{8}$  x 4 in. Price: (chassis) £70 (plus VAT); (in cabinet) £75 (plus VAT).

#### Ravensbrook Mk III ★

Solid state stereo amplifier and control unit. Power output: 13W per channel into 15 ohms. 20W per channel into 8 ohms. HD: less than 0.3% at 18W into 8 ohms, less than 0.15% at 13W into 15 ohms. FR: 20Hz-50kHz -3dB. Noise level: disc -53dB, radio -8dB. Power consumption: quiescent 22W; 10W/15 ohms 50W. Inputs: disc, sensitivity 2, 4, 25, 50mV, impedance 47K, noise level: -53dB. Controls: pushbutton input selector, function, bass and treble, balance, high pass filter switch, low pass filter/slope. Output facility for headphones. Output matching: 4-8 ohms and 8-16 ohms. Dimensions: cabinet 14 $\frac{3}{8}$  x 9 $\frac{7}{8}$  x 5 in; chassis 13 x 9 $\frac{3}{4}$  x 3 $\frac{1}{2}$  in. Price: (chassis) £52.50 (plus VAT); (in cabinet) £57.50 (plus VAT).

### ■ ROTEL

Rank Audio Visual Ltd, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.



Richardson Electronics SIA100



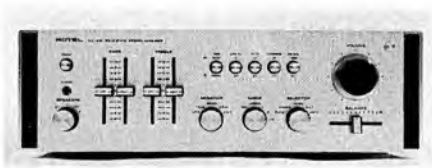
Rogers Ravensbrook



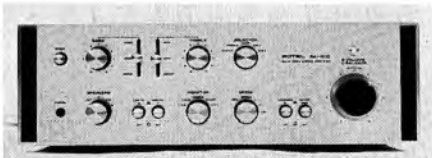
Rogers Ravensbourne



Rotel RA610



Rotel RA810



Rotel RA1210

**RA210**

Integrated stereo amplifier. Inputs: mag PU 2.7mV 45K, radio 120mV 150K, tape 120mV 150K, aux 120mV 150K. Noise level: mag PU input -60dB, other inputs -70dB. Output: 8W RMS per channel at 8 ohms. Tone controls: bass  $\pm 12$ dB at 50Hz, treble  $\pm 12$ dB at 10kHz. HD:  $< 0.5\%$  at rated output. Output impedance: 4, 8 and 16 ohms. FR: 25Hz-75kHz. Mains: 240V AC. Size:  $12\frac{7}{8} \times 3\frac{3}{4} \times 6\frac{1}{2}$  in. Wood cabinet. Front headphone socket. Price: £38.39 (including VAT).

**RA310**

Integrated stereo amplifier. Inputs: magnetic PU 3mV, crystal PU 100mV, aux 200mV, tape 300mV. Noise level: -60dB on mag PU, -65dB other inputs. Controls: bass +14dB -12dB at 50Hz, treble  $\pm 12$ dB at 10kHz, balance, volume, input selector with light indicators, pushbuttons for mode, on/off, loudness, speakers. Output: 20W RMS per channel into 4 ohms, 15W RMS per channel into 8 ohms. HD: 0.2% at rated output. FR: 20Hz-30kHz -1.5dB. Output impedance: 4, 8, 16 ohms. Mains: 100, 120, 200, 240V 50-60Hz. Size:  $14 \times 4\frac{1}{2} \times 7\frac{1}{2}$  in. Price: £57.20 (including VAT).

**RA610 ★**

Integrated stereo amplifier. Inputs: magnetic PU (1) 2.5mV 50K, magnetic PU (2) 2.5mV 100K, radio 120mV 25K, aux (1) 120mV 25K, aux (2) 120mV 25K, tape 620mV 35K, main amplifier 650mV 35K. Controls: loudness  $\pm 10$  dB at 5kHz, high filter -9dB at 10kHz, low filter -9dB at 50Hz, muting -20dB at 1kHz, bass +15dB -13dB at 50Hz, treble +14dB -16dB at 10kHz. Output: 32W RMS per channel into 8 ohms. HD:  $< 0.1\%$  at rated output. FR: (main amplifier) 3Hz-100kHz -3dB, (aux inputs) 5Hz-90kHz -3dB. Output impedance: 4, 8, 16 ohms. Mains: 117, 240V AC. Size:  $16\frac{1}{2} \times 8\frac{3}{4} \times 4\frac{7}{8}$  in. Price: £86.35 (including VAT).

**RA810 ★**

Integrated stereo amplifier. Inputs: mag PU (1) 2mV 100K, mag PU (2) 2.8mV 30-100K, radio 200mV 45K, aux (2) 200mV 45K, tape 330mV 100K. H and N: (PU inputs) -65dB, (other inputs) -75dB. Output: 60W RMS per channel into 4 ohms, 40W per channel into 8 ohms. Tone controls: loudness +10dB at 50Hz and +6dB at 10kHz, high filter -10dB at 10kHz, low filter -10dB at 50Hz, bass  $\pm 10$ dB at 50Hz, treble  $\pm 10$ dB at 10kHz. HD:  $< 0.3\%$  20Hz-20kHz at 40W output. Output impedance: 4-16 ohms. FR: 4Hz-75kHz +0dB -3dB. Mains: 100, 117, 220, 240V 50-60Hz. Size:  $16\frac{1}{2} \times 12 \times 5\frac{1}{2}$  in. Weight: 22lb. Price: £116.05 (including VAT).

**RA1210 ★**

Integrated stereo amplifier. Inputs: mag PU (1) 1mV 100K, PU (2) 1.4mV 30-100K, radio 200mV

**Sansui RA500**

45K, aux 200mV 45K, tape 200mV 45K. tape (DIN) 330mV 100K. Output: 80W RMS per channel into 4 ohms, 60W per channel into 8 ohms. Controls: loudness +10dB at 50Hz and +6dB at 10kHz, low filter -10dB at 50Hz, bass  $\pm 10$ dB at 50Hz, treble  $\pm 10$ dB at 10kHz. HD:  $< 0.1\%$  at rated output. Output impedance: 4-16ohms. FR: 3Hz-50kHz +0dB -3dB. Mains: 100, 117, 220, 240V 50-60Hz. Size:  $16\frac{1}{2} \times 12 \times 5\frac{1}{2}$  in. Weight: 30lb. Price: £141.90 (including VAT).

**■ SABA TELEVISION LTD**

6-12 Cornbrook Park Road, Manchester, M15 4EE. Tel: 061 872 7661.

**VS80**

Integrated stereo amplifier. Output: 45W music power per channel. Inputs for mag PU, crystal PU, radio and tape. Full overload protection. Headphone socket on front panel. Slider controls for volume, bass, treble and balance. 29 transistors, 5 diodes. Output impedance: 4-16 ohms. Size:  $16\frac{3}{8} \times 4\frac{1}{2} \times 11$  in. Finish: light walnut or white. Price: £94.95 (including VAT).

**■ SANSUI**

Vernitron Ltd, Thornhill, Southampton. SO9 5QF. Tel: Southampton 444811.

**AU101**

Integrated stereo amplifier. Input: PU 3mV 50K, mic 4mV 50K, aux 200mV 50K, tape (2) 200mV 50K. Noise level: PU and mic inputs  $> 65$ dB, other inputs  $> 75$ dB. Output: 15W RMS per channel. Output impedance: 4-8 ohms. Tone controls: bass  $\pm 13$ dB at 50Hz, treble  $\pm 10$ dB at 6kHz. Loudness control: +8dB at 50Hz, +3dB at 10kHz. HD:  $< 0.8\%$  at rated output. FR: 20Hz-60kHz  $\pm 2$ dB. Mains: 100, 117, 220, 240V AC. Finish: black front panel with light walnut ends. Size:  $16 \times 4\frac{5}{8} \times 11$  in. Two AC outlet sockets. Two year guarantee. Price: £45.24 (plus VAT).

**RA500 ★**

Stereo reverberation amplifier. Controls: mains on/off, reverberation on/off record, tape mode. FR: 20Hz-30kHz. Reverb time: 1.9 to 3.2 sec-

★ Indicates entry is illustrated



Sansui AU505



Sansui AU7500



Sansui AU6500



Sansui AU9500

100, 117, 220, 240V AC. Size:  $11\frac{3}{8} \times 6\frac{3}{8} \times 10\frac{7}{8}$ in. Finish: light walnut cabinet with black acrylic top panel and silver control panel. Two years guarantee. Price: £58.08 (plus VAT).

#### AU505 ★

Integrated stereo amplifier. 23 transistors, 2 diodes. Inputs: mag PU 3mV 50K, mic 4mV 50K, radio 200mV 50K, aux 200mV 50K, tape 200mV 50K. Noise level: (PU and mic inputs) better than 70dB, (other inputs) better than 75dB. Output: 25W RMS per channel. Output impedance: 4-16 ohms. Controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 10$ dB at 10kHz, loudness  $+10$ dB at 50Hz  $+8$ dB at 10kHz, low filter  $-10$ dB at 50Hz, high filter  $-10$ dB at 10kHz. HD:  $<0.5\%$ . FR: 20Hz-60kHz at normal levels. Mains: 100, 117, 220, 240V 50-60Hz. Finish: walnut sides, matt black cabinet and front panel, chrome trim. A, B and A+B speaker switch. Tuner selector switch separate from main selector switch. Price: £101.01 (including VAT).

#### AU6500 ★

Integrated stereo amplifier. 36 transistors, 16 diodes. Inputs: mag PU (2) 2.5mV 50K, radio 100mV 50K, aux 100mV 50K, tape (2) 100mV 50K, four-channel adaptor 100mV 50K. Noise level: (PU inputs) better than 70dB, (other inputs) better than 80dB. Overload capability: (mag PU inputs) 30mV. Output: 32W RMS per channel. Controls: bass  $\pm 15$ dB at 50Hz, treble  $\pm 15$ dB at 15kHz, loudness  $+10$ dB at 50Hz  $+8$ dB at 10kHz, low filter  $-12$ dB at 50Hz, high filter  $-12$ dB at 10kHz. HD:  $<0.1\%$ . Output impedance: 4-16 ohms. FR: 10Hz-30kHz  $\pm 1$ dB at 1W. Mains: 100, 117, 220, 240V 50-60Hz. Size:  $17\frac{3}{8} \times 5\frac{5}{8} \times 12\frac{3}{4}$ in. Finish: matt black cabi-

net and front panel with chrome trim. Facilities for four-channel adaptor. Price: £162.45 (including VAT).

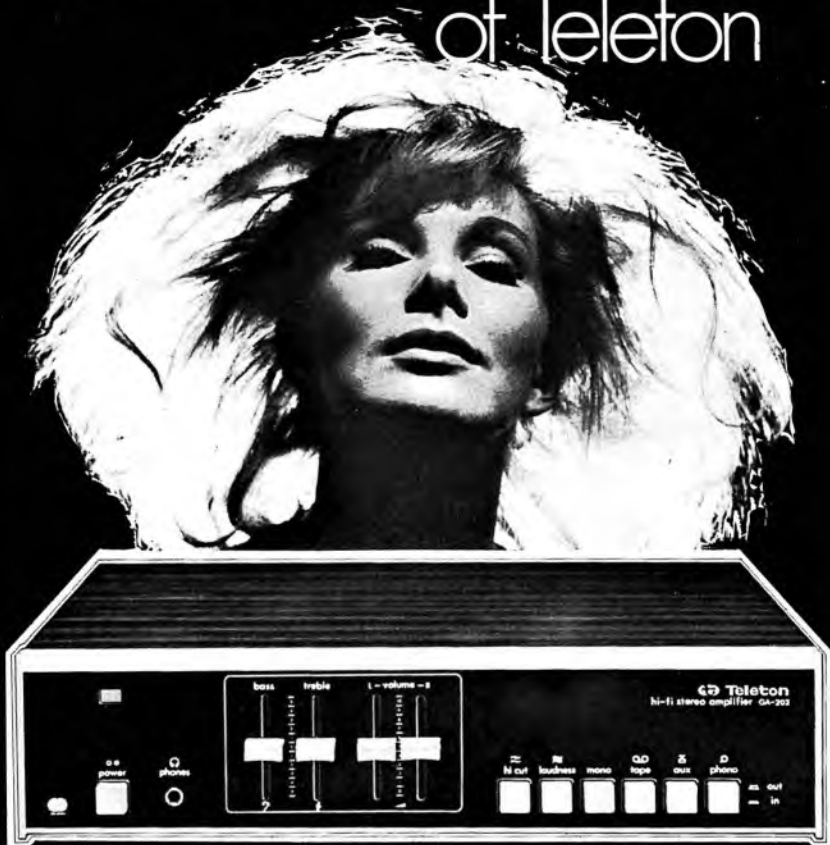
#### AU7500 ★

Integrated stereo amplifier. 38 transistors, 16 diodes. Inputs: mag PU (2) 2.5mV 50K, mic 2.5mV 50K, radio 100mV 50K, aux 100mV 50K, tape (3) 100mV 50K, four-channel adaptor 100mV 50K, power amplifier only 800mV 40K. Noise level: (PU and mic input) better than 75dB, (other inputs) better than 80dB. Overload capability: (PU input) 300mV. Output: 43W RMS per channel. Controls: bass  $\pm 15$ dB at 50Hz, mid-range  $\pm 5$ dB at 1.5kHz, treble  $\pm 15$ dB at 15kHz, loudness  $+10$ dB at 50Hz  $+10$ dB at 15kHz, low filter  $-12$ dB at 50Hz, high filter  $-11$ dB at 10kHz. HD:  $<0.1\%$ . Output impedance: 4-16 ohms. FR: 10Hz-30kHz  $\pm 1$ dB. Mains: 100, 117, 127, 220, 230, 240, 250V 50-60Hz. Size:  $17\frac{3}{8} \times 5\frac{5}{8} \times 12\frac{3}{4}$ in. Finish: matt black cabinet and front panel with satin chrome trim. Price: £197.65 (including VAT).

#### AU9500 ★

Integrated stereo amplifier. 58 transistors, 37 diodes. Inputs: mag PU (2) 2.5mV 50K, mic 2.5mV 50K, radio 100mV 50K, aux 100mV 50K, tape (3) 100mV 50K, four-channel adaptor 100mV 50K, noise reduction unit 100mV 50K, power amplifier 800mV 50K. Noise level: (mic) better than 65dB, (PU inputs) better than 75dB, (other inputs) better than 85dB. Overload capability: (PU inputs) 300mV. Output: 80W RMS per channel. Controls: bass  $\pm 15$ dB at 20Hz (3dB steps), mid-range  $\pm 5$ dB at 1.5kHz (1dB steps), treble  $\pm 15$ dB at 20kHz (3dB steps), bass selector defeat  $-150$ Hz, 300Hz, 600Hz, midrange selector defeat  $-750$ Hz, 1.5kHz,

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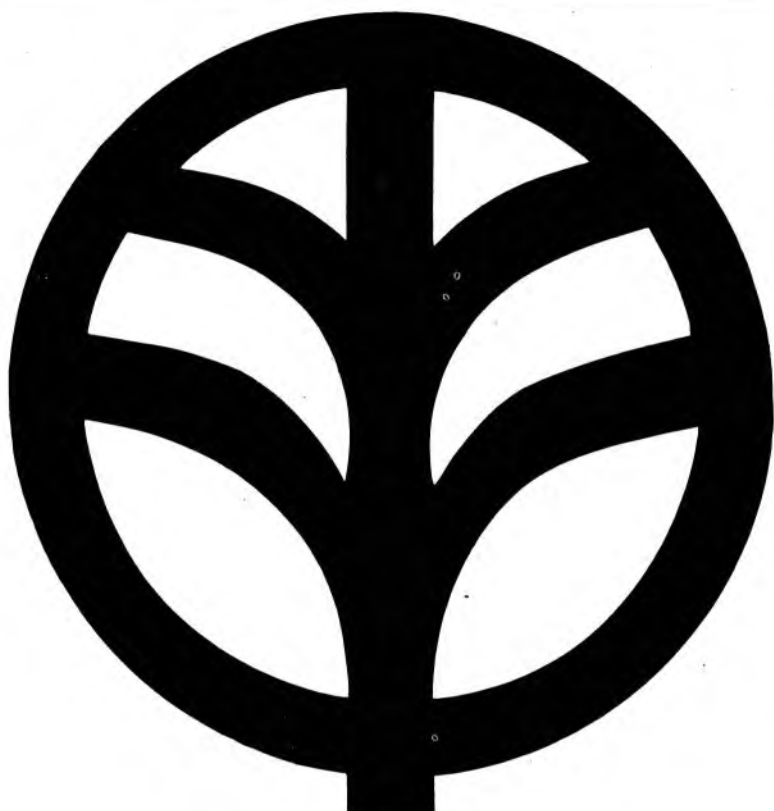
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exclusive United Kingdom distributors B. H. Morris and Co. (Radio) Ltd.  
Trio House, The Hyde, London NW9 6JP. Tel: 01-205 6441

3kHz, treble selector defeat -2kHz, 3.5kHz, 6kHz, loudness +10dB at 50Hz +8dB at 10kHz, low filter -3dB at 50Hz -3dB at 100Hz, high filter -3dB at 12kHz -3dB at 6kHz. HD: <0.1%. Output impedance: 4-16 ohms. FR: 15Hz-40kHz+0dB-1dB at 1W. Mains: 100, 117, 127, 220, 240, 250V 50-60Hz. Finish: matt black cabinet and front panel with satin chrome trim. Four AC outlets. Two headphone jacks. Two microphone jacks. Size: 19 $\frac{3}{4}$  x 5 $\frac{5}{8}$  x 13 $\frac{3}{4}$ in. Price: £316.56 (including VAT).

■ **SANYO**

Sanyo Marubeni (UK) Ltd, Sanyo House, Bushey Mill Lane, Watford, Herts. Tel: Watford 30421.

**DCA 1400**

Integrated stereo amplifier. Inputs: PU (1) 2.5mV 50K, PU (2) 2.5mV 50K, aux (1) 100mV 100K, aux (2) 100mV 100K, radio 100mV 100K. H and N: PU inputs -70dB, other inputs -75dB. Output: 20W sine into 8 ohms, 17W sine into 8 ohms (both channels driven). HD: <0.8% at rated output. FR: 10Hz-100kHz ±2dB. Controls: bass ±12dB at 100Hz, treble ±12dB at 10kHz, loudness +10dB at 100Hz, +3dB at 10kHz. Connections for two speaker systems, stereo headphones. Slider control for balance. Output impedance: 4-8 ohms. Mains: 120-240V AC. Price: £63.74 (including VAT).

**DCA1700X**

Quadrasonic stereo synthesiser. Output: 20W RMS per channel. Inputs: two PU, two aux, radio, tape. Rotary controls for volume, bass and treble. Slider control for balance. Switches for two-channel and four-channel tape recorder. Loudness control. Quadraphonic effect selector. Mains: 120-240V AC. Price: £79.14 (including VAT).

■ **SCIENTELEC**

35a Beddington Lane, Croydon, Surrey, CR0 4TB. Tel: 01-686 9341/4.

**Elysee 30**

Integrated stereo amplifier. 24 transistors, 12 diodes. Inputs: tape 4.5mV CCIR 50K, mag PU 4mV RIAA 50K, ceramic PU 130mV RIAA 50K, mic 1.4mV flat 50K, radio 140mV 50K. Noise level: (all inputs) -65dB. Output: 30W RMS per channel. Controls: input selectors, bass ±16dB at 20Hz, treble ±16dB at 10kHz, loudness, volume, balance, mono/stereo (five combinations), 30Hz rumble filter, 10kHz scratch filter. HD: 0.1%. Output impedance: 4-8 ohms. FR: 20Hz-30kHz. Mains: 220 or 240V AC 50Hz. Size: 15 $\frac{3}{4}$  x 10 $\frac{5}{8}$  x 3in. Finish: brushed aluminium. Price: £122.36 (including VAT).

**Club A25**

Integrated stereo amplifier. 27 transistors, 13

diodes. Inputs: tape 200mV 50K, mic 1.2mV flat 50K, mag PU 3mV RIAA 50K, radio 5mV flat 50K, tape record 10mV 50K. Noise level: (mag PU) 50dB, (mic) 53dB, (radio) 64dB, (tape) 71dB. Overload capability: (mag PU) 100mV, (mic) 35mV, (radio) 120mV, (tape) 19V. Output: 25W RMS per channel. Controls: two slider volume controls, two slider bass controls, two slider treble controls, loudness switch, five input selectors, mono/stereo, 30Hz rumble filter, 10kHz scratch filter, monitoring. HD: 0.1%. Output impedance: 4 ohms. FR: 20Hz-30kHz ±3dB, 30Hz-20kHz ±1dB. Mains: 220 or 240V AC 50Hz. Finish: black cabinet with extruded aluminium panel and brushed aluminium trim. Size: 17 $\frac{7}{8}$  x 12 x 4 $\frac{3}{4}$ in. Price: £122.36 (including VAT).

**Club A40**

Integrated stereo amplifier with similar specification to Club A25 above but with 40W RMS per channel output. Price: £134.39 (including VAT).

**Mach A30**

Integrated stereo amplifiers. 38 transistors, 15 diodes. Inputs: mic 0.8mV 10K, mag PU 3mV 47K, ceramic PU 300mV 2M, radio 30mV 47K, aux 5mV 100K. Noise level: (mic) -53dB, (mag PU) -59dB, ceramic PU) -65dB, (radio) -65dB, (aux) -60dB. Overload capability: (mic) 3.5mV, (mag PU) 100mV, (ceramic PU) 2V, (radio) 3.5V. Output: 30W RMS per channel. Controls: 19-step volume (3dB steps), bass ±16dB at 20Hz, treble ±16dB at 10kHz, monitoring, loudness, 10kHz scratch filter, 30Hz rumble filter, stereo/mono mode. HD: 0.1%. Output impedance: 5-8 ohms. FR: 25Hz-32kHz at 30W RMS output. Mains: 220V or 240V AC 50Hz. Finish: black leather covered sleeve with chrome/black front panel. Size: 5 $\frac{1}{4}$  x 16 $\frac{3}{8}$  x 12in. Price: £203.95 (including VAT).

**Mach A50**

Integrated stereo amplifier with similar specification to the Mach A30 above but with 50W RMS per channel output. Price: £230.37 (including VAT).

■ **SERVO-SOUND**

Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551.

**SC100BEE**

Stereo preamplifier incorporating 12 silicon transistor circuit. Inputs: mag PU 1.1-5mV 47K, tape 300mV 40K, aux (1) 300mV 40K, aux (2) 300mV 40K. Output: 1.2V per channel into not less than 400 ohms. HD: 0.3% at 1kHz. Output impedance: 400 ohms. FR: 30Hz-30kHz. Special stereo crossing network incorporated. Size: 15 $\frac{1}{2}$  x 3 x 7 $\frac{1}{2}$ in. Mains: any AC voltage up to 240V. Finish: wood and steel cabinet finished

★ Indicates entry is illustrated



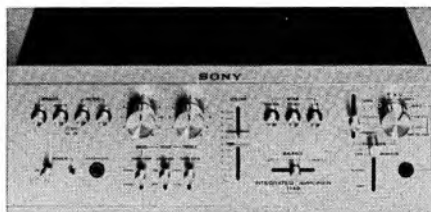
Shure Solo-phone SA-2E



Shure M64-2E



Sinclair Filter



Sony TA-1140

in walnut or white. Designed specifically for use with Servo-Sound SL20 amplifier/speaker units. Price: £61.90 (plus VAT).

#### ■ SHURE ELECTRONICS LTD

Ecceleston Road, Maidstone, Kent, ME15 6AU.  
Tel: Maidstone (0622) 59881.

#### Solophone SA-2E ★

Provides personal stereo listening for one or two people. Gives sufficient amplification to accept output from any high quality cartridge (for example Shure Stereo Dynetic range), tape deck or FM tuner. There are input selector switch, separate volume controls for each channel and two headphone jacks mounted on the front panel. Size:  $10\frac{1}{2} \times 3\frac{1}{2} \times 3$  in. Weight: 2lb. Mains: 240V 50Hz. Price: £27.06 (including VAT).

#### M64-2E ★

Stereo preamplifier designed to furnish voltage gain and equalisation to enable amplifiers not equipped with necessary input facilities to be used with magnetic pickup cartridges and tape heads. Can also be used for microphones and as buffer amplifiers. FR: 20Hz-20kHz  $\pm 2$ dB. Input impedance: 50K at 1kHz. Load impedance: (high) 22K minimum; (low) 600 ohms optimum. Separation: 50dB at 1kHz. H and N: 71 dB minimum below 10mV input from 20Hz-20kHz. Price: £21.12 (including VAT). Optional battery power unit. Price: £9.90 (including VAT).

#### ■ SINCLAIR RADIONICS LTD

London Road, St Ives, Huntingdonshire,  
PE17 4HJ. Tel: St Ives (Hunts) 4311.

#### Stereo 60

Stereo preamplifier designed for Sinclair Project

60 range but suitable for other amplifiers. Inputs: mag PU 3mV, radio 3mV, aux 3mV (all externally adjustable). Output: 250mV. SN: better than 70dB. Channel matching: within 1dB. Treble control:  $\pm 12$ dB at 10kHz. Bass control:  $\pm 12$ dB at 100Hz. Silicon epitaxial planar transistors. Pushbutton input selection. Consumption: 5mA. Finish: brushed aluminium panel with black knobs. Size:  $1\frac{1}{2} \times 8\frac{1}{4} \times 4$  in. Price: £9.98 (plus VAT).

#### Active Filter Unit ★

Designed for Project 60 Series but suitable for other systems. For connection between a Stereo 60 preamplifier and two Z-30 or Z-50 power amplifiers. Two filter stages, one a rumble (high pass) filter the other a scratch (low pass) filter. Supply required: 1.5-35V at 3mA. Gain at 1kHz: 0.98 ( $-0.2$ dB). HF filter slope: 12dB/octave variable 5kHz-28kHz ( $-3$ dB). LF filter slope: 12dB/octave variable 25Hz-100Hz ( $-3$ dB). Finish: brushed aluminium panel with black knobs. Price: £5.98 (plus VAT).

#### System 2000

Integrated stereo amplifier. 22 transistors, 7 diodes. Inputs: mag PU 3mV 47K, ceramic PU 30mV 220K, aux 100mV 100K, tape 125mV 1K. Noise level:  $-65$ dB. Overload capability: 20dB. Output: 8W RMS per channel into 4 ohms. Controls: volume, bass ( $\pm 13$ dB at 100Hz), treble ( $\pm 13$ dB at 10kHz), balance, filter. HD:  $< 0.1\%$  at all levels. Output impedance: 4-8 ohms. FR: 25Hz-35kHz  $\pm 3$ dB. Mains: 120V and 240V AC. Size:  $12 \times 6 \times 2$  in. Finish: natural aluminium. Price: £35 (plus VAT).

#### System 3000

Integrated stereo amplifier. Output: 17W RMS

per channel. HD: less than 0.04% at full output at 1kHz, less than 0.1% at all power levels and all audio frequencies. Stabilised power supply. Inputs: two pickup, radio, tape. Outlets for tape, headphones and AC mains. All silicon transistors. Finish: modern functional design in black anodised aluminium. Features include scratch filter and speaker muting switch. Price: £45 (plus VAT).

See Constructional Kits Section for details of Sinclair Radionics Z-30, Z-50, PZ-5, PZ-6 and PZ-8 modules.

### ■ SONAB LTD

PO Box 4, Oldfield Road, Hampton, Middlesex, TW12 2HN. Tel: 01-979 0134.

#### P4000

Integrated stereo amplifier. Inputs: mag PU (2) 2mV 68K RIAA, mic 2.1mV 68K flat, aux 100mV 100K, tape 100mV 100K, line 500mV 47K. Output: 70W RMS per channel into 4 ohms, 50W RMS per channel into 8 ohms, 55W per channel into 4 ohms with both channels driven, 40W per channel into 8 ohms with both channels driven. Controls: input selector, mono/stereo, tape monitor, loudness, high filter, volume, balance, bass  $\pm 12$ dB at 50Hz, treble  $\pm 8$ dB at 10kHz. HD:  $< 0.1\%$  at 1kHz with both channels operating and up to 35W into 8 ohm load. Output impedance: 4-16 ohms. FR: 15Hz-25kHz  $\pm 1.5$ dB. Mains: 110, 130, 220, 240V 50-60Hz. Size:  $18\frac{3}{4} \times 9\frac{7}{8} \times 4\frac{3}{8}$ in. Weight:  $18\frac{3}{4}$ lb. Provision for two pairs of stereo headphones with impedance 8-600 ohms. Price: £136.30 (plus VAT).

### ■ SONY (UK) LTD

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7. Telex: 266371.

#### TA-1010

Transistor stereo integrated amplifier. Inputs: PU (1) and PU (2) 1.2mV 47K (noise level better than 70dB), tuner and aux (1), aux (2), tape and DIN socket 250mV 100K (noise level better than 90dB). Output: 15W per channel into 8 ohms. HD: less than 0.5% at 1kHz. FR (+0, -2dB): 20Hz-60kHz. Outlets: record out 250mV 10K, DIN socket 36mV 80K. Controls: volume balance, loudness, mode, input selector, tape monitor, bass, treble, high filter (6dB per octave above 5kHz). Mains: 100, 117, 220, 240V 50-60 Hz. Size:  $16\frac{9}{16} \times 4\frac{7}{8} \times 9\frac{3}{4}$ in. Price: £50 (plus VAT).

#### TA-70

Integrated stereo amplifier. Inputs: mag PU 3.5mV 50K, radio 250mV 100K, tape 440mV 100K. Output: 10W RMS per channel. Output impedance: 8 ohms. Mains: 220, 240V AC.

Size:  $13 \times 3\frac{1}{2} \times 9\frac{5}{8}$ in. Finish: wood cabinet with anodised aluminium panel. High filter. Main/remote filter switch. Price: £35 (plus VAT).

#### TA-88

Integrated stereo amplifier. Inputs: mag PU, radio, aux. Output: 10W RMS per channel. Output impedance: 8 ohms. HD:  $< 1\%$  at rated output. Mains: 110, 117, 220, 240V AC. Size:  $5\frac{1}{8} \times 9\frac{1}{8} \times 6\frac{1}{2}$ in. Finish: walnut cabinet with brushed aluminium front panel. Input source indicator lamps. Front panel headphone jack. Designed to match ST80F tuner. Price: £45 (plus VAT).

#### TA-1055

Integrated stereo amplifier. Inputs: mag PU, mic, radio, aux. Output: 20W RMS per channel. Output impedance: 4, 8 ohms. HD:  $< 0.5\%$  at rated output,  $< 0.2\%$  at 1W. Mains: 110, 117, 220, 240V AC. Size:  $16\frac{1}{8} \times 4\frac{5}{8} \times 11\frac{1}{4}$ in. Finish: walnut cabinet with brushed aluminium front panel. Mic and aux input jacks on front panel. Inputs and outputs for two tape recorders. Price: £70 (plus VAT).

#### TA-1130

Integrated stereo amplifier. Inputs: mag PU 1.5mV 47K, radio 130mV 100K, aux 130mV 100K, tape 130mV 100K. Noise level: mag PU 60dB, other inputs 70dB. Output: 75W RMS per channel. Tone filters: (high) 6dB/octave from 7kHz, (low) 6dB/octave from 100Hz. Loudness control:  $+8$ dB at 50Hz. HD:  $< 0.5\%$  at 1W. Output impedance: 4-16 ohms. FR: 10Hz-200kHz  $+0$ dB  $-2$ dB. Mains: 100, 117, 220, 240V AC. Size:  $15\frac{3}{4} \times 5\frac{7}{8} \times 12\frac{7}{8}$ in. Finish: anodised front panel, cabinet optional extra. Price: £140 (plus VAT).

#### TA-1140 ★

Integrated stereo amplifier. Inputs: mag PU 1.2mV 47K, aux (2) 130mV 100K, radio 130mV 100K, tape (2) 130mV 100K. Noise level: mag PU 70dB, other inputs 90dB. Output: 45W RMS per channel. Output impedance: 4-16 ohms. Tone controls: bass  $\pm 10$ dB at 50Hz, treble  $\pm 10$ dB at 20kHz. High and low filters. HD:  $< 0.05\%$  at 1W. FR: 10Hz-200kHz  $+0$ dB  $-2$ dB. Mains: 100, 120, 220, 240V AC. Size:  $15\frac{3}{4} \times 5\frac{7}{8} \times 12\frac{1}{2}$ in. Finish: anodised front panel, wood cabinet optional extra. Price: £100 (plus VAT).

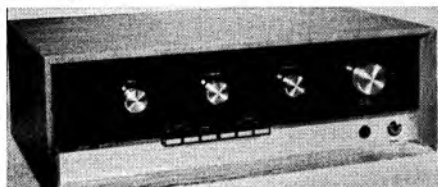
#### TA-3140F

Stereo power amplifier. 22 transistors. Inputs: 0.85mV per channel. Output: 35W RMS per channel. Output impedance: 4-16 ohms. HD: 0.05% at 1W. FR: 10Hz-200kHz  $+0$ dB  $-2$ dB at 1W. Controls: left level, right level, power on/off. Mains: 100, 120, 220, 240V AC. Size:  $7\frac{1}{8} \times 5\frac{7}{8} \times 12\frac{3}{8}$ in. Finish: anodised front panel, metal cabinet. Price: £65 (plus VAT).





J.E. Sugden C51



J.E. Sugden A21



J.E. Sugden P51



Tandberg TA300

### TA-3130F

Stereo power amplifier. Input: 1mV. Output: 50W RMS per channel. Output impedance: 4-16 ohms. HD: 0.05% at 1W. FR: 20Hz-200kHz +0dB -2dB at 1W. Controls: left volume, right volume, mains on/off. Mains: 100, 117, 220, 240V AC. Size:  $7\frac{3}{8} \times 5\frac{3}{8} \times 12\frac{1}{2}$ in. Finish: metal cabinet with anodised front panel. Price: £90 (plus VAT).

### TA-1066

Stereo amplifier. 17.5W per channel RMS into 8 ohms at 1kHz. Harmonic distortion: 0.8% rated output. S/N ratio: 65dB. Input and output facilities for 2 tape recorders, slider volume and balance controls, all push-button function selector. Brushed aluminium control panel, wood finish cabinet. Price: to be announced.

### TA-1150

Stereo amplifier. Outputs: 35W per channel RMS into 8 ohms at 1kHz (both channels driven). Harmonic distortion: 0.2% at rated output. SN ratio: PU 70dB, other inputs 90dB. Inputs: mag PU 2mV 47K, tuner 140mV 50K. Rec/Pb: (input) 140mV 50K. Outputs: Rec out (1) 140mV (Max 5V) 10K, Rec out (2) 0.8V (Max 5V) 2.7K. Centre out 0.8V 680 ohms. Headphone: 8 ohms-10K. Rec/Pb output 24mV 82K. Size:  $15\frac{3}{4} \times 5\frac{1}{2} \times 12\frac{1}{2}$ in. Weight: 18lb 5oz. Mains: 240V AC 50Hz. Function selector. Slider volume and balance controls, treble and bass controls. Mode switch, loudness switch, high and low filter switch, tape monitor, speaker switch. Price: to be announced.

### STEEPLETONE

Steepletone Products Ltd,  
Cinema House, Middle Barton,  
Oxford, OX5 4DA. Tel: Steeple Aston 7116.

### STA-1

Integrated stereo amplifier. 18 transistors. Inputs: mag PU 3mV 47K, ceramic PU 40mV 470K, radio 50mV 470K, tape 50mV 470K. Output: 10W RMS per channel. Controls: volume, treble, bass, balance, slider switch for on/off, pushbuttons for tape, radio, gram. Changeover switch on back panel for magnetic/ceramic cartridge. HD: <1% at rated output. Output impedance: 8 ohms. FR: 40Hz-18kHz  $\pm 2$ dB. Mains: 210-250V AC. Size:  $13 \times 4\frac{1}{4} \times 8\frac{1}{2}$ in. Finish: teak cabinet with stove enamelled sides and brushed aluminium fascia. Headphone socket. Two mains outlet sockets, one controlled by switch. Price: £35.75 (including VAT).

### STA-2

Integrated stereo amplifier. 18 transistors, 2 diodes. Inputs: mag PU 2mV 47K, radio 50mV 220K, tape 50mV 220K, aux (1) 100mV 470K, aux (2) 100 $\mu$ V 30-600 ohms. Noise level: mag PU input better than -66dB, other inputs better than -70dB. Overload capability: all inputs 30dB. Output: 25W RMS per channel. Controls: volume, balance, bass  $\pm 15$ dB at 40Hz, treble  $\pm 15$ dB at 14kHz, bass filter 12dB/octave from 80Hz, treble filter 18dB/octave from 8kHz, loudness, monitor switch, mono/stereo. HD: <0.1% at 20W, <0.05% at 5W. Output impedance: 8 ohms. FR: (PU equalised to RIAA) 40Hz-20kHz, (radio and tape play) 25Hz-25kHz  $\pm 2$ dB. Mains: 200-250V AC. Size:  $17\frac{1}{4} \times 4\frac{1}{4} \times 8\frac{1}{2}$ in. Finish: teak and brushed aluminium. Price: £54.25 (including VAT).

### J. E. SUGDEN & CO LTD

Carr Street, Cleckheaton, Yorks, BD19 5LA.  
Tel: Cleckheaton 2501.

**C51 control unit ★**

Transistorised stereo control unit designed for use with P51 power amplifier. Inputs: radio, tape and aux, each 150mV into 250K for flat response. PU 12.5mV 47K RIAA. PU 2 same as PU 1 or any characteristic to choice with basic sensitivity 0.25mV. Plug-in adaptors available for various cartridges, microphones, etc. Controls: bass  $\pm 14$ dB at 40Hz, treble  $\pm 14$ dB at 10kHz, volume  $\pm 1$ dB per channel, balance  $\pm 6$ dB for 180° rotation. Rumble filter: 12dB/octave below 30Hz. Treble filter: 4kHz, 7kHz and 10kHz. Treble filter slope: gradual 6dB/octave, steep 18dB/octave. HD: better than 0.1% at rated output. S/N: better than 85dB on 150mV inputs, better than 75dB on PU inputs. Pushbutton selection of inputs and operating mode. Power: obtained from P51 amplifier. Size: 11  $\times$  3½  $\times$  7in. Weight: 6¼lb. Price: £55 (including VAT).

**A21 Series Three ★**

Integrated stereo amplifier. 28 transistors, 13 diodes. Inputs: mag PU 2.5mV 47K, radio 100mV 200K, aux 100mV 200K, tape 100mV 200K. Noise level: (PU input) -73dB, (other inputs) -85dB. Overload capability: (PU input) 130mV, (other inputs) infinite. Output: 20W RMS per channel into 8 ohms, 25W per channel into 4 ohms. Controls: bass  $\pm 14$ dB at 40Hz, treble  $\pm 14$ dB at 10kHz, balance  $\pm 6$ dB, volume, input selectors, HF filter 7kHz at 12dB/octave, stereo/mono, left/right outputs. HD: <0.1%. FR: 30Hz-20kHz  $\pm 1$ dB at all power levels. Mains: 110, 120, 220, 240V 50/60Hz. Size: 16  $\times$  5½  $\times$  11¼in. Finish: teak with anodised front panel. Special class AB output stage. Price: £79.75 (including VAT).

**A48**

Integrated stereo amplifier. 34 transistors, 17 diodes. Inputs: mag PU 2.5mV 47K, radio 100mV 200K, tape 100mV 200K, aux 100mV 200K. Noise level: (PU input) -70dB, (other inputs) -82dB. Overload capability: (PU input) 100mV, (other inputs) infinite. Output: 40W RMS into 8 ohms. Controls: bass  $\pm 14$ dB at 40Hz, treble  $\pm 14$ dB at 10kHz, balance  $\pm 6$ dB, volume, input selectors, LF filter 18dB/octave from 70Hz, HF filter at 4, 7 or 10Hz, pushbutton selection of slope (steep 18dB/octave, gradual 6dB/octave), quiet button (-16dB loudness compensated), mono/stereo, left or right output. HD: <0.1%. FR: 30Hz-20kHz  $\pm 1$ dB at all output levels. Mains: 110, 120, 220, 240V 50/60Hz. Size: 16  $\times$  5½  $\times$  11¼in. Finish: teak with anodised aluminium panel. Special output stage. Price: £104.50 (including VAT).

**P51 ★**

Mono or stereo power amplifier. 21 transistors, 20 diodes. Input: 500mV 300K. Noise level:



Teac AS-100

-90dB. Output: 45W RMS per channel into 8 ohms, 50W per channel into 4 ohms, or with mono connection 100W into 8 ohms. Mono/stereo switch. HD: 0.05% at 8 ohms, 0.1% at 4 ohms. FR: 30Hz-20kHz  $\pm 0.75$ dB at all power levels. Mains: 110, 120, 220, 230, 240V 50/60Hz. Finish: case finished in embossed PVC with matt PVC facing on aluminium panel. Price: £88 (including VAT).

**TANDBERG**

Farnell-Tandberg Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS3 1HR. Tel: Leeds 35111.

**TA300 ★**

Integrated stereo amplifier. 33 transistors, 13 diodes. Inputs: mag PU (2) 2.5mV 48K, tape (2) 200mV 100K. Noise level: (PU inputs) 60dB, (other inputs) 83dB. Overload capability: 25dB. Output: 35W RMS per channel. Controls: treble  $\pm 17$ dB, high filter -3dB at 7kHz, bass  $\pm 15$ dB, loudness +7dB at 10kHz, low filter -3dB. HD: 0.2% at 1dB below rated output. Output impedance: 4-8 ohms. FR: 15Hz-50kHz -1.5dB. Mains: 115, 220, 240V AC 50-60Hz. Size: 16¾  $\times$  3½  $\times$  9⅝in. Finish: teak or rosewood. Headphones jacks on front. Input mixing capability. Price: (teak) £86.32 (including VAT); (rosewood) £89.62 (including VAT).

**TEAC**

Acoustico Enterprises Ltd, 6-8 Union Street, Kingston-on-Thames, Surrey, KT1 1RP. Tel: 01-549 3471/3. Telex: 929916.

**AS-100 ★**

Integrated stereo amplifier. 26 transistors. Inputs: mag PU (2) 2mV 50K, radio 150mV 50K, aux 150mV 50K, tape 150mV 50K. Noise level: mag PU -70dB, other inputs -80dB. Tone controls: bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz, loudness +7dB at 50Hz, +4dB at 10kHz, low filter -6dB/octave from 100Hz, high filter -6dB/octave from 8kHz. HD: <0.2%. FR: 5Hz-20kHz +0dB -2dB. Mains: 100, 117, 220, 240V AC. Size: 16¾  $\times$  5⅝  $\times$  13in. Finish: matt black. Price: £137 (plus VAT).

★ Indicates entry is illustrated



Teac AN-80



Teac AN-180

### AE-200

Stereo power amplifier. Inputs: mag PU (1) 2mV 50K, mag PU (2) 2mV 80K, radio 130mV 100K, aux 130mV 100K. Noise level: PU inputs -70dB, other inputs: -90dB. HD: <0.5%. Output impedance: 8 ohms. FR: 20Hz-80kHz +0dB -1dB. Mains: 100, 117, 220, 240V AC. Finish: walnut. Price: £75 (plus VAT).

### AN80 ★

Dolby noise reduction unit. Inputs: line 0.03V 35K. Output: 0.58V. HD: <0.5%. Output impedance: 50K or higher. FR: 20Hz-15kHz ±2dB. Mains: 100, 117, 220, 240V AC. Size: 16½ × 3½ × 10½ in. Test tape supplied. Finish: black. Price: £77.50 (plus VAT).

### AN180 ★

Dolby noise reduction unit. Inputs: mic 0.25mV 50K, line 100mV 100K. Noise level: >65dB. Controls: mic and line inputs, record cal. Mpx filter, Dolby switch, play cal R and L, monitor, output level. Two VU meters. HD: <0.3%. Output impedance: 50K or higher. FR: 20Hz-15kHz ±1.5dB. AC mains 100-240V. Size: 16½ × 5½ × 12½ in. Black and chrome finish. Test tape supplied. Price: £145 (plus VAT).

### AN60

Dolby noise reduction unit. Stereo. Inputs: line 100mV 35K. Output: tape 300mV, line 580mV. HD: 0.5%. FR: 20Hz-15kHz ±2dB. Mains: 100, 117, 220, 240V AC. Size: 3¾ × 6¼ × 10⅝ in. Finish: black anodised. Price: £45.50 (plus VAT).

### TELEFI

Sound take-off adaptor for feeding hi-fi system from TV. See Tape Recorder Accessories and Radio Tuner Sections.



Trio KA2000A



Trio KA4002

### TELETON

Teleton Electro (UK) Co Ltd.  
Teleton House, Waterhouse Lane,  
Chelmsford, Essex, CM1 1BD.  
Tel: Chelmsford (0245) 62442. Telex: 99338.

### SAQ206B

Integrated stereo amplifier. Inputs: mag PU 3mV 50K, crystal PU 130mV 600K, aux 200mV 100K, tape 230mV 100K. Controls: loudness 13dB at 50Hz, 3dB at 10kHz; scratch filter -6dB at 10kHz; bass +13dB -18dB at 100Hz; treble ±10dB at 10kHz; volume and balance. Output: 6W RMS per channel. HD: 1% at rated output. Intermodulation distortion: <1% 250Hz-8kHz. FR: 20Hz-20kHz. Output impedance: 8 ohms. Mains: 115, 230V AC. Size: 15½ × 9 × 3½ in. Price: £39.60 (including VAT).

### SAQ307

Integrated stereo amplifier. Inputs: mag PU 3mV, crystal PU 130mV, aux 200mV, tape 235mV. Output: 8W RMS per channel. HD: 1% at rated output. FR: 20Hz-20kHz. Controls: input selector, mains on/off, loudness, mode, balance, scratch filter, volume, bass, treble. Mains: 105-125V, 210-250V AC. 18 transistors, four diodes, four rectifiers. Headphone and tape sockets. Slider controls. Finish: oiled walnut with black and aluminium facia. Sizes: 15¼ × 8¾ × 3⅝ in. Price: £39.60 (including VAT).

### GA202

Integrated stereo amplifier. 20 transistors, two diodes. Inputs: mag PU 2mV 50K, crystal PU 200mV, aux 150mV 100K, tape 130mV 50K. Noise level: (mag PU input) -55dB, (other inputs) -59dB. Overload capability: (mag PU input) 15dB, (aux input) 18dB, (tape input)

22dB. Output: 16W RMS per channel (both channels driven). Controls: separate slider volume controls for each channel, slider bass, slider treble. Pushbuttons for tape monitor, mono/stereo, loudness, high cut, and input selector. HD: 1%. Output impedance: 8 ohms. FR: 30Hz-30kHz -3dB. Mains: 110-117, 220-240V AC. Size:  $15\frac{1}{4} \times 3\frac{3}{4} \times 10\frac{1}{2}$ in. Finish: wood grain with black fascia. Price: £49.94 (including VAT).

### ■ TRIO

Distributors: B. H. Morris & Co (Radio) Ltd, 84-88 Nelson Street, London, E1 2DY.  
Tel: 01-790 5011.

### KA2000A ★

Integrated stereo amplifier. Inputs: magnetic PU 2mV 50K, aux (1) 130mV 50K, aux (2) 130mV 50K, radio 130mV 50K, tape 130mV 50K. Noise level: mag PU input -60dB, all other inputs -70dB. Controls: volume, bass, treble, input selector, loudness, tape monitor. Output: 16W RMS per channel. HD: <0.8% at rated output. FR: 20Hz-30kHz  $\pm 2$ dB. Output impedance: 4-16 ohms. Mains: 110-120V and 220-240V 50-60Hz. Size:  $10\frac{1}{4} \times 4\frac{8}{8} \times 9\frac{3}{8}$ in. Price: £39 (plus VAT).

### KA2002

Integrated stereo amplifier. Inputs: magnetic PU (1) 2mV 50K, magnetic PU (2) 2mV 50K, radio 150mV 50K, aux 150mV 50K, tape 150mV 50K. Noise level: PU and radio inputs -60dB, aux and tape inputs -70dB. Controls: volume, bass, treble, balance, input selector, loudness. Output: 17W per channel RMS. HD: 0.8% at rated output. FR: 20Hz-30kHz  $\pm 2$ dB. Output impedance: 4-16 ohms. Mains: 110-120V and 220-240V 50-60Hz. Size:  $13 \times 4\frac{5}{8} \times 9\frac{1}{2}$ in. Price: £47 (plus VAT).

### KA4002 ★

Integrated stereo amplifier. Inputs: magnetic PU (1) 2.5mV 50K, magnetic PU (2) 2.5mV 50K, aux (1) 150mV 100K, aux (2) 150mV 100K, radio 150mV 100K, tape 150mV 100K. Noise level: magnetic PU input -60dB, all other inputs -70dB. Controls: volume, balance, treble, bass, input selector, loudness, filters, output switching. Output: 24W per channel RMS. HD: 0.5% at rated output. FR: 20Hz-40kHz  $\pm 1.5$ dB. Output impedance: 4-16 ohms. Mains: 110-120V and 220-240V 50-60Hz. Size:  $13 \times 4\frac{5}{8} \times 9\frac{1}{2}$ in. Price: £62 (plus VAT).

### KA6004

Integrated stereo amplifier. Inputs: mag PU (2) 2.5mV 50K, mic 3mV 50K, radio 200mV 100K, tape play 200mV 100K, aux (2) 200mV 100K. Input to main amplifier: 1V 50K. Output: 55W RMS per channel. Output impedance: 4-16 ohms. Tone controls: bass  $\pm 10$ dB at 100Hz in 2dB steps, treble  $\pm 10$ dB at 10kHz in 2dB

steps, low filter 40Hz cut-off and 80Hz cut-off (both 12dB per octave), high filter 7kHz cut-off (6dB per octave). Loudness: +8dB at 100Hz and +3dB at 10kHz. Speaker switch for A, B, and A+B. Tape-to-tape dubbing switch. HD: <0.5% 20Hz-20kHz (<0.05% -3dB). FR: 20Hz-50kHz. Mains: 110, 230V AC. Size:  $17\frac{1}{8} \times 6\frac{1}{8} \times 11\frac{7}{8}$ in. Finish: wood sides with satin aluminium panel. Price: £115 (plus VAT).

### KA8004

Integrated stereo amplifier. Inputs: mag PU (2) 2.5mV 30K/50K, mic 2.5mV 50K, radio 150mV 100K, tape (2) 150mV 100K, aux (2) 150mV 100K. Output: 70W RMS per channel. Output impedance: 4-16 ohms. Controls: bass  $\pm 10$ dB at 100Hz in 2dB steps, treble  $\pm 10$ dB at 10kHz in 2dB steps, low filter 20Hz or 40Hz cut-off (both 18dB/octave), loudness +8dB at 100Hz and +3dB at 10kHz. Speaker switching (A+B+C, A+B, A+C, B+C). FR: 10Hz-50kHz. Tape-to-tape dubbing switch. Mains: 110, 230V AC. Four mains outlet sockets (three switched, one non-switched). Size:  $17\frac{1}{8} \times 6\frac{1}{8} \times 11\frac{7}{8}$ in. Weight: 28 $\frac{1}{2}$ lb. Finish: wood grain sides with two-tone aluminium control panel. Price: £150 (plus VAT).

### ■ TRIPLETONE

K & K Electronics Ltd,  
60 St Mark's Rise, London, E8 2NR.  
Tel: 01-254 9941/4.

### Hi-Fi 77

Integrated stereo amplifier. Output 20W music per channel. No other details available as this edition of the Year Book closed for press. Price: £42.35 (plus VAT).

### Hi-Fi 1818 Mk II

Integrated stereo amplifier. Output 40W music per channel. No other details available as this edition of the Year Book closed for press. Price: £53.35 (plus VAT).

### ■ T.T.C.

Joint Distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288.  
E. R. (Factors) Ltd, 374-378 Harrow Road,  
Paddington, London, W9. Tel: 01-286 0361.

### G1320

Stereo headphone amplifier. 10 silicon transistors. Output: sufficient to operate two pairs of stereo headphones. Output impedance: 8-16 ohms. Inputs: mag PU 5mV, ceramic PU 100mV, radio tuner 100mV. Wood cased, free standing. Power supply: one 9V battery. Price: £13 (including VAT).

★ Indicates entry is illustrated

## ■ UHER

Distributors: Bosch Ltd, PO Box 166, Rhodes Way, Radlett Road, Watford, Herts, WD2 4LB. Tel: Watford 44233.

### Uher CV140 ★

Integrated power amplifier. Stereo transistorised. Inputs for radio, tape, PU, mic. Output: 35W RMS per channel into 4 ohms. FR: 20Hz-20kHz  $\pm 1$ dB. Bass control:  $\pm 20$ dB at 20Hz. Treble control:  $\pm 20$ dB at 20kHz. Presence control:  $+20$ dB at 7kHz. Scratch filter: 12dB per octave from 6.5kHz. Rumble filter: 6dB per octave from 100Hz. HD: better than 0.2% at 1kHz. Input impedance: at least 100K. Main chassis pressure casting with printed boards well supported. Easily accessible. Presets on front panel permit all inputs to be adjusted to a common level (indicated on meter on panel) before being passed to main amplifier. Six DIN input sockets provided, three have facilities for plug-in pre-amplifier modules for low impedance mic, magnetic or ceramic PUs or stereo mixer. Mains: 100/130V or 200-240V, 50 or 60Hz. Consumption: 160W at full output. Price: approximately £150 (plus VAT). Plug-in preamplifier modules available extra. Price: £6 (plus VAT).

## ■ VORTEXION LTD

257-263 The Broadway, Wimbledon, London, SW19. Tel: 01-542 6242/3/4 and 2814. Cables: Vortexion, London, SW19 1SF.

### CP50 Amplifier

AC mains and 12V. The CP50 is an all silicon transistor amplifier for mains and 12V battery use, with 8 $\Omega$ -15 $\Omega$  and 100V line output. The amplifier itself has overload or short circuit protection and all inputs have reasonable overload protection. Very large heat sinks are used with good ventilation and it is quite cool running on speech or music peaking 50W and even with over 40W of continuous sine wave the temperature conditions are not exceeded. The reservoir capacitor has been divided into 4 parts, each fused. The frequency response is within 3dB from 25Hz to 20kHz and bass and treble controls are fitted, of 26dB sweep each. This is housed in our durable steel case. Size: 18 x 6 x 11½ in. Battery consumption 3A. Weight: 35lb. 1 PU and 3 low Mic inputs. Price: on application.

### All Silicon Mixer Amplifier 20/30 Watt

This is a high fidelity 'minimised' distortion transistor amplifier made possible by the latest types of silicon transistors. Since it gives 20W at 0.1% harmonic and 0.2% intermodulation distortion and less than 3 times this at 30W on 7½ $\Omega$  it is suitable for high quality P.A. or High Fidelity use. No output transformer is fitted in this instance, but full overload protection is provided for this cool running amplifier which is suitable for continuous night and day operation



Uher CV140

and has a quiescent consumption of less than 4W from the mains. In the event of overload the output is instantly switched off until it ceases without blowing any fuses, the circuit operates far faster than any fuse. The response is within 1dB from 20Hz-20kHz and feedback bass and treble controls have a total range of 24-26dB each. It can be supplied for balanced line low impedance microphone (or high impedance at reduced prices) and the normal aux or gram at 50mV into 100K. Price: on application.

### 100 Watt All Silicon Amplifier

This is a high-fidelity amplifier for audio frequencies featuring a new principle protection circuit, which is automatic on output overload, far faster than any fuse, and of course resetting when the signal is reduced. In addition a thermal cut-out is fitted which automatically switches off should it be possible for any reason to take the heat sinks beyond the safe limits. The large heat sinks are funnel cooled to aid efficiency, and when supplying 100W power at low to medium frequencies the output transistors only have to dissipate some 18W each and they are capable of over 100W each. These transistors also have a voltage rating double that required. Large output transistors are not satisfactory above 20kHz, and since it is not required for audio purposes, the overload limits the power capacity to the safe power available at high frequencies. The response is level from 20Hz to 15kHz and 3dB maximum down at 20kHz. Outputs are for 8-15 ohms and 100V line. Harmonic distortion does not tell the whole story with transistor amplifiers, so in this case only the intermodulation distortion is given which is less than 0.5%. The input required is less than 0.5V on 100K $\Omega$ . Price: on application.

### 200 Watt Amplifier

Can deliver its full audio power at any frequency in the range of 30Hz-20kHz  $\pm 1$ dB. Less than 0.2% distortion at 1kHz. Can be used to drive mechanical devices for which power is over 120W on continuous sine wave. Input 1mW 600 $\Omega$ . Psn: 100-120V or 200-240V. Additional matching transformers for other impedances are available. Price: on application.

### 4C/FET/100W

Mono mains amplifier with four input channels. Inputs: 30-60 ohms balanced line standard, 200

ohms and 600 ohms to order. Controls: separate gain control for each input, common bass and treble. Tone controls give approximately 12dB lift and 12dB cut. All silicon transistors with FET input stages. Output: 100W RMS. FR: level 30Hz-15kHz, -3dB (maximum) at 20kHz. Output impedance: 100V at 100 ohms (other impedances to order). Stove enamelled case. Size:  $18 \times 6 \times 11\frac{1}{2}$  in. Weight: 37lb. Price: on application.

See Tape Amplifier and Mixer Units section for details of Vortexion mixer/amplifiers.

### ■ WHARFEDALE

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### Linton ★

Integrated stereo amplifier. Output: 15W RMS per channel into 8 ohms. HD: 0.1% at all power levels up to 10W each channel. FR: 30Hz-20kHz  $\pm 1$ dB. Inputs: PU 3.5mV 47K or 20mV 1K, tuner 60mV at 50K or 250mV 50K. Controls: balance, treble, bass, stereo/mono, filter, tape monitor, tape replay, tuner, PU, on/off/volume. Finish: teak or walnut. Price: £71.50 (including VAT).

### ■ WILKINSON/FORM

Wilkinson/Form Electronics, 1-2 Low Quay, Blyth, Northumberland, NE24 3AL. Tel: Blyth 3575.

#### Stereo Amplifier

Integrated stereo amplifier. 20 transistors, 5 diodes. Inputs: mag PU 2.8mV 47K, radio 150mV 470K, tape 300mV 470K. Noise level: better than -60dB. Overload capability: not less than 80mV. Output: 55W RMS per channel into 8 ohms, both channels driven. Outlet for tape recorder: 5mV 10K. Controls: treble +15dB -13dB at 15kHz, bass +17dB -15dB at 40Hz, high pass filter 12dB/octave at 40Hz, low pass filter 10dB/octave at 4kHz, 5.5kHz and 10kHz, balance, volume, input selector. HD: <0.5% (typically 0.15%) under all conditions. Output impedance: 4-8 ohms. FR: 10Hz-35kHz -1dB. Mains: 240V AC. Size:  $20 \times 3 \times 10\frac{1}{2}$  in. Finish: satin black and teak. Price: £110 (plus VAT).

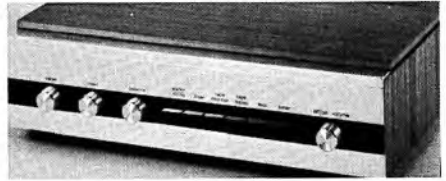
See Quadraphonic Section for details of the Wilkinson/Form four-channel amplifiers.

### ■ WYE ELECTRONICS LTD

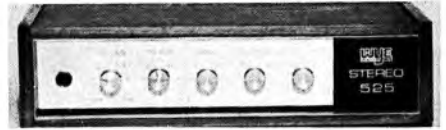
Queen Street North, Whittington Moor, Chesterfield, Derbyshire. Tel: Chesterfield 51116.

#### Stereo 525 ★

Transistorised integrated stereo amplifier. Inputs: PU 50mV 1M, radio 30mV 1M, tape 30mV 1M. Controls: treble +11dB -16dB at 10kHz,



Wharfedale Linton



Wye Electronics Stereo 525

bass +8dB -12dB at 100Hz, volume, balance, function selector. Output: 10W RMS per channel into 4 ohms. HD: 1.5% at 1kHz 10W into 4 ohms. FR: 40Hz-18kHz  $\pm 3$ dB. Finish: veneered shelf-mounting cabinet with satin metal panel. Price: £33 (including VAT).

### ■ YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road, North Wembley, London, HA9 8QL. Tel: 01-904 0141.

#### CA-500

Integrated stereo amplifier. Inputs: mag PU (2) 4mV 50K (noise level 95dB); aux (2) 100mV 100K (noise level 90dB); radio 100mV 50K (noise level 90dB). Overload capability: PU inputs 90mV. Output: 22W RMS per channel. Output impedance: 8 ohms. Tone controls: bass  $\pm 10$ dB, treble  $\pm 10$ dB. Loudness control. High-pass and low-pass filters. HD: 0.05% at 20W. FR: 18Hz-46kHz  $\pm 2$ dB at 20W. Pre-amplifier outlet, input to main amplifier and mono output. Finish: steelgrey cabinet with satin chrome fascia. Size:  $16 \times 6 \times 12$  in. Price: £98 (including VAT).

#### CA-700

Integrated stereo amplifier. Inputs: mag PU (1) 4mV 50K, mag PU (2) 0.1mV 100K, radio 100mV 100K, aux (2) 100mV 50K. Noise level: (mag PU) 95dB, (other inputs) 90dB. Overload capability: mag input 90mV. Output: 60W RMS per channel. Output impedance: 8 ohms. Tone controls: bass  $\pm 10$ dB, treble  $\pm 10$ dB. Tape A and Tape B monitor. Tape A to Tape B dubbing. Loudness control. HD: 0.05%. FR: 10Hz-56kHz  $\pm 0$ dB -2dB at 50W RMS. Pre-amplifier outlet, main amplifier input. Will cater for two three-head tape units simultaneously. Volume control for mic input. Mains: 110-240V AC. Finish: walnut cabinet with satin chrome fascia. Size:  $16 \times 6 \times 12$  in. Price: £141.19 (including VAT).



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Tel: 01-807 5999

# Quadraphonics

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222.

### AA8100S

AM/FM stereo and four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Sensitivity: FM  $2\mu\text{V}$ , MW  $180\mu\text{V/m}$ . Variable tuning. Tuning meter. Stereo beacon. Aerial input: 300 ohms balanced, 75 ohms coaxial. Stereo decoder and four-channel matrix fitted. Output: 36W RMS per channel (2) into 8 ohms, 18W RMS per channel (4) into 8 ohms. HD:  $<0.1\%$  at 8 ohms. FR: 20Hz-100kHz -3dB. Inputs: mag PU 3mV 100K, aux 150mV 100K, tape (2) 150mV 100K. H and N: (mag PU) -70 dB, (aux) -80dB. Separation: better than 60dB. Tone controls: bass  $\pm 10\text{dB}$  at 100Hz, treble  $\pm 10\text{dB}$  at 10kHz, loudness +8dB at 100Hz +4dB at 10kHz, high filter -6dB at 10kHz, low filter -6dB at 50Hz. 53 transistors, one FET, nine ICs, 18 diodes. Mains: 100-240V 50-60Hz. Size:  $19\frac{3}{8} \times 5\frac{3}{4} \times 15\frac{3}{8}$  in. Weight: 33lb. Special surround sound balance shift control. Price: £265.24 (including VAT).

### SSI ★

Universal quadraphonic synthesiser. Input: tape four-channel 250mV, PU 5mV. FR: 10Hz-100kHz -2dB. Signal-to-noise ratio: better than 65dB. HD:  $<0.05\%$ . With this synthesiser unit any two-channel or four-channel stereo source can readily be converted and played back in four-channel stereo. Continuous variable matrix controls for front and rear channels. Spare AC mains outlet socket. Size:  $11\frac{3}{8} \times 5\frac{1}{2} \times 12\frac{3}{8}$  in. Weight: 9 $\frac{1}{4}$ lb. Price: £60.50 (including VAT).

### CR80SS ★

Stereo and four-channel cartridge tape recorder. Mains-operated. Eight-track. Speed:  $3\frac{3}{4}$ i/s. W and F: 0-25%. FR: 30Hz-16kHz. Output: 7W RMS per channel into 8 ohms. Signal-to-noise ratio: better than 47dB. Bias frequency: 60kHz. Two heads (eight-track four-channel stereo

record/playback). One two-speed induction motor. Fast forward time: 230 sec for 300ft cartridge (approx 15i/s). Inputs: mic (4) 0.5mV 5K, line (4) 50mV 150K. 19 transistors, 19 diodes, eight ICs. Mains: 100-240V 50-60Hz. Size:  $19\frac{3}{8} \times 5\frac{1}{2} \times 11\frac{1}{2}$  in. Weight: 26lb. Price: £177.60 (including VAT).

## ■ DYNACO

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0273.

### Quadaptor ★

Device to enable four-channel reproduction to be obtained from a standard stereo amplifier by employing a dematrixing system. Price: £21.45 (including VAT).

## ■ EAGLE INTERNATIONAL

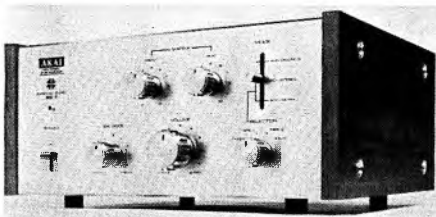
Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

### AA10 ★

Four-channel quadraphonic synthesiser. The AA10 plus two extra speakers provides two additional information channels from ordinary two-channel stereo. Self-contained matrix system with level controls and speaker check switches. Rating: 35W RMS per channel. Input impedance: 8 ohms. Output impedance: 8 ohms. Size:  $8\frac{7}{8} \times 2\frac{3}{4} \times 5\frac{7}{8}$  in. Finish: teak cabinet. Price: £15.60 (plus VAT).

### AA26

Four-channel quadraphonic synthesiser. Similar to the AA10 but with output jacks for four-channel headphones. Price: £17.70 (plus VAT).



Akai SSI



Akai CR80SS





Dynaco Quadaptor



Eagle AA10

#### AA36

AM/FM quadrasonic tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM  $3\mu\text{V}$ , MW  $250\mu\text{V}$ . Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Inputs: mag PU  $3\text{mV}$  47K, aux  $180\text{mV}$  100K, tape  $180\text{mV}$  100K. Noise level: (PU input)  $-60\text{dB}$ , (other inputs)  $-70\text{dB}$ . Output: four channels at 7W RMS per channel into 8 ohms. Tone controls: bass  $\pm 10\text{dB}$  at 40Hz, treble  $\pm 10\text{dB}$  at 12kHz, loudness  $+8\text{dB}$  at 100Hz. HD:  $<0.5\%$ . Output impedance: 8 ohms. FR: 30Hz-20kHz  $\pm 2\text{dB}$ . Matrix decoder for SQ and EV systems. Facilities for derived four-channel from two-channel sources. Remote speaker switch. Price: £79 (plus VAT).

#### EMI SOUND & VISION

EMI Pathé Division, 252 Blyth Road, Hayes, Middlesex, UB3 1HW.  
Tel: 01-573 3888. Telex: 22417.

#### 1500 SQ Decoder

SQ decoding bandwidth ( $90^\circ \pm 10^\circ$ ) 20Hz-17kHz. Input impedance: 40K. FR: (all channel controls set flat) 5Hz-100kHz  $\pm 1\text{dB}$ . HD:  $<0.8\%$ . Signal-to-noise: better than 80dB. Front separation: 60dB. Rear separation: 20dB. Designed to operate with EMI 1515 stereo amplifier. Price: on application.

#### LE.3ss

Infinite baffle enclosure and units designed for surround sound from standard stereo equipment. Incorporates special  $13 \times 8\text{in}$  bass driver with double-wound voice coil to give simulated four-channel sound. Two  $3\frac{1}{2}\text{in}$  tweeters. Impedance: 8 ohms. HC: 15W RMS. Finish: teak. Price: £41.30 (including VAT).

#### GRAMPIAN REPRODUCERS LTD

Hanworth Trading Estate, Feltham, Middlesex. Tel: 01-894 9141.

#### 666 Ambiophonic unit

Enables from one to four speakers to be fed with amplified and delayed signal from main amplifier output. Delay device comprises two transducers and parallel springs as used in Gramplan reverberation unit. Volume of delayed signal controlled by listener. Twin high-impedance line-bridging connections. Output:  $2\frac{1}{2}\text{W}$  into 5 ohms and 600 ohms. Mains: 200-250V AC. Size:  $18 \times 4\frac{1}{2} \times 5\frac{1}{2}\text{in}$ . Weight: 7lb. Price: £68.25 (plus VAT).

#### HOWLAND-WEST LTD

3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293.

#### Four-channel adaptor ★

Dematrixing system to provide four-channel ambience effects from both existing stereo and the new four-channel recordings. Connects to amplifier speaker outlet terminals. Suitable for any unit utilising common speaker earth connections. Price: £12.65 (including VAT).

#### JVC-NIVICO

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

#### 4VN880

Integrated four-channel amplifier. Inputs: mag PU, radio, tape, mic, aux. Tone controls: treble, bass, rumble filter, scratch filter. Facilities for four-channel synthesised sound. Output: 28W RMS per channel (four channels). FR: 10Hz-50kHz. Price: £170.50 (including VAT).

#### 4VN990

Integrated four-channel amplifier. Inputs: mag PU, radio, tape, mic, aux. Tone controls: treble, bass, rumble filter, scratch filter. Facilities for four-channel synthesised sound. Sound effect amplifier (SEA) tone system. FR: 10Hz-50kHz. Output: 38W RMS per channel (four channels). Price: £236.50 (including VAT).

#### 4MM1000

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 10W per channel (four channels). Stereo decoder fitted. Two-



Howland-West Four-channel adaptor



JVC Nivico 4VR-1006

channel to four-channelsynthesis. Price: £161.15 (including VAT).

**4VR1006 ★**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 10W RMS per channel (four channels). Stereo decoder fitted. Discrete and matrix four-channel decoders fitted. Price: £229.35 (including VAT).

**4VR-5414**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 15W RMS per channel (four channels). Stereo and four-channel decoders fitted. Special sound effect amplifier (SEA) tone control system. Price: £229.35 (including VAT).

**4VR5445**

AM/FM stereo and four-channel tuner/amplifier. Variable tuning. Output: 21W RMS per channel (four channels). Special sound effect amplifier (SEA) tone control system. Stereo and four-channel decoders fitted. Price: £308 (including VAT).

**4VN550**

Integrated four-channel amplifier. Inputs: mag PU, radio, tape, mic, aux. Tone controls: treble, bass, rumble filter, scratch filter. Output: 12.5W RMS per channel (four channels). FR: 20Hz-50kHz. Price: £104.50 (including VAT).

■ **KORTING**

Europa Electronics Ltd, 9 Howard Place, Shelton, Stoke-on-Trent, ST1 4NW. Tel: Stoke-on-Trent (0782) 29316.

**Multisound 600**

Four-channel integrated amplifier. 21 tran-

sistors, one IC, two diodes, two rectifiers. Inputs: stereo radio, tape, quadrasonic unit. Seven pushbutton controls for phase inversion, reverse, reverberation, duplex stereo, quadrasonic, mono and on-off. Slider controls for balance, bass, treble. Rotary control for volume. Tone controls: bass  $\pm 15$ dB, treble  $\pm 15$ dB. Output: 6W RMS per channel. Output impedance: 4 ohms. Finish: walnut or satin finish. Price on request.

■ **KOSS**

Tape Music Distributors Ltd, 114 Ashley Road, St Albans, Herts, AL1 5JR. Tel: St Albans 64337.

**K2+2**

Four-channel dynamic headphones. Wired for quadrasonic and stereo. Suitable for amplifiers having output impedance of 3-600 ohms. Normal listening input: 1.4V at 95dB SPL. Maximum input: 29V. FR: 10Hz-20kHz. HD: negligible at 95dB SPL. Weight: 600gm. Special coiled cord; 3ft coiled, 10ft extended. Two headphone jackplugs. Black finish. Washable fluid-filled earcushions. Switch for two- or four-channel operation. Price: £45 (plus VAT).

See Headphone Section for full Koss range of headphones and accessories.

■ **MARANTZ**

Pyser-Britax (Swift) Ltd, Fircroft Way, Edenbridge, Kent. Tel: Edenbridge (0732-71) 4111.

**Model 2440**

Four-channel 'Quadrasonic' adaptor/amplifier. Synthesises four-channel sound from any stereo source, decodes any matrix encoded record or FM broadcast and has provision for future quadrasonic developments. Inputs: matrix, tape front, tape rear, aux. Output: 20W per channel (four) 20Hz-20kHz. Controls: treble  $\pm 12$ dB at 15kHz, bass  $\pm 14$ dB at 50Hz, variable dimension, mode. HD: 0.18% 20Hz-20kHz. Output impedance: 8 ohms. FR: 15Hz-80kHz  $\pm 2$ dB, 20Hz-20kHz  $\pm 0.5$ dB at 1W output. Mains: 110, 120, 220, 240V AC. Size: 16 $\frac{3}{8}$  x 5 x 14in. Finish: simulated walnut metal chassis with gold-anodised front panel. Price: £165 (including VAT).

**Model 4060**

Integrated four-channel amplifier. Inputs: mag PU 1.8mV 47K, high level 180mV, radio, aux. Overload capability: 100mV. Output: 60W RMS total into 8 ohms (15W RMS per channel). Controls: five-position mode switch, slider vari-matrix control, slider for balance (left, right, front, rear), separate sliders for bass and treble (front and rear). Pushbuttons for main/remote speakers and headphones, tape monitor,



Marantz 4100



Onkyo Model Y-2

remote control, loudness. HD: 0.25% 20Hz-20kHz. Output impedance: 8 ohms. FR: 20Hz-20kHz  $\pm$  1dB at 1W. Size:  $14\frac{1}{2} \times 4\frac{3}{4} \times 12$ in. Finish: simulated walnut metal chassis with gold-anodised front panel. Pocket in base for plug-in SQ decoder. Price: £176 (including VAT).

#### Model 4100 ★

Integrated four-channel amplifier. Synthesises four-channel sound from any stereo source, decodes any matrix encoded record or FM broadcast and has provision for future quadraphonic developments. Inputs: mag PU 1.8mV 47K, high level 180mV 120K, radio, aux. Overload capability: 100mV. Output: (four channels) 25W per channel into 8 ohms, (two channels) 60W RMS per channel into 8 ohms. Controls: treble  $\pm$  12dB at 15kHz,  $\pm$  14dB at 50Hz, high filter 6dB/octave at 9kHz, slider type balance controls for left, right, front and rear. Four level meters. Mode switch for vari-matrix mono, stereo, discrete and SQ. HD: 0.3% 20Hz-20kHz. Output impedance: 4.8 ohms. FR: 20Hz-20kHz 0.5dB at 1W. Mains: 110, 120, 220, 240V AC. Size:  $15\frac{3}{8} \times 5\frac{3}{4} \times 14\frac{1}{2}$ in. Finish: walnut (cabinet optional), simulated walnut metal chassis with gold-anodised front panel. Under chassis pocket for plug-in decoder. Price: £286 (including VAT).

#### Model 4415

AM/FM four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-555m. Variable tuning with 'Gyro touch'. AFC not necessary. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2.8 $\mu$ V, MW 25 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced twin. Stereo decoder fitted. Inputs: mag PU 1.8mV 47K, high level 180mV 120K. Tone controls: bass  $\pm$  14dB at 50Hz, treble  $\pm$  12dB at 15kHz. Output: (four channels) 15W RMS per channel 20Hz-20kHz. HD: 0.25% 20Hz-20kHz. FR: 20Hz-20kHz  $\pm$  1dB at 1W. Size:  $16\frac{3}{8} \times 5 \times 14\frac{1}{4}$ in. Mains: 110, 120, 220, 240V AC. Finish: gold anodised front panel, optional cabinet, simulated walnut chassis. Pocket under chassis for SQ or other decoder system. Price: £236 (including VAT).

#### Model 4430

AM/FM four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-555m. Variable tuning with 'Gyro touch'. AFC not necessary. Ratio detector. Meter for signal strength. Centre-zero tuning meter. Usable sensitivity: FM 1.7 $\mu$ V, MW 20 $\mu$ V. Aerial input: 75 ohms coaxial, 300 ohms balanced twin. Stereo decoder fitted. Inputs: mag PU 1.8mV 47K, high level 180mV 120K, tape (2). Overload capability: 100mV. Output: (four channels) 30W RMS per channel 20Hz-20kHz. Controls: treble  $\pm$  12dB at 15kHz, bass  $\pm$  14dB at 50Hz, high filter -6dB/octave at 9kHz, variable dimension, three balance controls, remote control, muting, tape monitor, high filter, loudness. HD: 0.15% 20Hz-20kHz. Output impedance: 8 ohms. FR: 20Hz-20kHz  $\pm$  0.5dB at 1W. Mains: 110, 120, 220, 240V AC. Size:  $16\frac{3}{8} \times 5 \times 14\frac{1}{4}$ in. Finish: teak, walnut or white (optional cabinet) or simulated walnut metal chassis. Price: £341 (including VAT).

#### ■ MITSUBISHI

Mitsubishi Corporation, Row Bells House, Bread Street, London, EC4. Tel: 01-248 3292.

#### DA-R400

AM/FM stereo four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-572m. Usable sensitivity: FM 2 $\mu$ V, MW 18 $\mu$ V. Capture ratio: 2dB. Inputs: mag PU 2.5mV 50K, aux 150mV 50K, discrete 150mV 50K. Tone controls: bass  $\pm$  10dB at 100Hz, treble  $\pm$  10dB at 10kHz. Output: 40W RMS into 8 ohms. HD: < 1% at 1kHz at rated output. Power bandwidth: 30Hz-25kHz. Stereo decoder comprises regular matrix (RM) and stereo-quad (SQ) suitable for both types of four-channel signal. Additional demodulator allows CD-4 reproduction. Facilities for four-channel discrete tape reproduction. Input-mixing microphone circuit. Size:  $19\frac{1}{2} \times 5\frac{1}{8} \times 15$ in. Weight: 28 $\frac{1}{2}$ lb. Price: to be announced.

**ONKYO**

J. Parkar & Co (London) Ltd,  
Parkar House, 1 Beresford Avenue, Wembley,  
Middlesex. HA0 1YX. Tel: 01-903 5211.

**Model X-1**

Four-channel sound system comprising console cabinet with AM/FM tuner/amplifier and record deck, two main-channel speaker enclosures and two slim wall-fixing ambience speakers. 49 transistors and 32 diodes. Range: FM 88-108MHz, MW 187-565m. Variable tuning. Stereo decoder with auto switching and stereo beacon. Output: 16W per channel (total 64W). Sensitivity: FM 2 $\mu$ V, MW 12 $\mu$ V. Special 'Sound Composer' network permits matrix four-channel operation from two-channel sources in addition to discrete four-channel reproduction. Tuning meter. Headphone jack. Two-speed record deck with auto cut-off and return of pickup arm. 12in diameter belt drive. Moving magnet cartridge with diamond stylus. Pw: 1.5-2.5gm. Front speakers: two-way system incorporating 8in bass driver and 2 $\frac{3}{4}$ in mid/HF unit in each. Rear speakers: one 6 $\frac{1}{2}$ in full-range unit in each. Separate mic input mixing circuit. Price: (complete system) £335.07 (including VAT).

**Model Y-2 ★**

Four-channel sound system comprising AM/FM tuner/amplifier, shelf-mounting record deck, two front-channel speakers and two rear-channel speakers. 47 transistors and 24 diodes. Range: FM 88-108MHz, MW 187-565m. Sensitivity: FM 2.5 $\mu$ V, MW 15 $\mu$ V. Stereo decoder with auto-switching and stereo beacon. Variable tuning. Output: 16W per channel (total 64W). Special 'Sound Composer' network permits matrix four-channel operation from two-channel sources in addition to discrete four-channel reproduction. Tuning meter. Headphone jack. Two-speed record deck with auto cut-off and return of pickup arm. 12in diameter belt-drive platter. Moving magnet cartridge with diamond stylus. Pw: 1.5-2.5gm. Front speakers: two-way reflex system with 8in bass driver and horn tweeter in each. Rear speakers: wall-hanging type with single full-range 6 $\frac{1}{2}$ in unit in each. Price: (complete system) £261.52 (including VAT).

**Model Y-3A ★**

Four-channel AM/FM tuner-amplifier. Range: FM 88-108MHz, MW 187-565m. Sensitivity: FM 2.5 $\mu$ V (IHF). MW 15 $\mu$ V (IHF). 47 transistors and 24 diodes. Inputs: four-channel discrete PU, four-channel matrix PU, stereo tape play, four-channel stereo tape play, stereo microphone. Stereo decoder with auto switching and stereo beacon. Output: 16W per channel (total 64W). Outputs for stereo tape recording and four speakers. Controls: bass, treble, mic

**SKANDIA**

**\*TECHNICALLY ADVANCED  
\*EXTREMELY VERSATILE**

**RS-82**

8 Track Cartridge stereo recorder/player with built-in IC Stereo amplifier.



Record from any signal source on to a blank 8 track cartridge.

**RS-83**

8 Track Cartridge stereo recorder-player deck.



The ideal unit to use in conjunction with your existing amplifier.

**SK-308**

30W AM/FM MPX stereo receiver with built-in 8 Track Cartridge stereo recorder-player.



The complete home entertainment unit.

**...and speakers to match**

SS60 SPEAKERS from GOLDING/SKANDIA will ensure that you enjoy the best results from your SKANDIA equipment.



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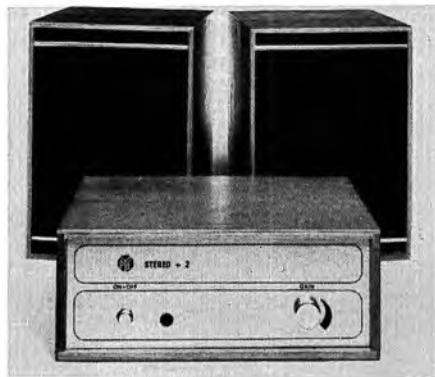
**GOLDING AUDIO**

**MARKS TEV,  
COLCHESTER, ESSEX.**

Telephone (0206) 210433  
Telex 96550



Onkyu Model Y-3A



Pye Model 5551 Stereo Plus Two

volume, master volume, tuning, input selector, mode, SCC (composite surround signal control), mains on/off. Finish: wood grained cabinet with aluminium trim. Price: £133.52 (including VAT).

#### ■ PYE

Pye Ltd, St Andrews Road, Cambridge, CB4 1DS. Tel: Cambridge 58985.

#### 5551 Stereo Plus Two ★

Converter kit comprising add-on amplifier, decoder and two speakers. For use with existing stereo equipment (players, tape recorders, radio). Output: 10W RMS connected to two speakers in series giving 5W RMS per channel into 4 ohms. Mains: 240V AC. Controls: on/off push-button with indicator light, volume. Size:  $10\frac{3}{4} \times 4\frac{1}{2} \times 9$ in. Speakers:  $6 \times 4$ in high flux speaker unit. Impedance: 4 ohms. HC: 4W. Size:  $10 \times 7 \times 7\frac{1}{2}$ in. Finish: teak veneers. Price: £38.24 (including VAT).

#### ■ QUADRASONICS

Spenser House, Brettenham Road, Edmonton, London, N18. Tel: 01-807 5544/5999.

#### Q4-20

Complete AM/FM four-channel stereo system

comprising tuner/amplifier in plinth cabinet with record deck, plus four separate speaker enclosures. Range: FM 87.4-104.5MHz, MW 187-555m. Usable sensitivity: FM  $2\mu\text{V}$ , MW  $100\mu\text{V}$  on internal aerial,  $10\mu\text{V}$  on external aerial. Output: 20W per channel (four channels) into 8 ohms. FR: 20Hz-20kHz  $\pm 1\text{dB}$ . Signal-to-noise level: PU input better than 60dB, radio input better than 70dB. Damping factor: better than 120 at 8 ohms load. Input overload capability: better than 38dB. Controls: master gain, master bass and treble, four separate channel balance controls, input and mode selectors. Record deck: Goldring G101 belt drive turntable with Goldring G850 magnetic cartridge. CBS SQ integrated circuit matrix decoder fitted as standard (plug-in edge connector). Two extra edge connector sockets for optional quadraphonic system decoders. Speakers: one  $5\frac{1}{2}$ in bass driver, one  $5\frac{1}{2}$ in mid-range unit, two  $2\frac{1}{2}$ in tweeters in each system. HC: 20W RMS. FR: 30Hz-20kHz  $\pm 5\text{dB}$ . Size: (main console)  $26\frac{1}{8} \times 5\frac{1}{2} \times 14\frac{1}{4}$ ; (speaker systems)  $9\frac{1}{2} \times 16 \times 8\frac{3}{8}$ in. Price: £198 (plus VAT).

#### ■ ROTEL

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR. Tel: 01-568 9222.

#### RX154A

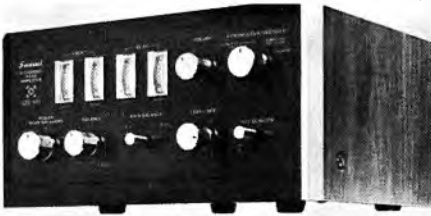
AM/FM four-channel tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. Tuning meter. Sensitivity: FM  $4\mu\text{V}$ , MW  $30\mu\text{V}$ . Stereo decoder fitted. Inputs: mag PU, aux. Output: 10W RMS per channel with four channels driven. Tone controls: bass  $\pm 12\text{dB}$  at 50Hz, treble  $\pm 12\text{dB}$  at 10kHz. HD: 0.5%. Output impedance: 4, 8, 16 ohms. FR: 20Hz-50kHz. AC mains. Size:  $16\frac{3}{4} \times 13\frac{3}{8} \times 5\frac{3}{8}$ in. Weight: 17 $\frac{1}{4}$ lb. Finish: wood cabinet with metal front panel and knobs. Price: £121.68 (including VAT).

#### ■ SANSUI

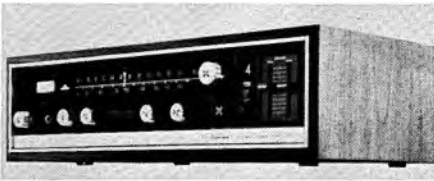
Vernitron Ltd, Thornhill, Southampton, SO9 5QF. Tel: Southampton 444811.

#### QS-100 ★

Four-channel rear amplifier. Inputs: tape monitor (2) 200mV 50K, two-channel input 200mV 50K. Noise level: better than 80dB. Output: 15W RMS per channel. Output impedance: 4-8 ohms. HD: <0.8%. FR: 25Hz-40kHz. Controls: input level, volume, tape monitor, main balance, left/right, rear balance, speakers, synthesizer selector. Four VU meters. Mains: 100, 117, 220, 240V AC. Size:  $9\frac{7}{8} \times 5 \times 11$ in. Finish: light walnut cabinet with black front panel. Price: £114 (plus VAT).



Sansui QS100



Sansui QR500



Sansui QS500

**QR500 ★**

Four-channel AM/FM tuner/amplifier. Range: 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2.5µV, MW 350µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder included. Output: 8W RMS per channel (four channels). Controls: mains, on/off, headphones, bass, treble, tape monitor, selector, synthesizer/decoder, volume front, volume rear. Size: 17 $\frac{3}{8}$  × 12 $\frac{1}{8}$  × 5 $\frac{1}{8}$ in. Finish: walnut cabinet with black acrylic front panel and silver trim. Price: £125.18 (plus VAT).

**QS500 ★**

Four-channel rear amplifier. Inputs: (two channel) 150mV 50K, tape monitor (two channel) 150mV 50K, (four channel) 775mV 50K. Noise level: better than 70dB. Output: 33W RMS per channel. Output impedance: 4.8 ohms. Four VU meters. HD: <0.5% at rated output. Controls: volume, synthesizer/decoder, speakers, rear volume, input level, two- and four-channel tape monitor, front balance, main balance and rear balance. FR: 20Hz-50kHz ± 1dB at normal

listening level. Designed to convert existing two-channel stereo into four-channel sound. Mains: 100, 117, 220, 240V AC. Size: 15 $\frac{1}{8}$  × 6 $\frac{1}{2}$  × 13 $\frac{3}{8}$ in. Price: £157.44 (plus VAT).

**QR1500**

Four-channel stereo AM/FM tuner/amplifier. Range: FM 88-108MHz, MW 187-560m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 2.5µV, MW 350µV. Aerial input: 75 ohms coaxial, 300 ohms balanced. Stereo decoder fitted. Output: 15W RMS per channel (four channels). Output impedance: 8 ohms. Mains: 100, 117, 220, 240V AC. Size: 19 × 12 $\frac{1}{2}$  × 5 $\frac{1}{4}$ in. Controls: mains on/off, phones, bass, treble, loudness, tape monitor, two- and four-channel mode, front and rear volume, synthesizer/decoder. Finish: walnut cabinet with black acrylic front panel with silver trim. Price: £157.73 (plus VAT).

**SD3030**

Stereo and four-channel  $\frac{1}{4}$ -track tape deck. Speeds: 3 $\frac{3}{4}$ , 7 $\frac{1}{2}$ i/s. Max spool: 7in. W and F: 7 $\frac{1}{2}$ i/s 0.09%, 3 $\frac{3}{4}$ i/s 0.14%. H and N: better than 60dB. FR: 7 $\frac{1}{2}$ i/s 20Hz-20kHz ± 3dB, 3 $\frac{3}{4}$ i/s 30 Hz-10kHz ± 3dB. Rewind time: 90 sec for 1200ft. Four VU meters. Inputs: mic 0.5mV 50K, line 70mV 100K, DIN 14mV 100K. Outlets: two-channel 470mV, DIN/two-channel 470mV, four-channel 470mV, headphones (front and rear) 8 ohms. 26 transistors, 14 diodes. Size: 16 $\frac{5}{8}$  × 19 $\frac{3}{8}$  × 9 $\frac{3}{4}$ in. Weight: 47 $\frac{1}{2}$ lb. Superimpose. Pause. Monitoring. Input mixing. Auto reverse. Auto shut-off. Mains: 100, 110, 117, 200, 220, 240V 50/60Hz. Price: to be announced.

**SD5050S**

Stereo and four-channel  $\frac{1}{4}$ -track tape deck. Speeds: 7 $\frac{1}{2}$ , 3 $\frac{3}{4}$ i/s. Max spool: 7in. W and F: 7 $\frac{1}{2}$ i/s 0.07%, 3 $\frac{3}{4}$ i/s 0.12%. H and N: better than 60dB. FR: 7 $\frac{1}{2}$ i/s 20Hz-20kHz ± 3dB, 3 $\frac{3}{4}$ i/s 30 Hz-12kHz ± 3dB. Rewind time: 90 sec for 1200ft. Four VU meters. Inputs: mic 0.5mV 50K, line 70mV 100K, DIN 14mV 100K. Outlets: two-channel 470mV, DIN/two-channel 470mV, four-channel 470mV. 34 transistors, 21 diodes. Size: 16 $\frac{5}{8}$  × 20 $\frac{1}{8}$  × 9 $\frac{7}{8}$ in. Weight: 46 $\frac{1}{4}$ lb. Superimpose. Pause. Monitoring. Input mixing. Auto reverse. Remote control. Mains: 100, 110, 117, 200, 220, 240V 50-60Hz. Price: to be announced.

**QD5500S ★**

Stereo and four-channel  $\frac{1}{4}$ -track tape deck. Speeds: 7 $\frac{1}{2}$ , 3 $\frac{3}{4}$ i/s. Max spool: 7in. W and F: 7 $\frac{1}{2}$ i/s 0.07%, 3 $\frac{3}{4}$ i/s 0.12%. H and N: better than 60dB. FR: 7 $\frac{1}{2}$ i/s 20Hz-20kHz ± 3dB, 3 $\frac{3}{4}$ i/s 15 Hz-15kHz ± 3dB. Rewind time: 90 sec for 1200ft. Four VU meters. Inputs: mic 0.5mV 50K, line 70mV 100K, DIN 14mV 100K. Outlets: two-channel 470mV, DIN/two-channel 470mV, four-channel 470mV, headphones (front

★ Indicates entry is illustrated

and rear) 8 ohms. 38 transistors, 19 diodes. Size:  $15\frac{3}{8} \times 21\frac{7}{8} \times 10\frac{3}{8}$  in. Weight:  $53\frac{1}{2}$  lb. Superimpose. Pause. Monitoring. Input mixing. Auto-reverse. Facilities for remote control. Auto shut-off. Mains: 100, 110, 117, 200, 220, 240V 50-60Hz. Price: to be announced.

### ■ SANYO

Sanyo Marubeni (UK) Ltd, Sanyo House, Bushey Mill Lane, Watford, Herts. Tel: Watford 30421.

#### DCA1700X

Quadrasonic stereo synthesiser. Output: 20W RMS per channel. Inputs: two PU, two aux, radio, tape. Rotary controls for volume, bass and treble. Slider control for balance. Switches for two-channel and four-channel tape recorder. Loudness control. Quadraphonic effect selector. Mains: 120-240V AC. Price: £79.14 (including VAT).

### ■ SCAN-DYNA

Scandinavian Audio Systems Ltd, Sun Alliance Building, 65 London Road, Gloucester, GL1 3HF. Tel: Gloucester (0452) 32791/2.

#### SD4/100

Four-channel sound adaptor for producing rear ambience from two-channel stereo programmes. Suitable for use with most stereo amplifiers. Full details of specification and price on request.

### ■ SERVO-SOUND

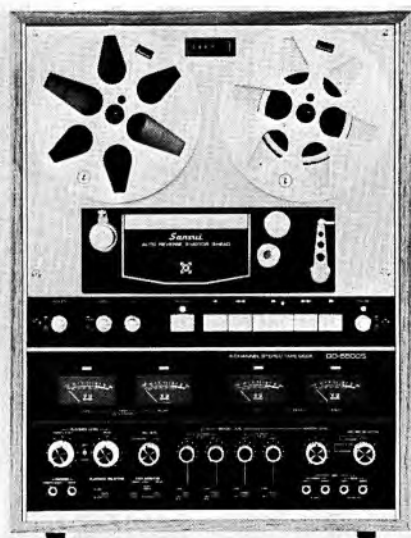
Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551.

#### RC4-SQ preamplifier/decoder

Stereophonic preamplifier for the two rear channels in a quadraphonic system. Incorporates SQ decoder and remote control for adjustment of volume levels. Controls: master gain, bass, treble, balance, volume. Pushbuttons for blend, tape monitor, ambio, SQ, stereo front, four-channel tape, mains on-off. Price: £85.90 (plus VAT).

#### DSQ1

Quadraphonic SQ decoder. Contains all input, output and control elements to reproduce four-channel sound from SQ records or tape. Performs the decoding of SQ encoded material from disc, tape or FM broadcasts. Will also enhance stereo programmes by adding ambience. Input: 250mV 40K. Output: 1.5V max 300 ohms impedance. Phase shift networks: (SQ decoding bandwidth)  $90^\circ \pm 10^\circ$  20Hz-18kHz,  $90^\circ \pm 3^\circ$  at spot frequencies. FR: (all channels flat) 5Hz-100kHz  $\pm 1$ dB. HD: 0.025% at 250mV output. S/N ratio: better than -80dB at 250mV with 20kHz bandwidth. Front separation: 60dB. Rear separation: 20dB. 17 transistors. Mains: 220-240V AC. Price: £46 (plus VAT).



Sansui QD5500S



Sanyo DCA 1700X

### ■ SHARP

Sharp Electronics (UK) Ltd, 48 Derby Street, Manchester, M8 8HN. Tel: 061-832 6115.

#### GS1980

Complete quadraphonic system comprising tuner/amplifier, record deck and four speakers. 19 transistors, 14 diodes. Range: FM 88-108 MHz, MW 189-560m. AFC. Variable tuning. Ratio detector. Stereo decoder fitted. Output: 2W per channel. Output impedance: 8 ohms. Sharp motor unit with ceramic cartridge. Finish: PVC film on wood. Price: £101.32 (plus £10.13 VAT).

#### GS5730E

Complete quadraphonic system comprising tuner/amplifier, record deck and four speakers. Range: FM 88-108MHz, MW 189-560m. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Controls: mains on/off, volume, mic volume, tuning, bass, treble, function selector, loudness, tape monitor, mode, matrix/

discrete four level controls. Output: 10W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-30kHz. Sharp record deck with magnetic cartridge and diamond stylus. Price: £335.45 (plus £33.54 VAT).

■ **SIEMENS**

Interconti Electronic Ltd,  
Albany House, Petty France,  
London, SW1H 9EA.  
Tel: 01-222 2523. Telex: 918770.

**RS202**

Five-waveband AM/FM quadrasonic tuner/amplifier. 58 semiconductors and 20 ICs. Slide controls plus pushbuttons. Output: 15W per channel. Finish: white or brown. Full specification on request. Price: £135.48 (including VAT).

**RS172**

Five-waveband AM/FM quadrasonic tuner/amplifier. 87 semiconductors and 23 ICs. Slider controls plus 24 pushbuttons. Output: 50W per channel. Finish: white or light satinwood. Full specification on request. Price: £218.41 (including VAT).

**RS303**

Four-waveband AM/FM quadrasonic tuner/amplifier. AFC. Five preset FM stations. Special linear aural balance. Scratch and rumble filters. Presence control. Output: 30W per channel. Price: £182.01 (including VAT).

■ **SONY (UK) LTD**

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

**SQA200**

Combined four-channel decoder/amplifier (SQ). Inputs: two channel tape 440mV 180K, four-channel tape 440mV 50K, aux 250mV 100K. Output: 8W RMS per channel into 8 ohms. Controls: mains on/off, volume, balance, bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz, input selector, monitor. HD:  $< 0.2\%$ . FR: 30 Hz-40kHz  $+0$ dB - 2dB. Mains: 110, 130, 220, 240V AC. Size:  $13 \times 2\frac{3}{8} \times 11\frac{1}{8}$  in. Finish: wood cabinet with anodised front panel. Four-channel sound with right/left and front/back separation. Decodes SQ records and radio signals into quadrasonic sound. Price: £60 (plus VAT).

**SQA100**

Combined four-channel decoder/amplifier (SQ). Inputs: two-channel tape 440mV 100K, four-channel input: 440mV 100K, aux 250mV 100K, 25mV 250K. Output: 6W RMS per channel (8 ohms). Controls: mains on/off, volume, balance, bass  $\pm 10$ dB at 100Hz, treble  $+10$ dB-6dB at 10kHz, input selector, tape monitor. FR: 20Hz - 50kHz  $+1$ dB - 2dB. Mains: 110, 127, 220 or 240V AC. 2 ICs, 21 transistors, 3 diodes. Size:



Tate 7

$5\frac{1}{16} \times 9\frac{1}{8} \times 7\frac{3}{4}$  in. Finish: walnut cabinet with black and silver front panel. Converts stereo and SQ signals to quadrasonic sound. Price: £40 (plus VAT).

**SQD2020**

SQ decoder with logic circuitry. Inputs: SQ, regular matrix, stereo, discrete 250mV 100K 8 ohms, two-channel or four-channel tape 750mV 100K ohms. Outputs: front, 500mV 5K, rear (high) 2V, (low) 500mV 5K, tape 250mV 5K. Controls: mains on/off, volume, front left, front right, rear left, rear right balance, mode, system selectors, rear channel bass  $\pm 10$ dB at 100Hz, rear channel treble  $\pm 10$ dB at 10kHz, four-channel/two-channel tape monitor. HD: 0.1%, 250mV at 2kHz. FR: SQ, matrix, stereo 20-20kHz  $\pm 3$ dB, others 10-100kHz  $\pm 3$ dB. S/N ratio: 80dB. Mains: 110, 127, 220, 240V AC. 69 transistors, 84 diodes.  $15\frac{3}{4} \times 5\frac{3}{8} \times 12\frac{7}{8}$  in. Finish: brushed aluminium front panel, metal cabinet. Price: £90 (plus VAT).

**SQP20**

Unit audio system with four-channel stereo (SQ). Output: 3W RMS per channel. Sensitivity: VHF 2.2µV, S/N 30dB, MW 48dB/m. Controls: volume, tone, system (2 ch, 2-4 ch, SQ, R-MTX, discrete). Function (AM, FM, phono), mode, tape monitor and AFC switches. Speakers:  $6\frac{1}{2}$  in full-range  $\times 4$ . Turntable: 2-speeds. Cartridge: MM stereo. One of the HMP/HMW 20 family. Price: to be announced.

■ **TATE**

Tate Audio Transmission Equipment Ltd,  
5-7 Covent Garden, Cambridge, CB1 2HS.  
Tel: Cambridge (0223) 67873. Telex: 81640.

Ready-built SQ quadrasonic decoders complete with integrated power supply and housed in neat self-mounting cabinet. Full specification is given in the Constructional Kits section.

**Tate 7 ★**

IC based SQ quadrasonic decoder in cabinet ready for use. Provides full reproduction of





Tate 8



Teac AN300

quadraphonic records, tapes and broadcasts. Price: £28.95 (plus VAT).

**Tate 8 ★**

High definition SQ quadraphonic decoder in cabinet ready for use. Wide-band decoding circuitry designed to provide low harmonic distortion and articulate quadraphonic separation. Price: £34 (plus VAT).

**TEAC**

Acoustico Enterprises Ltd. 6-8 Union Street, Kingston-upon-Thames, Surrey, KT1 1RB. Tel: 01-549 3471/3. Telex: 929916.

**AN300 ★**

Four-channel Dolby noise reduction unit. Input: line 100mV 70K, tape 100mV 70K. Outlets: (record) 300mV, (monitor) 300mV. HD: <0.2%. Output impedance: 50K. FR: 20Hz-20kHz ± 1.5dB. Mains: 100, 117, 220, 240V AC. Finish: metal cabinet with brushed aluminium trim. Size: 6½ × 16½ × 10½ in. Price: £204 (plus VAT).

**TRIO**

B. H. Morris & Co (Radio) Ltd. Trio House, The Hyde Industrial Estate, The Hyde, London, NW9 6JP. Tel: 01-205 6441.

**KR6170 Jumbo**

AM/FM stereo tuner/amplifier with electronic rhythm and percussion generators built-in. Range: 88-108MHz, MW 187-556m. Variable

tuning. Meter. Left and right channel level meters. Usable sensitivity: FM 1.9µV, MW 25µV. Inputs: mag PU (2) 2.5mV 50K, mic 2mV 10K, guitar 15mV 30K, aux (2) 150mV 100K, tape play (2) 150mV 100K. Output: 55W per channel into 8 ohms. Output impedance: 4-14 ohms. HD: 0.1% at -3dB rated power. Power bandwidth (IHF) 17Hz-30kHz. Electronic rhythm produces 12 different rhythms and five different percussions. Reverberation control 0-2 sec. Echo sound output for four-channel reproduction. Four sets of speaker terminals. Three-step power limiter for speaker protection. Two-hour timer for automatic switch off. Two sets of headphone jack sockets. Mains: 110-120V, 220-240V AC. Size: 21¼ × 6¼ × 16¼ in. Weight: 35lb. Accessories: (included in price) dynamic microphone, foot switch for rhythm composer. Price: £225 (plus VAT).

**WILKINSON/FORM**

Wilkinson/Form Electronics, 1-2 Low Quay, Blyth, Northumberland, NE24 3AL.

Tel: Blyth 3575.

**Quartet 200**

Integrated quadraphonic amplifier. 36 transistors, nine diodes. Inputs: mag PU 2.8mV 47K, radio 150mV 470K, tape 300mV 470K, four-channel discrete 300mV 47K. Noise level: better than 60dB. Overload capability: not less than 80mV. Output: 26W RMS into 8 ohms with all four channels driven. Tape outlet: 5mV per 10K recorder input impedance. Controls: treble (separate front and rear) +15dB-13dB at 15kHz, bass (separate front and rear) +17dB-15dB at 40Hz, high pass filter 12dB/octave from 40Hz, low pass filter 10dB/octave from 4kHz, 5.5kHz and 10kHz, volume (separate front left and front right, ganged rear), master volume, input selector, mode selector (matrix, concert hall, four-channel discrete). HD: <0.5% (typically 0.15%) under all conditions. Output impedance: 4-8 ohms. FR: 10Hz-35kHz -1dB. Mains: 240V AC. Size: 20 × 3 × 10½ in. Finish: satin black and teak. Price: £168 (plus VAT).

**Quartet 100**

Integrated quadraphonic amplifier. Specification as for the Quartet 200 above except for output. Output: 12W RMS per channel into 8 ohms with all four channels driven. Price: £114 (plus VAT).



# Metrosound. Dedicated to better listening.

To keep our promise, we offer the hi-fi listener far better products. Like the best turntables you can buy, by Thorens. The world's finest cartridge by Ortofon.

A wide range of excellent amplifiers, tuners and speakers, guaranteed to give superb performance and value—at any price level.

This kind of approach is carried right through to the Metrocare range of accessories, designed to

keep your records, tapes and equipment in mint condition. A whole new better concept in care from Metrosound.

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**Metrosound Audio Products Limited,**

Audio Works,  
Cartersfield Road,  
Waltham Abbey,  
Essex EN9 1JF.

Tel: Waltham Cross 31933.



## Metrosound



# COMPLETELY PORTABLE STUDIO RECORDING KIT



THE LAMB LABORATORIES

## MINI- STUDIO

### COMPRISING

A REVOX A77 high speed tape recorder with Sel Sync variable pitch and illuminated remote control unit

### PLUS

THE LAMB 4 channel stereo mixer with in-built compressors – full channel equalisation – Pan Pots and Echo Send controls

The mini-studio kit is completed by 4 BEYER microphones and 4 stands (2 with booms) – BEYER DT100 headphones – power supply – carrying cases – and all interconnecting leads

*and all you have to supply is the mains plug!*

*NOTE: As the power supply provided is capable of running three of our mixers – the MINI STUDIO can be expanded to 12 inputs*

## LAMB LABORATORIES

Lamb House Church Street, Chiswick, London W4 2PB  
Telephone 01 995 4551 Telex 934047 Cables Lambex London

# Directory of Tape Recorders

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ AKAI

Rank Audio Visual Ltd,  
PO Box 70, Great West Road, Brentford,  
Middx., TW8 9HR.  
Tel: 01-568 9222. Telex: 24408.

### X2000SD ★

Three-speed stereo recorder with facilities for cassettes, cartridges and reel-to-reel recording and playback. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. Max spool 7in. W and F:  $7\frac{1}{2}$  i/s 0.09%,  $3\frac{3}{4}$  i/s 0.14%,  $1\frac{7}{8}$  i/s 0.20%. H and N: reel-to-reel all speeds 50dB, cassettes and cartridges 45dB. FR:  $7\frac{1}{2}$  i/s 30Hz-23Hz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 30Hz-18kHz  $\pm$  3dB,  $1\frac{7}{8}$  i/s 30Hz-9kHz  $\pm$  3dB, cassettes 30Hz-16kHz  $\pm$  3dB, cartridges 30Hz-18kHz  $\pm$  3dB. Replay char: NARTB. Rewind time:  $2\frac{1}{2}$  min for 1200ft, 80 sec for cassette. VU meters. Inputs: mic 0.15 mV, line 25mV. Outlet: line. Output: 8W RMS per channel. Speakers: 4  $\times$  2in monitoring. Two-speed capacitor motor. Own deck. Cross-field head. Monitoring. Transfer facilities from reel to cassette or cartridge. Size:  $10\frac{5}{8} \times 13\frac{3}{4} \times 18\frac{3}{8}$  in. Weight: 49 $\frac{1}{8}$  lb. Mains: 100-240V 50-60Hz. Price: £280.96 (including VAT).

### GXC-40

Stereo cassette recorder. Speed:  $1\frac{7}{8}$  i/s. Compact cassette. W and F: <0.2% RMS. H and N: better than 45dB. FR: (standard tape) 30Hz-16kHz  $\pm$  3dB, (chromium dioxide) 30Hz-18kHz  $\pm$  3dB. Replay char: NARTB. Rewind time: 60 sec for C60 cassette. Twin VU meters. Inputs: mic (2) 0.2mV 4.7K, line (2) 50mV 200K. Outputs: line (2) 1.23V 100 ohms, phones 30mV 8 ohms, speakers 6W 8 ohms. Output: 10W RMS per channel. Own deck. One motor. Pause. Straight-through amplifier. Switch position for chromium dioxide. Size:  $16\frac{1}{2} \times 5 \times 8\frac{3}{8}$  in. Weight: 11 $\frac{3}{4}$  lb. Mains: 100-240V AC adjustable. Price: £105.71 (including VAT).

### GXC-40T ★

Stereo cassette recorder with similar specification to the GXC-40 but with built-in AM/FM tuner. Price: £157.40 (including VAT).

## 1721

Stereo open reel tape recorder. Mains operated.  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s <0.14%,  $3\frac{3}{4}$  i/s <0.18%. Replay char: NAB. FR:  $7\frac{1}{2}$  i/s 30Hz-21kHz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 40Hz-15kHz  $\pm$  3dB. Output: 3W RMS per channel into 8 ohms. Signal-to-noise ratio: better than 50dB. Bias frequency: 63kHz. Two heads. One two-speed induction motor. Fast rewind: 80-100 sec for 1200ft. Inputs: mic 0.5mV 100K, line (2) 150mV 330K. Speakers: two 7  $\times$  5in. 16 transistors, four diodes. Mains: 100-240V 50-60Hz. Size:  $14\frac{1}{8} \times 14\frac{3}{8} \times 9\frac{3}{4}$  in. Price: £93.87 (including VAT).

## CS35 ★

Stereo cassette tape recorder.  $\frac{1}{4}$ -track. Compact cassettes. Speed:  $1\frac{7}{8}$  i/s. W and F: <0.12%. FR: 40Hz-16kHz with CrO<sub>2</sub> tape, 40Hz-14kHz with low-noise tape. Signal-to-noise ratio: better than 46dB. Two heads (one-micron gap for record/playback). Fast rewind: 60-65 sec for C60 cassette. Inputs: mic (2) 0.3mV 4.7K, line 50mV 200K. Eight transistors, six diodes, four ICs. Output: 5W per channel into 8 ohms, headphones 30mV 8 ohms, line 1.23V. Mains: 100-240V 50-60Hz. Size:  $16\frac{1}{4} \times 4\frac{7}{8} \times 8\frac{3}{4}$  in. Weight: 11lb. Price: £75.13 (including VAT).

## CR80SS

Stereo and four-channel cartridge tape recorder. Mains-operated. Eight-track. Speed:  $3\frac{3}{4}$  i/s. W and F: 0.25%. FR: 30Hz-16kHz. Output: 7W RMS per channel into 8 ohms. Signal-to-noise ratio: better than 47dB. Bias frequency: 60kHz. Two heads (eight-track four-channel stereo record/playback). One two-speed induction motor. Fast forward time: 230 sec for 300ft cartridge (approx 15i/s). Inputs: mic (4) 0.5mV 5K, line (4) 50mV 150K. 19 transistors, 19 diodes, eight ICs. Mains: 100-240V 50-60Hz. Size:  $19\frac{3}{8} \times 5\frac{1}{2} \times 11\frac{1}{4}$  in. Weight: 26lb. Price: £177.60 (including VAT).

## CR81T

Stereo cartridge tape recorder with built-in AM/FM tuner. Mains-operated. Eight-track cartridge. Speed:  $3\frac{3}{4}$  i/s. W and F: <0.25%. FR: 50Hz-16kHz  $\pm$  3dB. Output: 7W RMS per channel into 8 ohms. Signal-to-noise ratio: better than 47dB. Two heads. One two-speed motor. Fast forward wind: 230 sec for 300ft. Inputs: mic (2) 0.5mV 5K, line (2) 50mV 150K, PU (2) 3.5mV. 23 transistors, 22 diodes, seven ICs. Mains: 100-240V 50-60Hz. Size:  $19\frac{3}{8} \times 5\frac{5}{8} \times 10\frac{3}{8}$  in. Weight: 25lb. Price: £145.65 (including VAT).

## ■ AMCRON

Macinnes Laboratories Ltd, Stonham,  
Stowmarket, Suffolk, IP14 5LB.  
Tel: Stonham (044 971) 486.



Akai X2000SD



Akai GXC40T



Akai CS35



Akai 1721

### 800 Series

$\frac{1}{2}$ -track and  $\frac{1}{4}$ -track mono and stereo professional recorders. Three-speeds with 15i/s or 1 $\frac{7}{8}$ i/s optional. Max spool: 10 $\frac{1}{2}$ in. W and F: 15 i/s 0.06%, 7 $\frac{1}{2}$ i/s 0.09%, 3 $\frac{3}{4}$ i/s 0.18% (RMS). H and N: 15i/s -60dB; 7 $\frac{1}{2}$ i/s -60dB; 3 $\frac{3}{4}$ i/s -55dB (below peak level). FR ( $\pm 2$ dB): 15i/s 30Hz-30kHz; 7 $\frac{1}{2}$ i/s 30Hz-25kHz; 3 $\frac{3}{4}$ i/s 30Hz-15kHz. Replay char: CCIR. VU meter. Rewind time: 58 sec 2400ft, 38 sec 1200ft. Inputs: 2 mixable inputs per channel, mic or line. Sensitivity: 45mV for 0 level (line), 0.4mV for 0 level (mic); impedance 100K, balanced or unbalanced 600 ohms, or 50/200 ohms. Output: 600 ohms. Three motors, magnetic brakes, logic circuitry for tape handling, all tape commands can be remote. A-B monitoring, source and tape mixing, echo, individual bias adjustment and metering. Size: 17 $\frac{1}{2}$  x 19 x 8in. Weight: 50lb. Price: £700 to £1500.

### AMEREX (UK) LTD

96 Piccadilly, London, W1V 9HB.

Tel: 01-499 3537/8.

#### ACR207

Cassette tape recorder with built-in AM/FM radio. Speed: 1 $\frac{7}{8}$ i/s. Compact cassettes. Mains or battery operation. Slider and pushbutton controls. Built-in capacitor microphone. Automatic shut-off at end of tape. Output: 1W RMS. 13 transistors, 12 diodes. Finish: black with burnished silver trim. Price: £49.45 (including VAT).

#### ACR208

Cassette tape recorder with built-in AM/FM radio. Speed: 1 $\frac{7}{8}$ i/s. Compact cassettes. Range: VHF, LW, MW. AC mains 240V or battery operation. Built-in capacitor microphone. Tape position indicator with pushbutton reset. Auto-stop at end of tape. Output: 1.3W. Finish: black with silver trim. Price: £53.95 (including VAT).

### AMPEX (DOMESTIC)

The range of Ampex domestic tape recording equipment is distributed in the UK by Tape Music Distributors Ltd, 114 Ashley Road, St Albans, Herts, AL1 5JR (Tel: St Albans 64337). No details of products available as this edition of the Year Book closed for press.

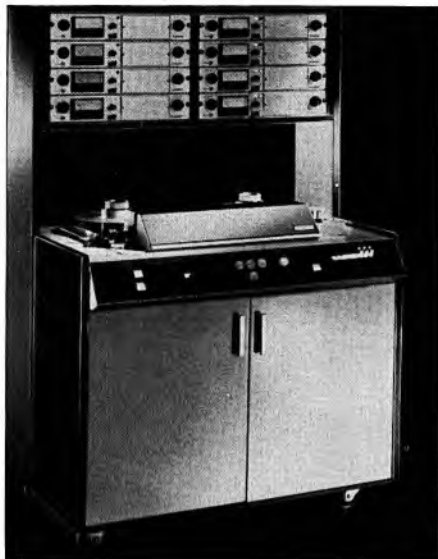
### AMPEX (GB) LTD

Acre Road, Reading, Berks, RG2 0QR.

Tel: Reading 84411.

#### ABR15, MM1000 ★

Full range of professional and semi-professional tape decks, tape units and complete recorders. Typical specification includes following facilities. Full-, half- or quarter-track on  $\frac{1}{4}$ in tape. Up to 15in spools. Speeds: selectable pairs from



Ampex MM1000

$\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ , 15. Unidirectional or bi-directional operation. FR: 15i/s 30Hz-18kHz  $\pm 3$ dB,  $1\frac{3}{8}$ i/s 40Hz-10kHz. Crosstalk rejection: better than 60dB at 1kHz. Bias/erase frequency: 100 kHz. W and F: 15i/s 0.1%,  $1\frac{3}{8}$ i/s 0.25%. Start time: operating speed obtained in 0.1 sec or less. Stop time: at 15i/s tape moves 3in. S/N: 15i/s half-track 63dB,  $7\frac{1}{2}$ i/s half track 63dB,  $3\frac{3}{4}$ i/s half-track 58dB.

Further details of models and specifications on request.

See Tape Deck Section for further details of Ampex tape recorders, reproducers and copiers.

### ■ AUDIOSONIC

J. Parker & Co (London) Ltd, Parker House, Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.

No product information on latest models available as this edition of the Year Book closed for press.

### ■ BASF UNITED KINGDOM LTD

Audio/Visual Tapes Division, PO Box 473, Knightsbridge House, 197 Knightsbridge, London, SW7 1SA.

Tel: 01-584 5080. Telex: 267574/5.

#### CC9201

$\frac{1}{2}$ -track cassette recorder. Battery mains operation. Speed:  $1\frac{3}{8}$ i/s. Compact cassette. W and F: 0.3%. Automatic switching system for chromium dioxide tape. Built-in capacitor micro-

phone and remote control microphone. FR: (standard tape) 80Hz-10kHz; (CrO<sub>2</sub> tape) 80Hz-12.5kHz. Replay char: DIN. Meter level indicator. Output: 1.5W RMS. Fast 'review' button. Automatic or manual recording level button. Tape position indicator with reset button. Mains lead. Automatic cassette rejection. Size:  $11\frac{3}{4} \times 8\frac{1}{8} \times 2\frac{3}{4}$ in. Weight:  $3\frac{3}{4}$ lb. Mains: 110, 220, 240V AC. Price: £50 (plus VAT).

#### CC9307

Similar specification to the CC9201 but incorporates four-waveband radio. Size:  $11\frac{3}{4} \times 9\frac{7}{8} \times 3\frac{1}{2}$ in. Weight: 7lb. Price: £68.18 (plus VAT).

### ■ BRENELL ENGINEERING CO LTD

231-235 Liverpool Road, London, N1 1LY.

Tel: 01-607 8271 (5 lines).

#### Mk 6 Type M

Mains mono recorder.  $\frac{1}{2}$ -track (full-track version available). Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{3}{8}$ i/s. Max spool:  $8\frac{1}{4}$ in (10 $\frac{1}{2}$ in NAB version available). W and F:  $1\frac{3}{8}$ i/s 0.12%,  $3\frac{3}{4}$ i/s 0.1%,  $7\frac{1}{2}$ i/s 0.08%, 15i/s 0.05%. H and N:  $1\frac{3}{8}$ i/s 50dB,  $3\frac{3}{4}$ i/s 54dB,  $7\frac{1}{2}$ i/s 56dB, 15i/s 56dB. FR:  $1\frac{3}{8}$ i/s 60Hz-8kHz,  $3\frac{3}{4}$ i/s 50Hz-15kHz,  $7\frac{1}{2}$ i/s 40Hz-20kHz, 15i/s 40Hz-22kHz, all  $\pm 3$ dB. Replay char: CCIR. Rewind time: under 60 sec for 1200ft. Illuminated edge-scale VU meter. Inputs: mic 0.1mV 200-250 ohms, aux 5mV 250K, PU mag 4mV 47K, PU ceramic 160mV 1.5 megohms. Outlets: external amplifier 200mV into 10K, external speaker 15W into 8 ohms or 8W into 15 ohms. Speaker: 7  $\times$  5in. Output: 15W RMS into 8 ohms, 8W into 15 ohms. Transistorised. Own deck. Horizontal or vertical operation. Three motors (Papst outer rotor). Pause control. Straight-through amplifier. Monitoring. Input mixing. Accepts pickups direct. A/B switching. Size:  $16\frac{1}{2} \times 7 \times 18$ in. Weight: 35lb. Mains: 110, 210, 240V AC. Price: £150 (plus VAT).

#### Multi-channel recorders

A new range of master recorders for sound recording studios and industrial and scientific applications. Series A, full-track on  $\frac{1}{4}$ in tape; Series B, half-track on  $\frac{1}{4}$ in tape; Series C, four-track on  $\frac{1}{2}$ in tape; Series D, four-track on 1in tape; Series E, eight-track on 1in tape. Series F, 16- and 24-track on 2in tape.

Each series comprises four basic self-contained units; (1) tape transport, (2) record/play amplifier (one per channel), (3) master oscillator unit, (4) power supply unit, (5) optional remote control unit for all deck functions. Suitable for 19in rack mounting. Consoles available. Full specifications and prices on request.

### ■ CHILTON

Magnetic Tapes Ltd, Chilton Works, Garden Road, Richmond, Surrey. Tel: 01-876 7957.

★ Indicates entry is illustrated

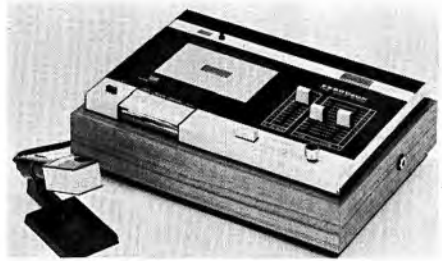
Manufacturers of high quality open reel tape decks and tape recorders for domestic hi-fi and professional use. No product information or prices obtainable as this edition of the Year Book closed for press.

### ■ FERGUSON

Thorn Consumer Electronics Ltd,  
284 Southbury Road, Enfield, Middlesex.  
Tel: 01-366 1155.

#### 3257 ★

Stereo cassette recorder with separate speakers. Four tracks. Speed:  $1\frac{7}{8}$ i/s. Compact cassettes. W and F:  $\leq 0.3\%$ . S/N ratio: 40dB unweighted. FR: 40Hz-10kHz  $\pm 3$ dB. Rewind time: 2 min 15 sec for C60 cassette. Moving coil meter level indicator. Three-digit tape position indicator. Inputs: mic 0.2mV 2K, aux 220mV 10K. Outlets: line 500mV 10K, monitoring earphone 1-2K, stereo headphones 8-16 ohms, loudspeakers 6-8 ohms. Output: 2.5W per channel. Own deck. 22 transistors and six diodes. Playing times: (C60) 1 hour, (C90)  $1\frac{1}{2}$  hours, (C120) 2 hours. Supplied with stereo dynamic microphone with table stand, C60 cassette, connecting lead for external amplifiers, two DIN speaker plugs. Finish: teak case with black and brushed aluminium top panel and chrome trims. Size:  $12\frac{1}{2} \times 9 \times 4$ in. Price: £53.45 (including VAT). Speakers: (type 3257-7) £15.20 (including VAT) each speaker.



Ferguson 3257



Ferrograph Series 7

### ■ FERROGRAPH CO LTD

Auriema House, 442 Bath Road,  
Cippenham, Slough, Bucks. SL1 6BB.  
Tel: Burnham 062-86 62511. Telex: 847297.

#### Ferrograph 713

Semi-professional mains mono recorder.  $\frac{1}{2}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. Max spool  $8\frac{1}{4}$ in. W and F:  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.15%,  $1\frac{7}{8}$ i/s 0.2%. H and N:  $7\frac{1}{2}$ i/s better than 55dB. FR:  $7\frac{1}{2}$ i/s 30Hz-17kHz  $\pm 2$ dB,  $3\frac{3}{4}$ i/s 40Hz-14kHz  $\pm 3$ dB,  $1\frac{7}{8}$ i/s 50Hz-7kHz  $\pm 3$ dB. Replay char: DIN. VU meter. Rewind time less than one minute for 1200ft. Inputs: mic 300 $\mu$ V to 15mV at 250-2000 ohms, line 50mV to 10V at 2M. Outlets: 600 ohms, 300mV 10K, 8-16 ohms 10W. Output: 10W RMS. One  $6 \times 4$ in speaker. Transistorised. Three motors (synchronous hysteresis capstan motor and shaded pole spool motors). Pause. Four-digit belt driven tape indicator. Straight-through amplifier. Monitoring. Input mixing. Vertical or horizontal operation. Single knob control. Fast wind continuously variable in either direction. Remote start/stop of tape, also time-switch operation. Removable head block. Straight line tape loading. Automatic stop. Reel retainers. Retractable carrying handle. A-B comparison switch. Separate bass and treble controls with cut or lift. Meter indicates signal

level on record and playback. Meter switchable to indicate bias. Bias continuously adjustable. Supplied in two styles. Suffix P: portable wood case leathercloth covered; Suffix W: wooden case, natural wood finish. Mains: 200-250V 50Hz; (Suffix A) 117V 60Hz. Price: £182 (plus VAT).

#### Ferrograph 713H

Similar specifications to 713 except tape speeds 15.  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. FR at 15i/s: 30Hz-20kHz  $\pm 2$ dB. Price: £192 (plus VAT).

#### Ferrograph 722

Similar specification to 713 except  $\frac{1}{2}$ -track stereo version. Track to track transfer switch. Switchable echo. Records mono on upper or lower tracks. Channel separation: stereo approx 50dB, mono better than 65dB. Price: £235 (plus VAT).

#### Ferrograph 722H

Similar specification to 722 except tape speeds 15.  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. FR at 15i/s: 30Hz-20kHz  $\pm 2$ dB. Price: £245 (plus VAT).

#### Ferrograph 702

Similar specification to 722 except tape unit with preamps only. Additional low level output adjustable 0-300mV. Price: £200 (plus VAT).

**Ferrograph 702H**

Similar specification to 702 except tape speeds 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. FR at 15i/s: 30Hz-20kHz. Price: £210 (plus VAT).

**Ferrograph 724**

Similar specification to 722 except  $\frac{1}{4}$ -track version. Price: £235 (plus VAT).

**Ferrograph 704**

Similar specification to 702 except  $\frac{1}{4}$ -track version. Price: £200 (plus VAT).

**Series 7D plus Dolby B ★**

The following Ferrograph models are offered with Dolby B noise reduction system incorporated. Model 702/4. Price: £243 (plus VAT); Model 702/H. Price: £253 (plus VAT); Model 722/4. Price: £278 (plus VAT); Model 722/H. Price: £288 (plus VAT).

Dolby system is said to reduce tape noise by up to 10dB without loss of sound quality. Recordings made at  $1\frac{7}{8}$ i/s may have less background noise than ones made at  $7\frac{1}{2}$ i/s without Dolby.

**■ GRUNDIG (Great Britain) LTD**

Newlands Park, Sydenham, London, SE26 5NQ.  
Tel: 01-778 2211. Telex: 22854.

**TK121**

Mains operated  $\frac{1}{2}$ -track recorder. Transistors. Slider controls for volume, tone and record level. Straight-through amplifier. 10 transistors, 3 diodes. Speed:  $3\frac{3}{4}$ i/s. FR: 40Hz-12.5kHz. H and N: -52dB. Max spool 5 $\frac{1}{2}$ in. Four-digit tape position indicator. Record level meter. Inputs: mic 1mV 100K, radio 1-500mV 50K. Outputs: speaker 4W 4 ohms, line 500mV 22K. W and F:  $\leq 0.2\%$ . Mains: 115-230V 50Hz. Size:  $15\frac{1}{2} \times 11\frac{1}{4} \times 6\frac{1}{2}$ in. Weight: 17 $\frac{3}{4}$ in. Price: £52.95 (including VAT).

**TK141**

Mains operated  $\frac{1}{4}$ -track recorder. Automatic and manual record level. Specification similar to TK121. Price: £58.47 (including VAT).

**TK146 ★**

Mains operated  $\frac{1}{4}$ -track recorder. Automatic and manual record level. Slider controls for volume, tone and record level. Record level meter. Straight-through amplifier. FR: 40Hz-12.5Hz. H and N: -50dB. Max spool: 5 $\frac{1}{2}$ in. Speed:  $3\frac{3}{4}$ i/s. W and F:  $\leq 0.2\%$ . Four-digit tape position indicator. Inputs: mic 1mV 100K, radio 100mV 50K. Outputs: 4W 4 ohms, line 500mV 27K. Size:  $6\frac{1}{4} \times 15\frac{1}{4} \times 11\frac{1}{4}$ in. Weight: 17 $\frac{3}{4}$ lb. Price: £63.03 (including VAT).

**TK248 ★**

Mains 2-speed  $\frac{1}{4}$ -track full stereo recorder. Stereo record and playback. Multi-synchronous and echo recordings. Straight-through amplifier. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. W and F:  $\leq 0.15\%$  at  $7\frac{1}{2}$ i/s,  $\leq 0.2\%$  at  $3\frac{3}{4}$ i/s. Large illuminated VU meters.



Grundig TK146



Grundig TK248

Max spool: 7in. 22 transistors, 12 diodes. FR: 40Hz-16kHz at  $7\frac{1}{2}$ i/s, 40Hz-12.5kHz at  $3\frac{3}{4}$ i/s. H and N: -50dB. Inputs: mic (2) 1mV 100K, radio (2) 1mV 33K, PU (2) 50mV 1.5M. Outputs: line (2) 800mV 20K, speaker (2) 4W 4 ohms. Four speakers. Four-digit tape position indicator. Size:  $7\frac{3}{4} \times 17 \times 13\frac{1}{2}$ in. Weight: 30 $\frac{1}{2}$ lb. Price: £164.96 (including VAT).

**TK3200 Hi-Fi**

Semi-professional portable tape recorder designed to operate from mains or batteries.  $\frac{1}{2}$ -track. Mono. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. Automatic or manual record level. Separate controls for record level and replay volume. Independent bass and treble controls. Max spool: 5 $\frac{1}{2}$ in. Three heads. 31 transistors. Four-digit tape position indicator. FR: 40Hz-16kHz at  $7\frac{1}{2}$ i/s, 40Hz-12.5kHz at  $3\frac{3}{4}$ i/s, 40Hz-8kHz at  $1\frac{7}{8}$ i/s. Dynamic range: 52dB at  $7\frac{1}{2}$ i/s, 50dB at  $3\frac{3}{4}$ i/s, 48dB at  $1\frac{7}{8}$ i/s. W and F:  $\leq 0.15\%$  at  $7\frac{1}{2}$ i/s,  $\leq 0.2\%$  at  $3\frac{3}{4}$ i/s,  $\leq 0.35\%$  at  $1\frac{7}{8}$ i/s. Special mechanical tape tensioner. Remote control microphone switch. Inputs: mic 0.22mV 10K, radio 0.22mV 10K, PU 45mV 2.2M. Output: 800mV to internal speaker, 2W to external speaker. Power supply: six SP2 cells, six rechargeable cells or Grundig mains unit type



★ Indicates entry is illustrated



Grundig TK148



Grundig TK244

TN30 Size:  $9\frac{1}{2} \times 12\frac{1}{4} \times 3\frac{1}{2}$ in Weight: 12lb.  
Price: £135.15 (including VAT).

#### TK147

Mains single-speed  $\frac{1}{4}$ -track automatic stereo recorder. Mono playback, stereo playback with external amplifier and speaker. Speed:  $3\frac{3}{4}$ i/s. 18 transistors, 10 diodes. W and F:  $\leq 0.2\%$ . H and N:  $\geq 47$ dB. FR: 40Hz-12.5kHz. Four-digit tape position indicator. Max spool:  $5\frac{3}{4}$ in. Inputs: mic (2) 1mV 100K, radio (2) 1mV 50K, PU (2) 50mV 2M. Outputs: line (2) 500mV 22K, 4 ohms 4W. Mains: 110-240V AC 50Hz. Size:  $15\frac{1}{4} \times 11\frac{1}{4} \times 6\frac{1}{4}$ in. Weight: 17lb approx. Price: £92.87 (including VAT).

#### TK148 ★

Mains operated two-speed  $\frac{1}{4}$ -track mono recorder. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$ i/s. Max spool:  $5\frac{3}{4}$ in. W and F:  $3\frac{3}{4}$ i/s  $\leq 0.2\%$ ,  $1\frac{7}{8}$ i/s  $\leq 0.4\%$ . H and N:  $3\frac{3}{4}$  -50dB,  $1\frac{7}{8}$ i/s -48dB. FR:  $3\frac{3}{4}$ i/s 40Hz-12.5kHz  $\pm 3$ dB,  $1\frac{7}{8}$ i/s 40Hz-6.3kHz  $\pm 3$ dB. Replay char: DIN. Light strip level indicator. Inputs: mic 1mV 100K, radio (diode) 1mV 33K, PU 50mV 1-5M. Output: 4W RMS. Outlets: high Z 500mV 27K, ext LS 4 ohms. Speaker:  $7\frac{1}{4} \times 3\frac{7}{8}$ in. One motor. Own deck. Pause control. Straight-through amplifier. Monitoring.

Slider controls. Automatic level control. Auto stop. Size:  $15\frac{1}{4} \times 11\frac{1}{4} \times 6\frac{1}{4}$ in. Weight: 17 $\frac{3}{4}$ lb. AC mains only. Price: (including microphone) £69.76 (including VAT).

#### TK244 ★

Mains operated stereo  $\frac{1}{4}$ -track two-speed recorder. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. Max spool:  $7\frac{1}{2}$ in. W and F:  $3\frac{3}{4}$ i/s  $\leq 0.2\%$ ,  $7\frac{1}{2}$ i/s  $\leq 0.15\%$ . H and N:  $3\frac{3}{4}$ i/s -50dB,  $7\frac{1}{2}$ i/s -50dB. FR:  $3\frac{3}{4}$ i/s 40Hz-12.5kHz  $\pm 3$ dB,  $7\frac{1}{2}$ i/s 40Hz-16kHz  $\pm 3$ dB. Replay char: DIN. Rewind time:  $5\frac{1}{2}$ min for 2400ft. Automatic level control. Inputs: mic (2) 1mV 100K, radio (diode) (2) 1mV 33K, PU (2) 50mV 1-5M. Output: 4W RMS per channel. Outlets: high Z (2) 800mV 20K, ext LS (2) 4 ohms. Speakers: two  $7\frac{1}{2} \times 3\frac{7}{8}$ in. Own deck. Superimpose. Pause control. Straight-through amplifier. Monitoring. Input mixing. Parallel track replay. Vertical operation. Auto stop. Slider controls. Size:  $17 \times 6\frac{3}{4} \times 14\frac{1}{2}$ in. Weight: 25lb. AC mains only. Price: (excluding microphone) £141.99 (including VAT).

#### ■ HANIMEX (UK) LTD

Hanimex House, 15-24 Great Dover Street, London, SE1. Tel: 01-407 8161.

New range of tape recorders to be introduced under the Hanimex brand name. No details of models available as this edition of the Year Book closed for press.

#### ■ HITACHI

Hitachi Sales (UK) Ltd, New Century House, Coronation Road, Park Royal, London, NW10 7QS. Tel: 01-965 9861.

#### TRQ30

Compact cassette tape recorder. Two-track mono. Speed:  $1\frac{7}{8}$ i/s. Output: 400mW. Speaker:  $2\frac{1}{2}$ in. Built-in capacitor microphone. One IC, six transistors, three diodes. FR: 100Hz-8kHz. Pushbutton controls with pause facility. Three-digit tape position indicator. Sockets for remote microphone, earphone and 6V DC adaptor. Size:  $7\frac{1}{8} \times 4\frac{1}{4} \times 1\frac{1}{2}$ in. Weight: 1 $\frac{1}{2}$ lb. Finish: metal and plastic cabinet with wrist strap. Level control meter. Automatic recording level control. Accessories: carry case, mains adaptor, remote mic, earpiece, demonstration cassette. Price: £47.22 (including VAT).

#### ■ ITT

ITT Consumer Products (UK) Ltd, Maidstone Road, Sidcup, Kent, DA14 5HT. Tel: 01-300 7733.

#### Studio 73 ★

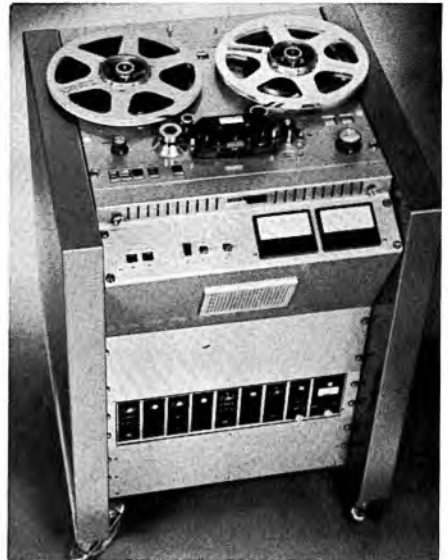
Mains/battery stereo tape recorder. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: 0.4%. Replay char: IEC. Rewind time: 50 sec for C60. Three-



ITT Studio 73



ITT Studio 85



Leavers-Rich E200

digit tape position indicator with PB reset. 26 transistors, 16 diodes. One motor. Size:  $10\frac{3}{8} \times 3\frac{1}{4} \times 9\frac{3}{8}$  in. Weight: 7lb. Pause. Monitoring on record. Provision for CrO<sub>2</sub> tape. Auto or manual level control. Double-gap erase head. End-of-tape warning light. Tone control. Provision for Dryfit accumulator operation. Power supply: mains 110-150V or 200-240V AC, five HP11 or Dryfit accumulator. Price: to be announced.

#### Studio 85 ★

Mains-operated stereo tape recorder.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$  i/s. Compact cassette. W and F: 0.4%. Replay char: IEC. Rewind time: approximately 60 sec for C60. Twin level indicators. Three-digit tape position indicator with PB reset. Inputs: mic 0.1mV 1K (max sensitivity 50 dB auto level control), PU/radio 100mV 1M. Outlets: line 600mV 100K, speakers (2) 4 ohms. Output: 5W RMS per channel. One motor. Size:  $11\frac{1}{2} \times 11 \times 3\frac{1}{2}$  in. Weight: 8 $\frac{3}{4}$  lb. Pause control. Monitoring on record. Auto or manual level control. Provision for CrO<sub>2</sub> tape. Separate slider controls for record level, balance, tone, volume. Mains: 110V 50Hz and 220-240V 50Hz. Price: to be announced.

#### ■ JVC-NIVICO

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

New range of open reel and cassette tape recorders available but no product information

obtainable as this edition of the Year Book closed for press.

Full specifications and prices on request.

#### ■ KELLAR ELECTRONICS LTD

Lopen Works, Lopen Road, Edmonton, N18. Tel: 01-807 4986.

New range of tape record and playback equipment incorporating Dolby B noise reduction system and Garrard cassette deck. Full details on request.

See Tape Amplifier Section for details of Kellar KDB-1 noise reduction unit.

#### ■ LEEVERS-RICH EQUIPMENT LTD

319 Trinity Road, Wandsworth, London, SW18 3SL. Tel: 01-874 9054. Cables: Leemag, London, SW18. Telex: 923455.

#### Series E

Professional  $\frac{1}{4}$  in recorders. Available in broadcast type M console, de luxe console, enclosed rack or as units for rack mounting.

#### Model E200 ★

Speeds:  $7\frac{1}{2}$ , 15 i/s,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  i/s or 15/30 i/s to special order. Max spool 11 $\frac{1}{4}$  in. Three motors. Full-track, twin-track or stereo. FR: 40Hz-18kHz. Noise: Full track -62dB, twin track -58dB. W and F: better than 0.1% at all speeds. VU level meter. PPM to special order. Fully transistorised amplifiers. Modular construction throughout. Price from £990 (plus VAT).

★ Indicates entry is illustrated

### Series G and H

Professional  $\frac{1}{2}$  in and 1 in master recorders. Available in studio type S console.

#### Model G800

Speeds:  $7\frac{1}{2}$ /15i/s. Max spool  $10\frac{1}{2}$  in NAB. Three motors. Full track preselection facilities. Sync replay and routing. FR: 40Hz-18kHz. Equalisation by plug-in cards. Price: £5450.

#### Model H400

Same specification as G800 but four tracks on  $\frac{1}{2}$  in tape. Price: £3300.

### ■ NAGRA

Distributed by: Hayden Laboratories Ltd, Hayden House, 17 Chesham Road, Amersham, Bucks. Tel: Amersham 5511.

Audio equipment showroom, service department and despatch department: 12-13 Poland Street, London, W1V 3DE. Tel: 01-734 3748/9

#### Model 4.2 ★

Professional battery-operated portable tape recorder. Speeds: 15i/s,  $7\frac{1}{2}$ i/s,  $3\frac{3}{4}$ i/s. Size:  $12\frac{1}{2} \times 8\frac{3}{4} \times 4\frac{1}{2}$  in. Weight: (excluding batteries)  $11\frac{1}{2}$  lb. Max spool: (lid closed) 5 in, (lid open) 7 in. Power supply: 12 type SP2 batteries fitted internally, or external mains unit. Switchable auto-level control. Switchable input filters. Two-stage overload filter. Modular construction. Preamplifiers to suit all types of microphones. Built-in monitoring speaker. Single DC servo-controlled motor. Monitoring headphones switchable to tape or direct. Reference tone generator. Separate record and playback amplifiers. Electromagnetic indication of speed stability, battery level and tape jamming. W and F: 15i/s 0-05%,  $7\frac{1}{2}$ i/s 0-07%,  $3\frac{3}{4}$ i/s 0-15%. Overall speed stability: better than 0-05%. Temperature range  $-55\text{degC}$  to  $+77\text{degC}$ . FR: 15i/s 30Hz-20kHz  $\pm 2\text{dB}$ ,  $7\frac{1}{2}$ i/s 30Hz-15kHz  $\pm 2\text{dB}$ ,  $3\frac{3}{4}$ i/s 30Hz-10kHz  $\pm 2\text{dB}$ . Rewind time: 600ft/min. Details and prices of various models as follows.

#### Model 4.2L

Full-track mono version with pilotton. Inputs from two mics and line. Line output: 4-4V 600 ohms. S/N ratio:  $-67$  to  $-70\text{dB}$  depending on speed and tape. Visual pilotton indicator. Pilotton input level 0-5-25V. Price: £784 (plus VAT).

#### Model 4.2LSP

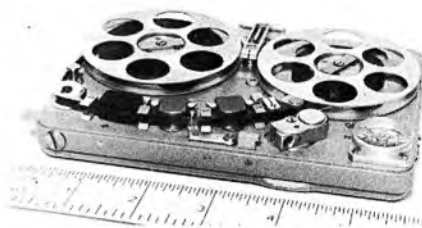
As Model 4.2L but excluding pilotton facility. Price: £708 (plus VAT).

#### Model IV SL

$\frac{1}{2}$ -track model with pilotton. Preamplifiers switchable to suit all types of microphone. Output: IV 600 ohms. Special Nagramaster recording position. Coaxial PPM with two needles to indicate record level and groove cutting depth. S/N ratio:  $-65\text{dB}$  to  $-72\text{dB}$  depending on speed and tape. Frequency modulated pilotton



Nagra Model 4.2



Nagra Miniature SN

channel to permit pilotton and cue speech recording. Pilotton level 2V. Price: £917 (plus VAT).

#### Model IV-S

As Model IV-SL but excluding pilotton facility. Price: £814 (plus VAT).

Special models for industrial sound level recording available.

#### Miniature Nagra SN ★

Full-track battery-operated professional stereo recorder. Speeds: (model SNN)  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s; (model SNS)  $1\frac{7}{8}$ ,  $1\frac{1}{8}$ i/s. Spool capacity: 154m standard tape, 308m 12-5 micron tape. W and F:  $3\frac{3}{4}$ i/s  $\pm 0-1\%$ ,  $1\frac{7}{8}$ i/s  $\pm 0-15\%$  (both to DIN 45 507). S/N ratio:  $3\frac{3}{4}$ i/s 60dB (ASA 'A' with tape);  $1\frac{7}{8}$ i/s 55dB (ASA 'A' with tape). FR: 80Hz-15kHz  $\pm 2\text{dB}$ . Replay char: CCIR. Rewind time: (hand winding) 60 sec. Meter level indicator. Inputs: microphone, current input from 200 ohms or greater ( $3\mu\text{A}$  RMS, max level  $100\mu\text{A}$  RMS). Alternative line input for normal modulation level from 100 ohms source  $-160\text{mV}$  RMS. Outlets: line 600mV across 1K, headphones. One DC series commutator motor. Own deck. Compression indicator and battery check meter. Remote control start/stop. Pilotton version available. Size:  $5\frac{1}{2} \times 4 \times 1\frac{1}{8}$  approximately. Weight: 1-3lb (including batteries and tape). Supply: two manganese cells (Mallory Mn1500 or equivalent). Price: £405 (plus VAT).

### ■ NATIONAL PANASONIC (UK) LTD

Building 63, Whitby Road, Trading Estate, Slough, Bucks. Tel: Slough 35422.

**RQ-421S**

Stereo cassette recorder. Compact cassettes. Speed:  $1\frac{7}{8}$ i/s. Built-in microphone. Review button for instant replay. Auto-stop. Level meter. Three-way power system. Tape indicator. Tone control. FR: 50Hz-10kHz. Output: 1.5W. Price: £42 (including VAT).

**RQ228S**

Stereo cassette recorder. Compact cassettes. Speed:  $1\frac{7}{8}$ i/s. Input mixing. Three-way power system. Auto-stop. Built-in microphone. FR: 50Hz-10kHz. Output: 1.5W. Price: £56.95 (including VAT).

**PHILIPS ELECTRICAL LTD**

Century House, Shaftesbury Avenue, London, WC2H 8AS.

Tel: 01-437 7777. Cables: Phillamps, London.

**N2400 ★**

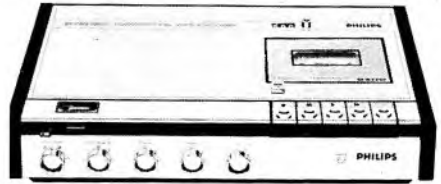
Mains operated stereo cassette recorder. Speed:  $1\frac{7}{8}$ i/s. W and F: <0.4%. H and N: >-45dB. FR: 60Hz-10kHz. Replay char: CCIR. Rewind time: < 80 sec for C60 cassette. Meter level indicator. Inputs: mic 0.25mV 2K, PU 100mV 1M. Outlets: radio 1V 20K, speakers (2) 4W 8 ohms. Output: 4W RMS per channel. External speakers. Transistors. Own deck. One motor. Pause. Straight-through amplifier. Monitoring. Size:  $14 \times 8\frac{5}{8} \times 3\frac{3}{8}$ in. Weight: 6 $\frac{1}{2}$ lb. Mains: 110-250V 50-60Hz. Price: (less speakers) £65.90 (including VAT); (with speakers) £86.61 (including VAT).

**N2401S ★**

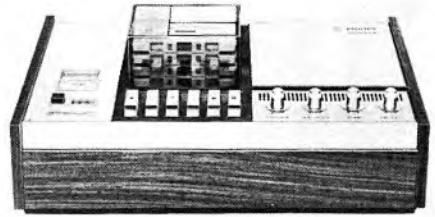
Mains operated stereo cassette recorder. Speed:  $1\frac{7}{8}$ i/s. W and F: <0.3%. H and N: >-43dB. FR: 60Hz-10kHz. Replay char: CCIR. Rewind time: < 100 sec for C60 cassette. Meter level indicator. Inputs: mic/radio 0.25mV 2K, PU 100mV 1M. Outlets: diode 1V 20K, speakers (2) 4W 8 ohms. Output: 4W RMS per channel. External speakers. Transistors. Own deck. One motor. Pause. Monitoring. Straight-through amplifier. Automatic cassette changer. Size:  $15\frac{1}{2} \times 9\frac{1}{2} \times 6\frac{3}{8}$ in. Weight: 11lb. Mains: 110-250V 50-60Hz. Price: (less speakers) £86.56 (including VAT); (with speakers) £107.27 (including VAT).

**N2506**

Mains operated stereo cassette unit to fit in with Audio plan Equipment. Includes dynamic noise limiter (DNL) circuit to improve subjective S/N ratio. Speed:  $1\frac{7}{8}$ i/s. W and F: 0.35%. DIN weighted. H and N: better than 45dB. FR: 60Hz-10kHz. Rewind time: < 80 sec for C60. Meter level indicator. Input/output sockets for external amplifier. Input/output socket for phono/micro. One motor. Pause. Size:  $8\frac{1}{2} \times 2\frac{3}{4}$ in. Weight: 4 $\frac{1}{2}$ lb. Mains: 110-240V 50-60Hz. Price: £61.19 (including VAT).



Philips N2400



Philips N2401

**N4308**

Mains operated  $\frac{1}{4}$ -track mono recorder. Speeds:  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. Max spool: 7in. W and F: <0.25%. H and N: >-45dB. FR:  $3\frac{3}{4}$ i/s 60Hz-14kHz,  $1\frac{7}{8}$ i/s 80Hz-8kHz. Replay char: CCIR. Rewind time: < 3 minutes for 1200ft. Meter level indicator. Inputs: mic 0.25mV 2K, radio 2mV 20K, PU 100mV 1M. Outlets: diode 1V 20K, headphones 0.1-5V 1K, speaker 4W 8 ohms. Output: 4W RMS. Speaker: 6x4in. Transistors. Own deck. One motor. Pause. Straight-through amplifier. Monitoring. Input mixing. Parallel track replay. Size:  $16\frac{1}{2} \times 11\frac{3}{4} \times 5\frac{7}{8}$ in. Weight: 17 $\frac{3}{4}$ lb. Mains: 200-250V 50Hz. Price: £55.93 (including VAT).

**N4418**

Mains operated stereo  $\frac{1}{4}$ -track recorder. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. Max spool: 7in. W and F: <0.15%. H and N: >45dB. FR:  $7\frac{1}{2}$ i/s 40Hz-20kHz,  $3\frac{3}{4}$ i/s 40Hz-15kHz,  $1\frac{7}{8}$ i/s 60Hz-8kHz. Replay char: CCIR. Rewind time: < 180 sec for 1800ft. Two meter level indicators. Inputs: mic 0.15mV 2K, mag PU 1.5mV 47K, aux 2mV 20K, aux 100mV 1M, diode 2mV 20K, diode 100mV 1M, radio 100mV 1M. Outlets: diode 1V 50K, monitor 1V 50K, headphones 3V 400-600 ohms. Output: 10W RMS per channel. Output impedance: (speakers) 4-8 ohms. Speakers: (built-in monitor type) 6x4in. Three motors. Three heads. A-B monitoring. Slider controls. Track transfer. Illuminated tip-touch buttons for tape transport. Size:  $20\frac{1}{4} \times 15 \times 7\frac{3}{4}$ in. Weight: 26 $\frac{1}{2}$ lb. Mains: 110, 127, 220, 240V AC. Price: £189.59 (including VAT).



Philips N4414



Philips N4416

**N4450**

Mains operated stereo  $\frac{1}{4}$ -track recorder with automatic reverse facility. Speeds:  $1\frac{1}{8}$ ,  $3\frac{3}{8}$ ,  $7\frac{1}{2}$ i/s. Max spool:  $10\frac{1}{2}$ in. W and F: 0-15%. H and N: >48dB. FR:  $7\frac{1}{2}$ i/s 40Hz-20kHz,  $3\frac{3}{8}$ i/s 40Hz-15kHz,  $1\frac{1}{8}$ i/s 60Hz-10kHz. Replay char: CCIR. Rewind time: <150 sec for 1800ft. Inputs: mic 0-1mV 2K, PU 1-5mV 47K, aux 2mV 20K, aux 100mV 1M, diode 2mV 20K, diode 100mV 1M, radio 100mV 100K. Outlets: diode 1V 50K, monitor 1V 50K, headphones 3V 400-600 ohms. Output: 20W per channel. Output impedance: 4-8 ohms. Six heads. Three motors. A-B monitoring. Echo. Track transfer. 24-hour timer. Illuminated tip-touch buttons for tape transport. Two VU meters. Winding speed control. Cueing. Size:  $21\frac{1}{2} \times 20 \times 9\frac{1}{2}$ in. Weight: 44lb. Mains: 110, 127, 220, 240V AC. Price: £279-64 (including VA1).

**N4414 ★**

Mains operated stereo  $\frac{1}{4}$ -track recorder. Speeds:  $3\frac{3}{8}$ ,  $7\frac{1}{2}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s  $\leq 0.15\%$ ,  $3\frac{3}{8}$ i/s  $\leq 0.2\%$  (DIN 45 500). FR: (overall)  $7\frac{1}{2}$ i/s 40Hz-18kHz,  $3\frac{3}{8}$ i/s 40Hz-15kHz. H and N:  $7\frac{1}{2}$ i/s 48dB,  $3\frac{3}{8}$ i/s 45dB. Replay char: DIN 45 500. Rewind time: 180 sec for 1800ft. Meter recording level indicator. Four-digit tape

position indicator with PB reset. Inputs: mic 0-2mV 2K, PU 100mV 1M, radio/line 2mV 20K. Outlets: line 1V 50K, speaker 8 ohms. Output: 3W RMS per channel. Speakers: 6  $\times$  4in. Three DC motors. Own deck. Size:  $19\frac{1}{2} \times 13 \times 7\frac{1}{8}$ in. Pause control. Straight-through amplifier. Monitoring on record. Parallel track replay. Solenoid controlled operation. Price: £113-75 (including VA1).

**N4416 ★**

Mains operated stereo  $\frac{1}{4}$ -track recorder. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{8}$ ,  $1\frac{1}{8}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s  $\leq 0.15\%$ ,  $3\frac{3}{8}$ i/s  $\leq 0.2\%$ ,  $1\frac{1}{8}$ i/s  $\leq 0.35\%$  (all to DIN 45 500). H and N:  $7\frac{1}{2}$ i/s -45dB,  $3\frac{3}{8}$ i/s -45dB,  $1\frac{1}{8}$ i/s -45dB. FR:  $7\frac{1}{2}$ i/s 40Hz-18kHz  $\pm 3$ dB,  $3\frac{3}{8}$ i/s 40Hz-15kHz  $\pm 3$ dB,  $1\frac{1}{8}$ i/s 60Hz-8kHz  $\pm 3$ dB. Replay char: DIN. Rewind time: 180 sec for 1800ft. Meter level indicator. Four-digit tape position indicator with PB reset. Inputs: mic 0-2mV 2K, PU 100mV 1M, line 2mV 20K. Outlets: line 1V 50K, headphones 3V 400-600 ohms, speakers 4-8 ohms. Output: 5W RMS per channel. Speakers: 6  $\times$  4in (2). Three DC motors. Own deck. Size:  $20\frac{1}{4} \times 15 \times 7\frac{1}{8}$ in. Weight: 22lb. Pause control. Straight-through amplifier. Monitoring. Input mixing. Parallel track replay. Solenoid controlled operation. Price: £137-45 (including VAT).

**■ PYE LTD**

PO Box 49, Cambridge, CB4 1DS.  
Tel: Cambridge 58985.

**9144 ★**

Mains-operated stereo cassette recorder. Speed:  $1\frac{1}{8}$ i/s. Compact cassette. W and F:  $\pm 0.35\%$ . Noise level: >45dB (DIN). FR: 60Hz-10kHz (6dB DIN). Replay char: CCIR. Rewind time: (C60) 85 sec. Meter level indicator. Three-digit tape position indicator with PB reset. Inputs: PU 100mV 1M, radio 0-2mV 2K, mic 0-2mV 2K. Outlet: 0-5V 20K line. Output: 2-5W RMS per channel. One motor. Philips tape deck. Size:  $13\frac{3}{8} \times 8\frac{1}{2} \times 2\frac{3}{8}$ in. Weight:  $6\frac{3}{4}$ lb. Pause. Straight-through amplifier. Monitoring on record. End of tape autostop. Mains: 110, 127, 220, 240V AC. Price: £67-78 (including VAT).

**9146 ★**

Mains-operated stereo cassette recorder. Speed:  $1\frac{1}{8}$ i/s. Compact cassette. W and F:  $\pm 0.35\%$  (DIN). Noise level: >45dB (DIN). FR: 60Hz-10kHz (6dB DIN). Replay char: CCIR. Rewind time: (C60) 85 sec. Meter level indicator. Three-digit tape position indicator with PB reset. Inputs: PU 100mV 1M, radio 0-2mV 2K, mic 0-2mV 2K. Outlets: 500mV 20K line, 5W 4-8 ohm speakers. Output: 5W RMS per channel. Separate speaker enclosures. One motor. Philips tape deck. Size:  $14 \times 8\frac{1}{2} \times 3$ in. Weight:  $6\frac{3}{4}$ lb. Pause. Straight-through amplifier. Electronic



Pye 9144



Pye 9146



Revox Series 77



Saba 544G

motor speed stabilisation. Mains: 110, 127, 220, 240V AC. Price: £65.81 (including VAT).

■ REPS

Reps (Tape Recorders) Ltd, 11-13 Regina Road, Southall, Middlesex. Tel: 01-574 3645.

HW10 tape recorder no longer in production but spares and service available for all Reps machines from above address.

■ REVOX

Distributors: C. E. Hammond & Co Ltd, Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551. Telex: 934047.

Series 77 ★

Silicon transistor stereo tape recorder available in various versions.  $\frac{1}{2}$ -track or  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool: 10 $\frac{1}{2}$ in. W and F:  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.1%. FR:  $7\frac{1}{2}$ i/s 30Hz-20kHz +2 -3dB,  $3\frac{3}{4}$ i/s 30Hz-16kHz +2 -3dB. Record char NAB, playback char NAB and IEC (switchable). Two VU meters. Inputs: mic 0.15mV 50-600 ohms or 2mV up to 100K (switchable), radio 2mV 33K, aux 40mV 1M. Outlets: line 2.5V 600 ohms, 1.2V 2.5K. Output: 8W RMS per channel. HD: better than 1%. Three-motor deck electronically governed. Electronic speed change. Vertical or horizontal operation. Plug-in printed circuit modules. Oscillator frequency 120kHz. Remote control for all functions. Output impedance (power amplifiers) 4-16 ohms. 54 transistors, 32 diodes, 4 silicon rectifiers. Mains: 110, 130, 150, 220, 240, 250V 50-60Hz. Weight: approximately 34lb. Prices and variations follow.

Model 1302 or 1304

Chassis in metal encasement for rack mounting, no output amplifiers.  $\frac{1}{4}$  or  $\frac{1}{2}$ -track. Price: £259 (plus VAT).

Model DL1332 or DL1334

As 1302 and 1304 but with Dolby B noise reduction system. Price: £349 (plus VAT).

Model 1322 or 1324

As 1302/4, but with 10W output amplifiers,  $\frac{1}{2}$  or  $\frac{1}{4}$ -track. Price: £299 (plus VAT).

Model 1102 or 1104

Chassis in teak surround, no output amplifiers.  $\frac{1}{2}$  or  $\frac{1}{4}$ -track. Price: £259 (plus VAT).

Model DL1132 or DL1134

As 1102 and 1104 but with Dolby B noise reduction system. Price: £349 (plus VAT).

Model 1122 or 1124

Chassis in teak surround with output amplifiers.  $\frac{1}{2}$  or  $\frac{1}{4}$ -track. Price: £299 (plus VAT).

Model 1222 or 1224

Complete recorder in suitcase with amplifiers and four speakers.  $\frac{1}{2}$  or  $\frac{1}{4}$ -track. Price: £309 (plus VAT).

★ Indicates entry is illustrated

## ■ SABA TELEVISION LTD

6-12 Cornbrook Park Road,  
Manchester, M15 4EE. Tel: 061 872 7661.

### 544G ★

Two-speed four-track stereo tape recorder. Speeds:  $3\frac{3}{4}$  and  $7\frac{1}{2}$  i/s. Output: 10W music power per channel. Automatic or manual level control. Four internal speakers. Multiplay. 31 transistors. 11 diodes. Inputs: mic (2), radio, stereo PU, aux. Outputs: aux, speakers or headphones. FR:  $7\frac{1}{2}$  i/s 40Hz-18kHz. Size:  $19\frac{1}{2} \times 6\frac{1}{2} \times 13$  in. Finish: light walnut with tinted plastic cover. Horizontal or vertical operation. Four-digit tape position indicator with PB reset. Slider controls. Twin level meters. Price: £99.95 (including VAT).

## ■ SCOPETRONICS LTD

Crown Works, Church Road,  
Kingston-upon-Thames, Surrey.  
Tel: 01-546 1275 and 4135.

### 1151

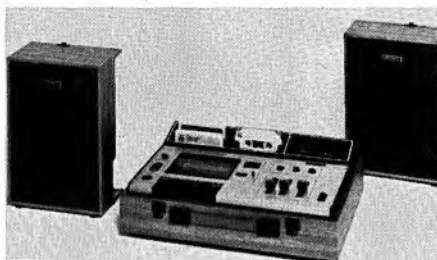
Stereo tape recorder. Speeds:  $7\frac{1}{2}$ , 15 i/s. Max spool capacity: 11 $\frac{1}{2}$  in. W and F: <0.08% both speeds. H and N: -57dB. FR: 40Hz-15kHz  $\pm\frac{1}{2}$  dB (either speed). Replay char: CCIR. Level indicator: meter. Rewind time: 2400ft in 1 min 45 sec. Inputs: microphone, -75dB 600 ohms. Line bridging, -14dB 50K. Outlets: line, up to 18dBm, 50 ohms or 600 ohms line. Monitor amp, 2W at 15 ohms. Transistorised. 3 Papst motors with ext rotor. Tape deck: own. Superimpose, pause and inching facilities. Straight-through amplifier. Optical stop. Psn: 250V 50Hz. Price: from approximately £500 (plus VAT).

## ■ SHARP

Sharp Electronics (UK) Ltd,  
48 Derby Street, Manchester, M8 8HN.  
Tel: 061-832 6115.

### RD708V

Mains operated stereo  $\frac{1}{4}$ -track recorder. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s 0.15%,  $3\frac{3}{4}$  i/s 0.2%,  $1\frac{7}{8}$  i/s 0.2%. H and N: -45 dB. FR:  $7\frac{1}{2}$  i/s 40Hz-16kHz,  $3\frac{3}{4}$  i/s 40Hz-8kHz,  $1\frac{7}{8}$  i/s 40Hz-4kHz. Replay char: DIN. Rewind time: less than 2 min for 1200ft. Meter level indicator. Inputs: mic 0.2mV 200 ohms, aux (DIN) 5mV 15K. Outlets: line (DIN) 500mV 2K, speaker 8 ohms. Output: 3.5W RMS per channel. Speakers:  $6\frac{1}{4}$  in bass driver,  $2\frac{3}{8}$  in tweeter. Transistors. One motor. Sharp deck. Straight-through amplifier. Monitoring. Parallel track replay. Size:  $15\frac{3}{8} \times 15\frac{3}{8} \times 10\frac{1}{2}$  in. Weight: 34lb. Mains: 110, 200, 220, 240V 50-60Hz. Price: £102.69 (plus £10.27 VAT).



Sony TC133CS



Sony TC146

## ■ SONY (UK) LTD

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

### TC630

Stereo tape recorder,  $\frac{1}{4}$ -track. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$  and  $7\frac{1}{2}$  i/s. Max spool capacity: 7in. W and F:  $7\frac{1}{2}$  i/s 0.09%;  $3\frac{3}{4}$  i/s 0.12%;  $1\frac{7}{8}$  i/s 0.16%. H and N:  $7\frac{1}{2}$  i/s -50dB. FR:  $7\frac{1}{2}$  i/s 30Hz-22kHz;  $3\frac{3}{4}$  i/s 30Hz-13kHz;  $1\frac{7}{8}$  i/s 30Hz-10kHz. Replay char: NARTB. Level indicator: twin VU meters. Rewind time: 1200ft 2 $\frac{1}{2}$  min. Inputs: microphone, -72dB (0.2mV), 250 ohms; mag PU 2mV (-52dB); tuner, -22dB (0.06V), 100K; aux, -22dB (0.06V), 560K. Outlets: line output 0dB (0.775V), 100K ohms; headphone, -28dB (30mV), 8 ohms; extension speakers, 16 ohms. Audio output: 15W per channel. Transistorised. Dimensions:  $20 \times 17\frac{7}{8} \times 11\frac{1}{8}$  in. Motor: capstan drive. Tape deck: own. Weight: 4lb. Superimposition. Pause. Position indicator: digital. Straight-through amplifier. Monitoring. Sound-on-sound. Echo. Three heads. Psn 100, 110, 117, 125, 220 or 240V, 50 or 60Hz. 40W. Price: £150 (plus VAT).

### TC124CS

Compact cassette mono/stereo recorder.  $\frac{1}{4}$ -track.  $1\frac{7}{8}$  i/s. W and F: better than 0.28%. H and N: better than 45dB. FR: 50Hz-10kHz. Replay char: NARTB. Level indicator: meter. Inputs:

2 microphone 0.25mV 400 ohms, 2 aux 78mV 100K. Output: 1W per channel to internal  $4 \times 2\frac{1}{2}$  in speaker and two ext speakers. Outlets: two ext speakers 775mV 8 ohms, headphone 24.5mV 8 ohms. Features: AGC recording system, monitoring through ext speakers or line outlets or 8 ohm headphones. Supplied with stereo mic fitted with stop/start switch and complete with int speaker and ext speakers. Power: four HP11 batteries, 100, 110, 120, 220, 240V 50-60Hz. Weight: 4lb 13oz. Dimensions:  $6\frac{3}{4} \times 9\frac{3}{4} \times 2\frac{3}{4}$  in. Price: £70 (plus VAT).

#### TC800B

Mono recorder,  $\frac{1}{2}$ -track,  $\frac{1}{16}$ ,  $1\frac{1}{8}$ ,  $3\frac{3}{8}$  and  $7\frac{1}{2}$  i/s. Max spool capacity: 5in. W and F: better than 0.1%  $7\frac{1}{2}$  i/s. H and N: 48dB at  $7\frac{1}{2}$  i/s. FR: 30Hz-18kHz  $7\frac{1}{2}$  i/s and 30Hz-4kHz  $\frac{1}{16}$  i/s. Replay char: NARTB. Level indicator: meter. Inputs: microphone 0.195mV 600 ohms, aux 62mV 100K. Output: 1W into  $3\frac{1}{8} \times 6\frac{1}{2}$  in speaker. Outlet: monitor 775mV 10K. Features: built-in Electret condenser microphone can be used same time as external microphone fitted with stop/start switch, 16 transistors, one IC, AGC or manual recording with speech/music switch. Weight: 11lb 13oz. Power: eight HP2 batteries, 110, 120, 220, 240V 50-60Hz. Dimensions:  $12\frac{1}{4} \times 10\frac{1}{4} \times 4\frac{3}{8}$  in. Price: £75 (plus VAT).

#### TC133CS ★

Stereo cassette tape recorder. Compact cassettes. Speed:  $1\frac{7}{8}$  i/s. W and F:  $\pm 0.38\%$ . H and N: -50dB. FR: (standard tape) 30Hz-12kHz, (Cr02 tape) 30Hz-13kHz. Rewind time: 90 sec for C60 cassette. Twin VU meters. Inputs: mic 0.2mV low Z, PU 1.1mV 40K, line 0.035V 560K. Outlets: line -5dB 10K, phones 8 ohms or 10K, speakers 8 ohms. Output: 6W RMS per channel. Speakers (2) 5in. One motor. Size:  $15\frac{3}{4} \times 7\frac{3}{4} \times 12\frac{1}{4}$  in. Weight: 19 $\frac{3}{4}$  lb. Pause. Straight-through amplifier. Input mixing. Parallel track replay. Slider tone control. Separate level controls for each channel. Selector switch for standard or Cr02 tape. Mains: 110, 127, 220, 240V AC. Price: £80 (plus VAT).

#### TC146A ★

Cassette tape recorder. Mono recording, stereo playback. Speed:  $1\frac{7}{8}$  i/s. W and F: 0.22%. H and N: 45dB. FR: 40Hz-10kHz. Rewind time: 90 sec for C60 cassette. Auto level control. Inputs: mic 0.2mV 600 ohms, aux 60mV 560K. Outlets: line 10K, phones 8 ohms. One motor. Size:  $11\frac{1}{4} \times 2\frac{3}{8} \times 8\frac{3}{8}$  in. Weight: 6lb 3oz. Straight-through amplifier. Parallel track replay. Built-in electret mic. Tape end alarm. Mains: 127, 220, 240V AC. 6V DC from batteries (four 1.5V) or BP16 battery pack. Price: £55 (plus VAT).

#### TC270

Three-speed stereo mains recorder. Max spool 7in. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. W and F:  $7\frac{1}{2}$  i/s



Standard KR2000

0.16%,  $3\frac{3}{8}$  i/s 0.22%,  $1\frac{7}{8}$  i/s 0.3%. H and N:  $7\frac{1}{2}$  i/s 50dB. FR:  $7\frac{1}{2}$  i/s 30Hz-18kHz,  $3\frac{3}{8}$  i/s 30Hz-13kHz,  $1\frac{7}{8}$  i/s 30Hz-7kHz. Replay char: NAB. Rewind time: 2 $\frac{1}{2}$  minutes for 1200ft. Twin VU meters. Inputs: mic 0.2mV low Z, line 60mV 160K. Outlets: line 0.43V < 10K, ext LS 8 ohms. Output: 5W RMS per channel. Speaker: 5in. One motor. Size:  $20\frac{1}{4} \times 10\frac{1}{4} \times 15\frac{1}{2}$  in. Weight: 36 $\frac{1}{4}$  lb. Superimpose. Pause. Inching. Straight-through amplifier. Monitoring through speaker. Input mixing. Parallel track replay. Scratch filter. Auto filter. Built-in reel locks. Digital tape counter. Slider level controls. Mains: 110, 127, 220, 240V AC. Price: £100 (plus VAT).

#### TC330

Combined open reel and compact cassette stereo mains recorder. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s 0.12%,  $3\frac{3}{8}$  i/s 0.15%,  $1\frac{7}{8}$  i/s 0.2%. H and N: (open reel) better than 50dB, (cassette) better than 45dB. FR:  $7\frac{1}{2}$  i/s 30Hz-18kHz,  $3\frac{3}{8}$  i/s 30Hz-13kHz,  $1\frac{7}{8}$  i/s 50Hz-10kHz. Replay char: NARTB. Rewind time: (reel) 2 min 30 sec, (cassette) 1 min 30 sec. Twin VU meters. Inputs: mic 0.19mV 600 ohms, aux 60mV 100K, pickup 1.1mV 65K. Outlets: line 0.44V 100K, ext LS 8 ohms, headphones 8 ohms. Output: 5W RMS per channel. Speakers: (2) 5in. Two motors. Size:  $21\frac{1}{4} \times 11\frac{7}{8} \times 13\frac{7}{8}$  in. Weight: 43lb. Pause. Straight-through amplifier. Input mixing. Parallel track replay. Independent open reel and cassette function. Mains: 100, 117, 125, 220, 240V AC. Price: £130 (plus VAT).

#### ■ STANDARD

Telerenters (London and Provincial) Ltd, Standard House, 1-2 Church Way, Edgware, Middlesex, HA9 9AA.

Tel: 01-952 7488/9. Telex: London 24792.

#### KR2000 ★

$\frac{1}{2}$ -track mono cassette recorder incorporating



★ Indicates entry is illustrated

AM/FM radio. Mains/bty operation. Speed:  $1\frac{7}{8}$  i/s. Compact cassette. W and F: <0.5%. Signal-to-noise: 40dB. Replay char: DIN. Rewind time: 2 mins for C60 cassette. Input sockets: microphone (200 ohms), remote control, line. Output: 2.5W RMS. Speaker: 3in. 14 transistors. Built-in capacitor microphone. Outlet sockets: earphone 8 ohms, line. Monitoring. Size:  $10\frac{3}{4} \times 7\frac{1}{8} \times 3$  in. Weight:  $7\frac{3}{4}$  lb. Price: £72.72 (including VAT).

## ■ TANDBERG

Farnell-Tandberg Ltd, 81 Kirkstall Road, Leeds, LS3 1HR. Tel: Leeds 35111.

### 1521 ★

Mono tape recorder.  $\frac{1}{2}$ -track. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$  and  $7\frac{1}{2}$  i/s. Max spool capacity: 7in. W and F: 0.1%  $7\frac{1}{2}$  i/s, 0.4%  $1\frac{7}{8}$  i/s. H and N: 52dB at  $3\frac{3}{4}$  and  $7\frac{1}{2}$  i/s. FR: ( $\pm 2$ dB) 40Hz-18kHz  $7\frac{1}{2}$  i/s, 50Hz-12kHz  $3\frac{3}{4}$  i/s, 60Hz-6.5kHz  $1\frac{7}{8}$  i/s. Rewind time: 2 min 1200ft. Meter level indicator. Inputs: mic 0.1mV 200 ohms, radio 10mV 100K, PU 100mV 1M. Output: 10W into 8 ohms. 4 x 7in speaker. Outlets: preamp 0.9V 20K, ext speaker 10W 4 ohms, free head 2mV 20K. Features: pause, inching, straight-through amp, monitoring, input mixing, auto end stop, bass and treble controls. Weight: 19lb. Dimensions:  $15\frac{3}{8} \times 11\frac{3}{4} \times 6\frac{3}{8}$  in. Price: £90.62 (including VAT).

### 1522

Portable-case version of above. Price: £100.42 (including VAT).

### 1541

$\frac{1}{4}$ -track version of 1521. Extra feature: parallel track replay. Price: £97.05 (including VAT).

### 1542

Portable-case version of 1541. Price: £108.92 (including VAT).

### 1521F

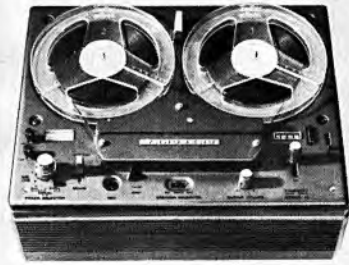
As 1521 but remote stop/start and rewind control. Price: £121.09 (including VAT).

### 1541F

As 1521F but  $\frac{1}{4}$ -track. Price: £130.63 (including VAT).

### 11-2M ★

Battery-operated mono recorder.  $\frac{1}{2}$ -track. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$  and  $7\frac{1}{2}$  i/s. Max spool capacity: 7in. W and F: 0.1%  $7\frac{1}{2}$  i/s, 0.2%  $3\frac{3}{4}$  i/s, 0.3%  $1\frac{7}{8}$  i/s. H and N: 58-52dB. FR ( $\pm 2$ dB): 40Hz-16kHz  $7\frac{1}{2}$  i/s, 50Hz-10kHz  $3\frac{3}{4}$  i/s, 50Hz-5.2kHz  $1\frac{7}{8}$  i/s. Meter indicator. Rewind time: 2 min 1200ft. Inputs: mic 100mV 200 ohms, music (1) 5mV 10K, music (2) 125mV 200K. Output:  $\frac{1}{2}$  W into 2 x 3in speaker. Outlets: line 1.55V 200 ohms, speaker 20 ohms. Own pulse-excited motor. Features: off-tape monitoring, cueing in fast forward rewind, pause, inching, straight-through amp, monitoring, input mixing. Weight:



Tandberg 15 Series



Tandberg 11-2M

11-31b. Dimensions: 13 x 10 x 4in. Mains unit available. Lip synchronisation with Super 8mm cameras. Accessories include variable speed unit, pulse generator and projector synchronizer. Price: on application.

### 11-1

Similar to above but full track and available with or without new pilot tone facility. Price: on application.

### 3400X

Stereo mains-operated tape recorder.  $\frac{1}{4}$  or  $\frac{1}{2}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s 0.07%,  $3\frac{3}{4}$  i/s 0.14%,  $1\frac{7}{8}$  i/s 0.28%. H and N:  $7\frac{1}{2}$  i/s ( $\frac{1}{2}$ -track) -66dB, ( $\frac{1}{4}$ -track) -64dB. FR:  $7\frac{1}{2}$  i/s 40Hz-22kHz  $\pm 2$ dB,  $3\frac{3}{4}$  i/s 50Hz-16kHz  $\pm 2$ dB,  $1\frac{7}{8}$  i/s 50Hz-9kHz  $\pm 2$ dB. Replay char: DIN. Rewind time: two minutes for 1800ft. Meter level indicator. Four-digit tape position indicator with PB reset. Inputs: mic 0.4mV 200 ohms, radio 5mV 50K, mag PU. Outlets: line/radio, headphones 8 ohms, speakers 4 ohms. Output: 15W RMS per channel. Twin speakers. One Papst motor (asynchronous). Size:  $15\frac{3}{4} \times 7 \times 16\frac{1}{8}$  in. Superimpose. Pause. Straight-through amplifier. Monitoring during recording. Input mixing. Parallel track replay. Flying start with photo-cell stop. Cross-field recording technique. Price: to be announced.

## ■ TAPE RECORDER DEVELOPMENTS LTD

Hall Lane, Walsall Wood, Staffs.  
Tel: Brownhills 5351.

### TRD Series 700

Mono/stereo  $\frac{1}{2}$ -track tape recorder. Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s or 30, 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool:  $10\frac{1}{2}$ in. W and F:  $15$ i/s 0.05%,  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.12%,  $1\frac{7}{8}$ i/s 0.2%. H and N:  $15$ i/s -64dB,  $7\frac{1}{2}$ i/s -62dB,  $3\frac{3}{4}$ i/s -60dB,  $1\frac{7}{8}$ i/s -58dB. FR:  $15$ i/s 40Hz-18kHz,  $7\frac{1}{2}$ i/s 40Hz-16kHz,  $3\frac{3}{4}$ i/s 40Hz-12kHz,  $1\frac{7}{8}$ i/s 40Hz-6kHz (all +1dB -2dB). Replay characteristics switchable. Rewind time: 80 sec for 2400ft. Peak programme meters or VU meters. Four-digit footage indicator with PB reset. Inputs: mic 600 ohms -70dB balanced floating, line 10K bridging 0dB balanced floating. Outlets: line +20dB 600 ohms balanced, 2W into 15 ohms (monitor). Three motor deck. Size:  $18\frac{1}{2} \times 19 \times 8$ in. Weight: 60lb. Monitoring. Self-sync facility. Mains operated. Price: £425 (plus VAT).

## ■ UHER

Distributors: Bosch Ltd, PO Box 166,  
Rhodes Way, Radlett Road, Watford,  
Herts, WD2 4LB. Tel: Watford 44233.

### Uher 4200 ★

Transistorised mains/battery stereo tape recorder.  $\frac{1}{2}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ ,  $\frac{1}{2}$ i/s. Max spool 5in. W and F:  $7\frac{1}{2}$ i/s 0.2%,  $3\frac{3}{4}$ i/s 0.25%,  $1\frac{7}{8}$ i/s 0.35%,  $\frac{1}{2}$ i/s 0.5%. H and N:  $7\frac{1}{2}$ i/s -53dB,  $3\frac{3}{4}$ i/s -51dB,  $1\frac{7}{8}$ i/s -47dB,  $\frac{1}{2}$ i/s -43dB. FR:  $7\frac{1}{2}$ i/s 40Hz-20kHz  $\pm 3$ dB,  $3\frac{3}{4}$ i/s 40Hz-16kHz  $\pm 3$ dB,  $1\frac{7}{8}$ i/s 40Hz-10kHz  $\pm 3$ dB,  $\frac{1}{2}$ i/s 40Hz-4.5kHz  $\pm 3$ dB. Replay char: NARTB. Level indicator: two meters. Rewind time: 3 min for 900ft. Inputs: mic 0.1mV 200 ohms, radio 2mV 47K, PU 30mV 1M. Outlets: line 1V 15K, speaker 4 ohms. One motor. Pause. Digital position indicator. Monitoring. Parallel track replay. Size:  $11 \times 3 \times 8$ in. Weight: approx 7lb. Supply: internal dry cells, rechargeable accumulator, or from 6V, 12V, 24V car battery, 110-240V AC mains with additional adaptor units. Price: approximately £170 (including VAT).

### Uher 4400

$\frac{1}{4}$ -track version of 4200. Specification almost identical. Price: approximately £170 (including VAT).

### Uher Royal de luxe ★

Transistorised semi-professional mains recorder. Mono/stereo.  $\frac{1}{2}$ -track or  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ ,  $\frac{1}{2}$ i/s. Max. spool: 7in. W and F:  $7\frac{1}{2}$ i/s 0.05%,  $3\frac{3}{4}$ i/s 0.1%,  $1\frac{7}{8}$ i/s 0.25%,  $\frac{1}{2}$ i/s 0.35%. H and N:  $7\frac{1}{2}$ i/s -54dB,  $3\frac{3}{4}$ i/s -54dB,  $1\frac{7}{8}$ i/s -54dB. FR:  $7\frac{1}{2}$ i/s 20Hz-20kHz,  $3\frac{3}{4}$ i/s 20Hz-15kHz,  $1\frac{7}{8}$ i/s 20Hz-9kHz,  $\frac{1}{2}$ i/s 20Hz-5kHz. Re-



Uher 4200 Stereo



Uher Royal de Luxe

play char: NARTB. Level indicators: two meters. Inputs: mic 0.2mV-100mV 200 ohms, radio 2mV-1V 47K, PU (1) 50mV 1M, PU (2) 200mV 50K. Outlets: line 775mV 15K, speakers 4 ohms. Output: 10W RMS per channel. One Papst motor. Pause. Inching. Straight-through amplifier. Horizontal or vertical operation. Monitoring. Input mixing. Parallel track replay. Interchangeable head assemblies available as optional extras. Dia-pilot. Multiplay. Echo. Weight: 29 $\frac{1}{2}$ lb. Price: approximately £260 (including VAT).

### Uher Royal de luxe (C)

Stereo unit without power amplifiers or speakers. Specification as for Royal de luxe. Price: approximately £230 (including VAT).

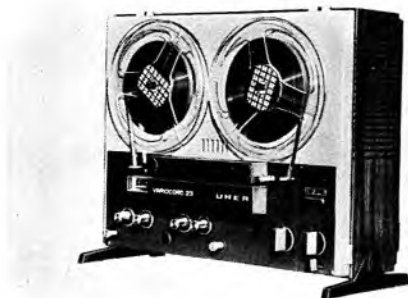
### Uher 1200 Report Synchro ★

Transistorised professional mains/battery mono recorder. Full track. Speed:  $7\frac{1}{2}$ i/s. Max spool 5in. W and F: 0.07%. H and N: -52dB. FR: 40Hz-20kHz+0dB-5dB. Replay char: CCIR or NARTB. Meter level indicator. Rewind time

★ Indicates entry is illustrated



*Uher 1200 Report Synchro*



*Uher Variacord 23*

3 min 900ft. Inputs: mic (2) 0.2mV 200 ohms balanced, line 40mV-1.55V. Output 1W RMS. 600 ohm balanced line, pilot tone to synchroniser. Brushless DC motor. Pause. Digit tape indicator. Straight-through amplifier. A/B monitoring. Neo-pilot tone input for synchronising sound with film camera. Optional automatic level control, pilot tone indicator, mixing of two mic channels. Supply: internal dry cells, rechargeable accumulator, or from 6V, 12V, 24V car battery, 110-240V AC mains with additional adaptor units. For supply only to industrial or scientific users. Size: 11 × 3 × 8in. Weight: 7lb. Price: approximately £260 (including VAT).

#### Accessory

Scene marker module No. Z521. Price: £3.80.

#### 4000 Report L

Transistorised mono battery portable recorder.  $\frac{1}{2}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{8}$ ,  $1\frac{7}{8}$ ,  $\frac{1}{2}$  i/s. W and F:  $7\frac{1}{2}$  i/s,  $\pm 0.2\%$ . H and N:  $-55$ dB. FR:  $7\frac{1}{2}$  i/s 40Hz-20 kHz,  $3\frac{3}{8}$  i/s 40Hz-16kHz,  $1\frac{7}{8}$  i/s 40Hz-10kHz,



*Uher Universal 5000*



*Uher Compact Report Stereo*

$\frac{1}{2}$  i/s 40Hz-4.5kHz. All  $\pm 3$ dB. Replay char: NARTB. Inputs: mic 0.1mV 200 ohms, radio 2mV, 47K; gram 30mV, 1M. Outlet direct from pre-amp. One motor. Sin spool. Supply: internal batteries, rechargeable accumulator, or from 6V, 12V, 24V car battery or 110-240V AC mains with additional adaptor units. Size: 11 × 3 × 8in. Weight: approx 7lb. Price: approximately £140 (including VAT). Combined mains unit and battery charger type Z124. Price: £18.06 (including VAT).

#### Varicord ★

Transistorised mains mono recorder. Available as  $\frac{1}{2}$ -track or  $\frac{1}{4}$ -track. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{8}$  and  $7\frac{1}{2}$  i/s. W and F at  $7\frac{1}{2}$  i/s 0.05%. FR:  $7\frac{1}{2}$  i/s 30Hz-20 kHz;  $3\frac{3}{8}$  i/s 30Hz-15kHz;  $1\frac{7}{8}$  i/s 30Hz-8kHz. Inputs: mic 0.12mV (200 ohms); radio 1.2mV; gram 45mV. Outputs: line 1.4V; speaker 2W or 6W (depending on type) into 4 ohms. Level indicator meter. Interchangeable head assemblies. Input mixing. Horizontal or vertical operation. Optional 2W or 6W output stages. Optional add-

on automatic volume control module. Prices: from approximately £100 (including VAT).

#### **Variocord Stereo**

Same specification as Variocord but with twin 6W amplifiers.  $\frac{1}{4}$ -track or  $\frac{1}{2}$ -track. Price: approximately £140 (including VAT).

#### **Uher 714L**

Mains mono  $\frac{1}{4}$ -track recorder. Max spool 7in. Speed:  $3\frac{3}{4}$ i/s. W and F: 0.3%. S/N: >48dB. Inputs: mic 200 ohms, radio 47K, PU 1M. Output: 2W. Meter level indicator. Monitor facility. Auto shut-off at end of tape. Vertical or horizontal operation. Price: approximately £65 (including VAT).

#### **Uher 5000 Universal ★**

Mains  $\frac{1}{2}$ -track mono recorder. Speeds:  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ ,  $\frac{1}{4}$ i/s. FR: 40Hz-15kHz  $\pm$ 3dB at  $3\frac{3}{4}$ i/s. Max. spool:  $5\frac{3}{4}$ in. W and F:  $3\frac{3}{4}$ i/s  $\pm$ 0.2%. Inputs: mic 200 ohms, radio 47K, PU 1M. Solenoid operation for remote control working. All metal case. Large range of dictation and transcription accessories available. Price: approximately £135 (including VAT).

#### **5000 Language Tutor**

Specification as for 5000 Universal except double  $\frac{1}{2}$ -track heads and  $3\frac{3}{4}$ i/s speed only. Top track playback only, lower track record and playback. Price: approximately £140.

#### **Uher 724 Stereo**

Transistorised stereo mains recorder.  $\frac{1}{4}$ -track. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. W and F:  $7\frac{1}{2}$ i/s 0.2%,  $3\frac{3}{4}$ i/s 0.25%. FR:  $7\frac{1}{2}$ i/s 50Hz-20kHz,  $3\frac{3}{4}$ i/s 50Hz-15kHz. Inputs: mic 0.25mV 200 ohms, radio 4.7mV 47K, PU 130mV 1M. Outputs: line 0.7V 4.7K, speaker (2) 4W each into 4 ohms. Level indicator meter. Monitoring via phones or speaker. Vertical or horizontal operation. Price: approximately £120 (including VAT).

#### **Uher Compact Report Stereo ★**

(Advance information.) Transistorised battery cassette stereo recorder. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: approx 0.2%. FR: 30Hz-12.5kHz. Inputs: mic 200 ohms, radio or PU. Outputs: two line, two ext speakers (1W into 4 ohms). Meter for battery check and record level. Manual or automatic record level. Built to DIN standard. Continuous replay with automatic reversal of drive and track-change at end of tape. Twin capstan drive. Switchable built-in capacitor mic for reporting, etc. Twin-stacked stereo head assembly. Remote control for tape transport. Three-digit tape counter. Monitoring via built-in or external speaker or phones. Supply: internal batteries, rechargeable accumulator, or from 6V, 12V, 24V car battery. 110-240V AC mains via adaptors. Price: approximately £165 (including VAT); mains unit Z131 £10.76.

# **SOUND EQUIPMENT, CLASSICAL RECORDS AND CABINETS FROM HAMPSTEAD HIGH FIDELITY**

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installation and after sales service to guarantee  
you years of carefree listening.*



Exclusive Heath Housing Cabinet with Quad 33/303 Revox T/R Cabinet with/without doors. Teak, other finishes to special order.

Exclusive HQ1 system complete with Quad 33/303 Thorens TD 150 SME arm housing unit in sprayed white finish with tinted perspex lid.



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**Hampstead High Fidelity**  
91 Heath Street, Hampstead NW3 6SS.  
Tel: 01-435 0999/6377.

# Tape Transport

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ BIAS ELECTRONICS LTD

Unit 8, Coombe Trading Estate, 112-120 Coombe Lane, London, SW20 0BA.  
Tel: 01-947 3121.

### BE1000/D ★

Professional mains-operated tape transport. Speeds:  $3\frac{3}{4}/7\frac{1}{2}$  i/s or  $7\frac{1}{2}/15$  i/s or 15/30 i/s. W and F: ( $3\frac{3}{4}$  i/s) < 0.1% RMS, ( $7\frac{1}{2}$  i/s) < 0.08% RMS, (15 i/s) < 0.08% RMS, (30 i/s) < 0.08% RMS. Supplied with headblock (room for three heads) but less heads. Motors: two Papst ROT, one Papst HSK. Max spool accommodated: 11½ in. Rewind time: < 100 seconds for 2400ft. Clock type tape position indicator with push-button reset. Indicator reads in minutes and tenths (correct at 15 i/s). Variable speed spooling. Size: 19 × 14 × 8½ in. Price: £376 (plus VAT).

## ■ BRENELL ENGINEERING CO LTD

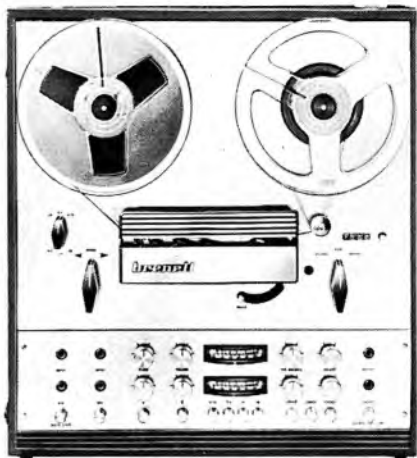
231/5 Liverpool Road, London, N1 1LY.  
Tel: 01-607 8251 (5 lines).

### Mark 6 Tape Transport ★

Four-speed three-motor with provision for up to four heads. Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{3}{8}$  i/s. W and F: 15 i/s < 0.05%,  $7\frac{1}{2}$  i/s < 0.1%,  $3\frac{3}{4}$  i/s < 0.15%,  $1\frac{3}{8}$  i/s < 0.25%. All motors outer rotor type (hysteresis synchronous for capstan drive). Max spool 8¼ in. Rewind time: 60 sec for 1200ft. Four-digit tape indicator. Low or high impedance tape heads. Horizontal or vertical mounting. Record/playback switches fitted with extended spindles



Bias Electronics BE1000D



Brenell Mk 6

to accommodate extra wafers. Finish: brushed aluminium mask. Size: (deck) 15 × 11½ in; (depth below) 5 in approx; (overlap with 8¼ in spools) 1½ in at rear and 1 in at each side. Mains: 200-250V 50Hz (110-120V 60Hz to order). Weight: 18 lb. Price: (less heads) from £58.80 (plus VAT).

### Mark 610

Modified Mark 6 deck designed to take 10½ in NAB spools. Full details and prices on request.

### Type 19

Heavy-duty tape transport. Solenoid operated. Two- and four-speed versions. Speeds:  $\frac{1}{8}$  to 60 i/s. Tape widths: ¼ in, ½ in, 1 in and 2 in. Special models to customer's specification. Remote control facility. Provision for up to four heads on removable headplate. Papst hysteresis synchronous capstan motor and two Papst outer-rotor spooling motors. W and F: 30 i/s 0.04%, 15 i/s 0.05%,  $7\frac{1}{2}$  i/s 0.08%,  $3\frac{3}{4}$  i/s 0.1%. Low-voltage pushbutton operation of deck functions including cue. Four-digit tape position indicator. Spools: 11½ in, NAB or Cine. Standard 19 in rack mounting. Horizontal or vertical operation. Complementary record/replay preamplifiers available for up to eight channels. Supplied with or without tape heads. Prices on application.

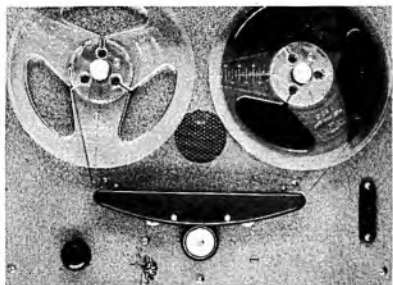
## ■ FERROGRAPH CO LTD

Auriema House, 442 Bath Road, Cippenham, Slough, Bucks, SL1 6BB.  
Tel: Burnham 062-86 62511. Telex: 847297.

### Series 7

Semi-professional tape transport. Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  i/s or  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{3}{8}$  i/s. Mono or stereo. ¼-track or ½-track. Max spool: 8¼ in. W and F: 0.08% at 15 i/s, 0.08% at  $7\frac{1}{2}$  i/s, 0.15% at  $3\frac{3}{4}$  i/s, 0.2% at  $1\frac{3}{8}$  i/s. Rewind time: less than 1 min for 1200ft. Three motors, synchronous hysteresis capstan

★ Indicates entry is illustrated



Planet CD2



Scopetronics 1150

motor, shaded pole reel motors. Pause facility. Single knob control. Vertical or horizontal operation. Fast wind continuously variable in either direction. Remote start/stop facility. Removable head block. Automatic stop at end of reel. Reel retainers fitted to spindles. Various head arrangements. Full specification and prices on application.

#### ■ PLANE1 PROJECTS LTD

Goodman Works, Belvue Road, Northolt, Middlesex. Tel: 01-845 1775.

##### C.D.2.P.A.

This comprises model C.D.2 tape deck (see Tape Transport section) with built-in preamplifier and power supply. Power supply provides correct voltages for operating both relays and also a stabilised supply for the preamplifier. Preamplifier is three-stage direct coupled block using high frequency silicon planar transistors. Equalisation and stability is achieved with multiple feedback loops operating down to DC. Average output: 250mV. Output impedance: 200 ohms to be fed into a load not less than 2.5K. FR: 30Hz-12kHz  $\pm$  3dB. HD: not greater than 3dB. S/N: 50dB. Price: on application.

#### ■ SCOPETRONICS LTD

Crown Works, Church Road, Kingston-upon-Thames, Surrey. Tel: 01-546 1275 and 4135.

##### 1150 ★

G. P. tape transport mechanism only. Speeds: 15, 7½ i/s. Three Papst motors with ext rotors. Three heads. W and F: 0.14% at 7½ i/s, 0.08% at 15 i/s. Spool capacity: 11½ in. Pause control and inching facility. Rewind: < 1 min 45 sec for 2400ft. Weight: 26lb. Price: from approximately £200 (plus VAT).

# Tape Players

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ALPHA

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

### HZ800

Eight-track stereo cartridge player. Speed:  $3\frac{3}{4}$ i/s. Automatic track selector with manual over-ride and repeat facility. Track playback sequence: 1 and 5, 2 and 6, 3 and 7, 4 and 8. W and F: 0.25%. FR: 30Hz-15kHz. Signal-to-noise: better than 40dB. Six transistors, three diodes. Finish: teak. Price: £26.80 (plus VAT).

## ■ AMEREX (UK) LTD

96 Piccadilly, London, W1V 9HB. Tel: 01-499 3537/8.

### AC300

Eight-track cartridge player unit with speakers. Speed:  $3\frac{3}{4}$ i/s. Slider controls for stereo balance and volume. Output: 5W RMS. Socket for headphones. Finish: walnut. Price: £42.50 (including VAT).

## ■ AUDIOSONICS

J. Parker & Co (London) Ltd, Parkar House, Beresford Avenue, Wembley, Middlesex. HA0 1YX. Tel: 01-903 5211.

No product information on latest models available as this edition of the Year Book closed for press.

## ■ BSR McDONALD

(McDonald Division) BSR Ltd, Cradley Heath, Warley, Worcs. Tel: Cradley Heath 69272.

### TD8S ★

Eight-track stereo tape cartridge player. Tracks: eight (four stereo programmes). Speed:  $3\frac{3}{4}$ i/s. FR: better than 50Hz-10kHz. Output: two-

stage preamplifier giving nominal 125mV from 1kHz standard reference level tape. Playing time: up to 1 hour and 20 min and then repeats indefinitely. Automatic or manually selected track change. Indicator light show tracks being played. Four-pole motor. Forced ventilation system. Tape head: Nortronics four-track with hyperbolic face. Track playback sequence: 1 and 5, 2 and 6, 3 and 7, 4 and 8. Wow: better than 0.3% total. Mains: 210-250V 50Hz. Size:  $10\frac{3}{8} \times 8\frac{1}{4} \times 3\frac{3}{8}$ in. Weight:  $5\frac{1}{4}$ lb. Price: £20.25 (plus VAT).

## ■ CROWN RADIO

128-129 Shoreditch High Street, London, E1 6JE. Tel: 01-739 2382.

### SHC-52

Eight-track stereo tape player with integrated amplifier. Cartridge. Speed:  $3\frac{3}{4}$ i/s. S/N ratio: >40dB. W and F: <0.35%. FR: 80Hz-12kHz. Output: 5W per channel. Four ICs, four transistors, five diodes. Automatic head cleaning device. Slider controls. Headphone jack socket. Size:  $12\frac{3}{4} \times 4 \times 8\frac{7}{8}$ in. Finish: walnut. Weight:  $9\frac{1}{4}$ lb. Price: £61.33 (plus VAT).

### SHC-53

Similar specification to the SHC-52 but with the addition of AM/FM radio. Switchable AFC. 21 transistors, four ICs, 21 diodes. Radio range: FM 88-108MHz, MW 182-560m. Finish: walnut with black dial and bright trim. Size:  $14\frac{5}{8} \times 4 \times 10\frac{5}{8}$ in. Weight:  $11\frac{1}{2}$ lb. Price: £85.50 (plus VAT).

## ■ DARBY INDUSTRIES

38-42 Chestnut Grove, New Malden, Surrey, KT3 3JW. Tel: 01-942 1598.

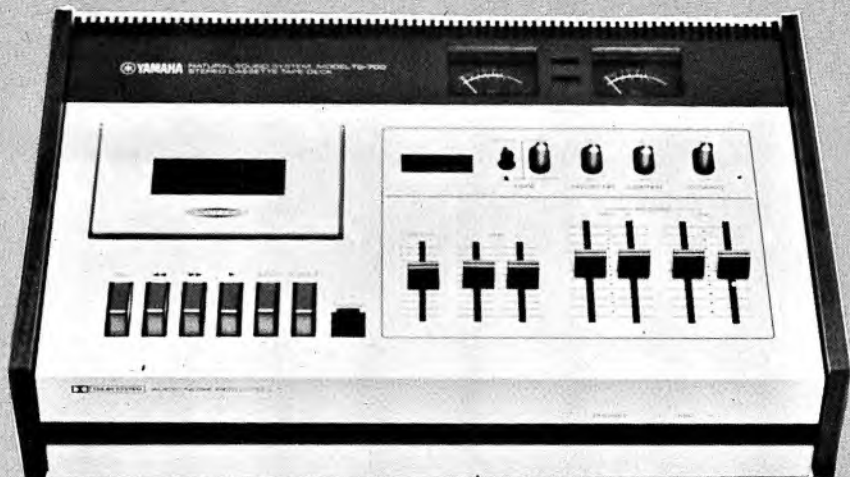
### Tape Player

Eight-track cartridge player in black anodised aluminium case. Output: 3W RMS per channel. Price: £24 (plus VAT).



BSR McDonald TD8S





### **TB 700 Stereo Cassette Deck**

- Wow & Flutter : under 0.15%
- Signal/Noise Ratio : over 48dB (non-Dolby), over 58dB (Dolby)
- Total Dist : 2.5%
- Freq. Response : 30-13 000Hz (standard tape), 30-16 000Hz (Cr<sub>2</sub> tape)
- 115 x 400 x 250mm (4½ x 15¾ x 9¾")
- 5.0kg(11lbs)

## **Still setting a standard YAMAHA 85 years of musical experience**

Amplifiers · Tuner amplifiers · Receivers  
Turntables · Stereo cassette deck  
Modular units · Speakers  
Stereo headphones

# **See and hear YAMAHA SYSTEMS**



# YAMAHA

Natural Sound Systems

## YP-700 Turntable

Two-speed belt drive, Double float suspension protects against vibrations. Professional long S-type gravity center balanced tone arm with ultra-sensitive cartridge. Precision anti-skating lateral balance controls. Special universal type plug-in shell with accurate overhang adjuster. One-touch see-saw speed & on/off switches. Noise-free auto-cut and auto return. Silicon-damped cueing lever hinged dust cover. Motor 4 pole synchronous outer rotor.



- Speeds : 33 $\frac{1}{3}$ , 45 rpm
- Wow & Flutter : 0.05%
- Tone arm : static balanced type
- Cartridge :  
Yamaha CG 7000
- Freq. Response :  
10-25 000Hz
- 480 x 161 x 410mm  
(19 x 6 $\frac{1}{2}$  x 16 $\frac{1}{2}$ " )
- 9.2kg (20.2lbs)



# YAMAHA

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★ Indicates entry is illustrated

## ■ GOLDING AUDIO LTD

Marks Tey, Colchester, Essex.  
Tel: Colchester 210433.

### ST856

Eight-track stereo tape player unit. 400ft stereo cartridge. Speed:  $3\frac{3}{4}$  i/s. W and F:  $<0.3\%$ . Output: 5W RMS per channel. Size:  $13\frac{3}{4} \times 9\frac{3}{4} \times 4\frac{5}{8}$  in. Weight: 9.9lb. AC mains. Price: approximately £55 (including VAT).

### HW800 System 8

Eight-track stereo tape player unit. 400ft stereo cartridge. Speed:  $3\frac{3}{4}$  i/s. W and F:  $<0.2\%$ . FR: 30Hz-14kHz. Inputs: mag PU 2mV, radio 250 mV, aux 250mV. Output: 10W RMS per channel. Output impedance: 8 ohms. One four-pole synchronous motor. Pushbutton programme selector. Size:  $14\frac{1}{2} \times 4\frac{1}{2} \times 8\frac{3}{4}$  in. Weight: 15.4lb. Price: approximately £88 (including VAT).

## ■ JVC-NIVICO

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

New range of eight-track cartridge tape player units available but no product information obtainable as this edition of the Year Book closed for press. Full specifications and prices on request.

## ■ KINGSTEREO

Distributors: Lionel Murray Ltd,  
7 West Halkin Street, Belgrave Square,  
London, SW1. Tel: 01-235 6424-5-6.

### XAR500

4-track record/playback tape player. Price: approximately £140 (including VAT).

### HW12

4- and 8-track stereo cartridge tape player. FR: 50Hz-10kHz. W and F:  $<0.3\%$ . Power output: 4W (music) into speakers supplied. Finish: mahogany. Dimensions:  $13\frac{1}{4} \times 8\frac{1}{4} \times 3\frac{3}{4}$  in. Price: approximately £90 (including VAT).

Wide range of 4-track stereo pre-recorded tape cartridges are available for this equipment.

## ■ N. MIERS & CO LTD

28 Piercing Hill, Theydon Bois, Epping,  
Essex, CM16 7LE. Tel: 037 881 2611.

### Lyrichord ★

Stereo cartridge eight-track player. Speed:  $3\frac{3}{4}$  i/s. W and F: less than  $0.3\%$  total. FR: 50Hz-10kHz. Output: 750mV nominal. Size:  $8\frac{1}{8} \times 10\frac{1}{4} \times 3\frac{3}{8}$  in. Preset audio output level control. Mains: 200-240V 50Hz. Finish: moulded plastic or teak veneer. Price: £26 (plus VAT).



Miers Lyrichord

## ■ ONKYO

J. Parker & Co (London) Ltd, Parker House,  
1 Beresford Avenue, Wembley, Middlesex,  
HA0 1YX. Tel: 01-903 5211.

### Tape Player

Eight-track (two 4-channel programmes) cartridge player. Speed:  $3\frac{3}{4}$  i/s. FR: 50Hz-12kHz. Automatic track changeover. Indicator for four-channel. Size:  $14\frac{1}{4} \times 5\frac{1}{2} \times 7\frac{3}{4}$  in. Mains: 110, 125, 220, 240V 50-60Hz. Finish: matt finished aluminium trim, walnut case. Price: £102.70 (plus VAT).

## ■ TELETON

Teleton Electro (UK) Co Ltd, Teleton House,  
Waterhouse Lane, Chelmsford,  
Essex, CM1 1BD.  
Tel: Chelmsford (0245) 62442. Telex: 99338.

### STP811

Eight-track stereo cartridge player. Speed:  $3\frac{3}{4}$  i/s. W and F:  $0.25\%$ . FR: 100Hz-8kHz. Noise level:  $-45$ dB. Slider controls for volume, balance and tone. Size:  $12\frac{1}{2} \times 4\frac{1}{2} \times 8\frac{1}{4}$  in. Output for 8 ohm headphones. Price: to be announced.

# MIERS *for* B.S.R.

## "THE NEW MIERS LYRICHORD" 8-TRACK CARTRIDGE TAPE PLAYER and PREAMPLIFIER



Our Principals BSR Ltd. have recently produced the TD8S 8-track tape cartridge player, an add-on unit primarily intended for audio separates. It is remarkably good, both electrically in the quality of reproduction and as a piece of engineering.

Many motor cars are being fitted with 8-track cartridge tape players. Where the owner has an ordinary record player, radio or TV at home, the use of his cartridge tapes is confined to his car. The production of pre-recorded cartridges is increasing, and they are becoming widely known and their quality and obvious advantages over disc records appreciated. Easier and more robust storage. Handling and playing simpler. Endless loops keep playing without supervision. Unfussy selection of 4 programmes.

Our idea with the NEW MIERS LYRICHORD is to modify the TD8S to make it almost universally useful as an addition to a disc player. Usable with either mono or stereo record players, radiograms, unit audio. It can even be used with the audio amplifier section of radios and TV sets. This we have done by using more powerful preamplifiers and fitting internal regulating controls.

We have a Bulletin describing the NEW MIERS LYRICHORD, and listing the BSR units and cartridges we keep here in stock. If you would like it, please send for a copy Better still GO TO YOUR RADIO RETAILER AND ASK FOR THE NEW MIERS LYRICHORD. It's the logical addition to all disc players, the sensible, less complicated, future way to listen to good recorded music.

*About £38.60  
including  
installation*

### N. MIERS & COMPANY LTD.

28 Piercing Hill, Theydon Bois, Epping, Essex CM16 7LE

Tel. Theydon Bois 2611/2/3 (STD 037 881) Telex 897076

# If you think radio



## better think Stereo 8

### GOLDING AUDIO'S M1 for in-dash mounting

A top quality LW/MW car radio AND an 8 track stereo cartridge player. All in one neat package ready for easy installation into a normal car radio aperture.

Golding's M1 offers complete IN-CAR ENTERTAINMENT, top quality radio and convenient 'on-tape' music in natural stereo.

*Contact us, or ask for a demonstration  
wherever you see this sign.*

### **GOLDING AUDIO**

MARKS TEY · COLCHESTER · ESSEX

TELEPHONE: (0206) 210433 TELEX: 98550



# People who play the waiting game have just won.



If you've been patiently waiting for something special in audio equipment, congratulations.

Because you can now choose from TEAC's newly introduced triple-header.

First, a four channel deck with 2-channel automatic reverse playback.

Second, a unique four-channel Dolby\* Noise Reduction Unit.

Finally, a stereo cassette deck that equally competes with reel-to-reel decks selling for much more.

TEAC's A-2340R lets you record as well as listen to the new, surrounding sounds of 4-channel. And you also have the convenience of enjoying both sides of 2-channel tapes without having to change over half-way through.

The perfect partner for this deck is our 4-channel Dolby unit. The AN-300. It eliminates tape noise and hiss that can interfere with the music.

Legally we can't call our A-450 cassette a reel-to-reel deck. But listen once and you'd find it hard to tell the difference.

We've perfected it to the point of keeping wow and flutter below 0.07%. No, that's not a misprint. We did say 0.07%.

And as if that wasn't enough, it even has a built-in Dolby System.

Those are the three sound reasons why you've just won the waiting game.

See, sometimes it really pays to wait after all.

\*DOLBY is a trademark of Dolby Laboratories, Inc.

**TEAC**  
The sound of perfection

**ACOUSTICO  
ENTERPRISES  
LTD**

Unit 7, Space Way, North Feltham  
Trading Estate, North Feltham,  
Middlesex. Tel: 01-751-0141/4  
Telex: 935437

# Tape Decks

★ Indicates entry is illustrated

Tape decks are now defined as tape systems including heads, erase/bias oscillators and record/playback preamplifiers, but excluding output stages.

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR.  
Tel: 01-568 9222.

### 4000DS ★

Stereo open reel tape deck.  $\frac{1}{4}$ -track two-channel stereo. Max spool: 7in. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. W and F:  $7\frac{1}{2}$ i/s <0.15%,  $3\frac{3}{4}$ i/s <0.2%. Replay char: NAB. FR:  $7\frac{1}{2}$ i/s 30Hz-23kHz  $\pm$  3dB,  $3\frac{3}{4}$ i/s 30Hz-16kHz  $\pm$  3dB. Signal-to-noise: better than 50dB. Bias frequency: 100kHz. Separate one-micron gap record and replay heads. One four-pole motor. Fast rewind: 120-150 seconds for 1200ft. Input: mic (2) 0.8mV 5K, line (2) 60mV 150K. 11 transistors, four diodes, four ICs. Mains: 100-240V AC 50-60Hz. Size:  $15\frac{7}{8} \times 12\frac{3}{8} \times 7\frac{3}{8}$ in. Weight: 25lb. Price: £93.50 (including VAT).

### CR81D ★

Stereo eight-track cartridge deck. Speed:  $3\frac{3}{4}$ i/s. W and F: <0.25%. FR: 50Hz-16kHz  $\pm$  3dB. Signal-to-noise ratio: better than 47dB. Two heads. One two-speed induction motor. Fast forward time: 230 seconds for 300ft cartridge. Inputs: mic (2) 0.5mV 5K, line (2) 50mV 150K. 12 transistors, 11 diodes, two integrated circuits. Mains: 100-240V 50-60Hz. Size:  $13\frac{3}{8} \times 5\frac{3}{8} \times 10\frac{3}{8}$ in. Weight: 19 $\frac{3}{4}$ lb. Output: 1-23V 20K. Price: £84.10 (including VAT).

### CS35D

Stereo cassette deck.  $\frac{1}{4}$ -track two-channel stereo. Tape speed:  $1\frac{7}{8}$ i/s. W and F: <0.12%. FR: 40Hz-16kHz (with CrO<sub>2</sub> tape), 40Hz-14kHz (with low-noise tape). Signal-to-noise: >46dB. One-micron record/play head. Fast rewind: 60-65 seconds for C60 cassette. Output: (2) 1-23V 20K, 30mV 8 ohms for phones. Inputs: mic (2) 0.3mV 4-7K, line (2) 50mV 200K. 8 transistors, six diodes, two ICs. Mains: two ICs. Mains: 100-240V 50-60Hz. Size:  $16\frac{1}{4} \times 4\frac{3}{4} \times 8\frac{3}{4}$ in. Weight: 11lb. Price: £75.13 (including VAT).

### GX221D

Stereo open reel tape deck.  $\frac{1}{4}$ -track two-channel

stereo. Max spool: 7in. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. W and F:  $7\frac{1}{2}$ i/s <0.08%,  $3\frac{3}{4}$ i/s <0.12%,  $1\frac{7}{8}$ i/s <0.20%. FR:  $7\frac{1}{2}$ i/s 30Hz-25kHz  $\pm$  3dB,  $3\frac{3}{4}$ i/s 30Hz-20kHz  $\pm$  3dB,  $1\frac{7}{8}$ i/s 30Hz-10kHz  $\pm$  3dB. Signal-to-noise: better than 50dB. Bias freq: 100kHz. Three heads. Three motors. Fast rewind: 60-75 seconds for 1200ft. Output: line (2) 1-23V 20K, phones 30-40mV 8 ohms. Input: mic (2) 0.2mV 10K, line 50mV 150K. 24 transistors, 14 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $17\frac{3}{8} \times 16\frac{3}{8} \times 8\frac{3}{4}$ in. Weight: 44 $\frac{1}{2}$ lb. Price: to be announced.

### GX370D

Stereo open reel tape deck.  $\frac{1}{4}$ -track two-channel stereo. Max spool: 7in. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. W and F:  $7\frac{1}{2}$ i/s <0.07%,  $3\frac{3}{4}$ i/s <0.1%. Playback char: NAB. FR:  $7\frac{1}{2}$ i/s 20Hz-26kHz  $\pm$  3dB,  $3\frac{3}{4}$ i/s 30Hz-22kHz  $\pm$  3dB. Signal-to-noise: 58dB. Bias frequency: 100kHz. Three heads. Three motors. Fast rewind: 60-75 seconds for 1200ft. Output: line (2) 1-23V 20K, phones 30-40mV 8 ohms. Inputs: mic (2) 0.8mV 10K, line (2) 100mV 150K. 65 transistors, 49 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $18\frac{1}{4} \times 20\frac{1}{2} \times 10\frac{3}{8}$ in. Weight: 56lb. Price: to be announced.

### GX1900D

Combined open reel/cassette stereo tape deck.  $\frac{1}{4}$ -track two-channel stereo on reels and cassettes. Speeds: (reel)  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s, (cassette)  $1\frac{7}{8}$ i/s. Max spool: 7in. W and F: (reel)  $7\frac{1}{2}$ i/s <0.12%,  $3\frac{3}{4}$ i/s <0.15%, (cassette)  $1\frac{7}{8}$ i/s <0.2%. Replay char: NAB. FR: (reel)  $7\frac{1}{2}$ i/s 30Hz-22kHz  $\pm$  3dB,  $3\frac{3}{4}$ i/s 30Hz-15kHz  $\pm$  3dB, (cassette)  $1\frac{7}{8}$ i/s 40Hz-15kHz  $\pm$  3dB. Signal-to-noise: better than 50dB. Heads: two for open reel, two for cassette. One two-speed motor. Output: line (2) 1-23V 20K, phones 30mV 8 ohms. Inputs: mic (2) 0.5mV 5K, line (2) 50mV 200K. 16 transistors, 12 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $15 \times 17\frac{3}{8} \times 10$ in. Weight: 40 $\frac{1}{2}$ lb. Price: to be announced.

### GXC-40D ★

Stereo cassette tape unit. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: <0.2% RMS. H and N: better than 45dB. FR: (standard tape) 30Hz-16kHz, (chromium dioxide tape) 30Hz-18kHz  $\pm$  3dB. Replay char: NARTB. Rewind time: 60 seconds for C60 cassette. Twin VU meters. Inputs: mic (2) 0.2mV 4-7K, line (2) 50mV 200K. Outputs: line (2) 1-23V 100 ohms. Own deck. One motor. Pause. Straight-through amplifier. Switched bias for chromium dioxide tape. Size:  $16\frac{1}{2} \times 5 \times 8\frac{3}{8}$ in. Weight: 11 $\frac{3}{4}$ lb. Mains: 100-240V AC. Price: £89.74 (including VAT).

### GXC65D ★

Stereo cassette tape deck with Dolby noise reduction system.  $\frac{1}{4}$ -track two-channel stereo. Speed:  $1\frac{7}{8}$ i/s. W and F: <0.12%. FR: 30Hz-18kHz using CrO<sub>2</sub> tape, 30Hz-16kHz using low



Akai 4000DS



Akai CR81D



Akai GXC40D



Akai GXC65D



Akai GXC46D

noise tape. Signal-to-noise: better than 58dB with Dolby system, better than 50dB without Dolby. Two heads. One motor. Fast rewind: 60-65 seconds for C60 cassette. Output: 0.775V 20K, phones 30mV 8 ohms. Inputs: mic 0.2mV 4.7K, line 50mV 200K. 36 transistors, two FETs, 35 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $16\frac{3}{4} \times 7\frac{1}{4} \times 11\frac{1}{8}$ in. Weight: 22lb. Price: £145.18 (including VAT).

#### GXC45D

Stereo cassette tape deck with Akai ADR and noise reduction systems.  $\frac{1}{4}$ -track two-channel stereo. Speed:  $1\frac{7}{8}$ i/s. W and F: <0.12%. FR: 30Hz-18kHz using CrO<sub>2</sub> tape, 30Hz-16kHz using low-noise tape. Signal-to-noise: better than 53dB with noise reduction system, better than 50dB standard. Two heads. One motor. Rewind time: <65 seconds for C60 cassette. Output: line (2) 0.775V 20K, phones 30mV 8 ohms. Input: mic (2) 0.2mV 4.7K, line (2) 50mV 200K. 27 transistors, 22 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $16\frac{3}{4} \times 5\frac{3}{8} \times 12$ in. Weight: 15 $\frac{3}{4}$ lb. Price: £112.28 (including VAT).

#### GXC46D ★

Stereo cassette tape deck with Dolby noise reduction system.  $\frac{1}{4}$ -track two-channel stereo. Speed:  $1\frac{7}{8}$ i/s. W and F: <0.12%. FR: 30Hz-18kHz using CrO<sub>2</sub> tape, 30Hz-16kHz using low-noise tape. Signal-to-noise: better than 58dB with Dolby system, better than 50dB standard. Bias frequency: 60kHz. Two heads. One motor. Fast rewind: 55-65 seconds for C60 cassette. Output: line (2) 0.775V 20K, phones 30mV 8 ohms. Inputs: mic (2) line (2) 50mV 200K. 39 transistors, two FETs, 34 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $16\frac{3}{4} \times 5\frac{3}{8} \times 12$ in. Weight: 15 $\frac{3}{4}$ lb. Price: £131.09 (including VAT).

#### X201D

Stereo open reel tape deck.  $\frac{1}{4}$ -track two-channel stereo. Max spool: 7in. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. W and F:  $7\frac{1}{2}$ i/s <0.08%,  $3\frac{3}{4}$ i/s <0.12%,  $1\frac{7}{8}$ i/s <0.2%. FR:  $7\frac{1}{2}$ i/s 40Hz-22kHz  $\pm 3$ dB,  $3\frac{3}{4}$ i/s 40Hz-18kHz  $\pm 3$ dB,  $1\frac{7}{8}$ i/s 40Hz-9kHz  $\pm 3$ dB. Signal-to-noise: better than 50dB. Bias frequency: 100kHz. Three heads. Three motors. Fast rewind: 60-75 seconds for 1200ft. Output: line (2) 1.23V 20K, phones 30mV 8 ohms. Inputs: mic (2) 0.5mV 5K, line 60mV 180K. 14 transistors, 17 diodes, two ICs. Mains: 100-240V 50-60Hz. Size:  $14\frac{3}{4} \times 14 \times 9\frac{1}{8}$ in. Weight: 36 $\frac{1}{2}$ lb. Price: to be announced.

#### X1810D

Combined open reel and cartridge stereo tape deck. Tracks:  $\frac{1}{4}$ -track two-channel stereo with open reels, eight-track two-channel stereo with cartridges. Max spool: 7in. Speeds: (reel)  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s, (cartridge)  $3\frac{3}{4}$ i/s. W and F: (reel)  $7\frac{1}{2}$ i/s <0.08%,  $3\frac{3}{4}$ i/s <0.12%,  $1\frac{7}{8}$ i/s 0.2%, (cartridge)



Amcron 800



Amerex ACD800

$3\frac{3}{4}$  i/s < 0.25%. FR: (reel)  $7\frac{1}{2}$  i/s 30Hz-22kHz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 30Hz-18kHz  $\pm$  3dB,  $1\frac{7}{8}$  i/s 30Hz-9kHz  $\pm$  3dB, (cartridge) 50Hz-16kHz  $\pm$  3dB. Signal-to-noise: (reel) better than 50dB, (cartridge) better than 45dB. Bias frequency: 65kHz. Heads: (reel) three, (cartridge) two. Three motors. Fast forward: (reel) 60-75 seconds for 1200ft, (cartridge) 230 seconds for 300ft. Output: line (2) 1.23V 20K, phones 150mV 8 ohms. Inputs: mic (2) 0.5mV 100K, line (2) 60mV 150K. 17 transistors. 15 diodes. Mains: 100-240V 50-60 Hz. Size:  $17\frac{3}{8} \times 18 \times 9\frac{5}{8}$  in. Weight: 47lb. Price: to be announced.

#### ■ ALPHA

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

#### CD500

Cassette stereo tape deck. Speed:  $1\frac{7}{8}$  i/s. W and F: < 0.2%. FR: 35Hz-12kHz. Compact cassette. Hysteresis synchronous motor. Twin slider gain controls. Two VU meters. Inputs: mic 0.25mV 200 ohms to 10K, aux 100mV 500K, DIN socket 30mV 220K. Output: 500mV 10K. Pushbutton controls for record, replay, pause, stop, fast forward, fast rewind, cassette eject, input selection and noise filter. Output socket for 8 ohm headphones. Signal-to-noise ratio: > 40dB.

Crosstalk: 25dB at 1kHz. Size:  $15\frac{3}{4} \times 12 \times 4$  in. Weight: approx  $10\frac{1}{2}$  lb. Price: £35-90 (plus VAT).

#### CD3000

Cassette stereo tape deck fitted with Dolby B noise reduction system. Speed:  $1\frac{7}{8}$  i/s. Compact cassette. W and F: 0.18%. Signal-to-noise: better than 55dB weighted below zero VU. FR: 30Hz-12kHz  $\pm$  2dB. Two VU meters. Inputs: (high level) 200mV 200K, (low level) 650mV 680 ohms. HD: < 1.5%. Speed constancy: within 1%. Output: variable up to 1V. Facility for standard or chromium dioxide tapes. Finish: wood grain or metal case. Price: £99 (plus VAT).

#### ■ AMCRON

Macinnes Laboratories Ltd, Stonham, Stowmarket, Suffolk, IP14 5LB. Tel: Stonham (044 971) 486.

#### 800 Series ★

Stereo tape deck.  $\frac{1}{4}$ - or  $\frac{1}{2}$ -track. Three-speed  $1\frac{5}{8}$  i/s or  $1\frac{7}{8}$  i/s optional. Max reel  $10\frac{1}{2}$  in. W and F:  $1\frac{5}{8}$  i/s 0.06%,  $7\frac{1}{2}$  i/s 0.09%,  $3\frac{3}{4}$  i/s 0.18% (RMS). H and N:  $1\frac{5}{8}$  i/s -60dB;  $7\frac{1}{2}$  i/s -60dB;  $3\frac{3}{4}$  i/s -55dB (below peak level). FR ( $\pm$  2dB):  $1\frac{5}{8}$  i/s 30Hz-30kHz;  $7\frac{1}{2}$  i/s 30Hz-25kHz;  $3\frac{3}{4}$  i/s 30Hz-15kHz. Replay char: CCIR. VU meter. Rewind time: 58 seconds for 2400ft, 38 seconds for 1200ft. Inputs: 2 mixable inputs per channel, mic or line. Sensitivity: 45mV for 0 level (line), 0.4mV for 0 level (mic); impedance 100K, balanced or unbalanced 600 ohms, or 50/200 ohms. Output: 600 ohms. Three motors, magnetic brakes, logic circuitry for tape handling, all tape commands can be remote. A-B monitoring, source and tape mixing, echo, individual bias adjustment and metering. Size:  $17\frac{1}{2} \times 19 \times 8$  in. Weight: 50lb. Price: £700 to £1,500.

#### ■ AMEREX (UK) LTD

96 Piccadilly, London, W1V 9HB. Tel: 01-499 3537/8.

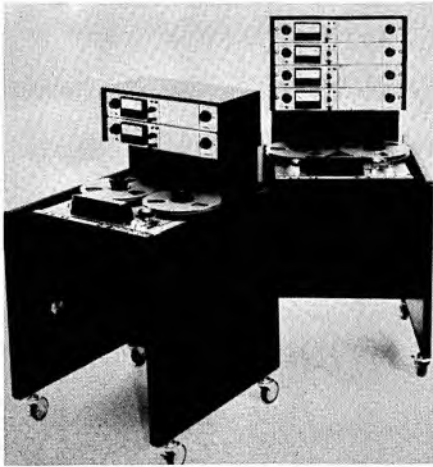
#### ACD800 ★

Stereo cassette tape deck. Speed:  $1\frac{7}{8}$  i/s. Compact cassettes. Twin VU meters. Digital tape counter with pushbutton reset. Headphone jacks for monitoring. Separate left and right level controls. Piano key controls. Pushbutton on/off. Switch for CrO<sub>2</sub> tapes. Indicator light for record. Finish: wood grain plinth with matt black panel and grey trim. Size:  $12\frac{3}{8} \times 3\frac{3}{8} \times 9\frac{1}{8}$  in. Weight: 7lb. Price: £60-58 (including VAT).

#### ■ AMPEX (DOMESTIC)

A range of Ampex domestic tape recording equipment is distributed in the UK by Tape Music Distributors, 114 Ashley Road, St Albans, Herts AL1 5JR (Tel: St Albans 64337). No details of available models available as this edition of the Year Book closed for press.





Ampex AG440B

■ **AMPEX (GB) LTD**

Acre Road, Reading, Berks, RG2 0QR.  
Tel: Reading 84411.

**AG-440B ★**

Full range of professional and semi-professional tape decks, tape units and complete recorders. Typical specification includes following facilities. Full-, half- or quarter track on  $\frac{1}{4}$ in tape. Up to 15in spools. Speeds: selectable pairs from  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ , 15. Unidirectional or bi-directional operation. FR: 15i/s 30Hz-18kHz  $\pm 3$ dB,  $1\frac{1}{8}$ i/s 40Hz-10kHz. Crosstalk rejection: better than 60dB at 1kHz. Bias/erase frequency: 100kHz. W and F: 15i/s 0.1%,  $1\frac{1}{8}$ i/s 0.25%. Start time: operating speed obtained in 0.1 sec or less. Stop time: at 15i/s tape moves 3in. S/N: 15i/s half-track 63dB,  $7\frac{1}{2}$ i/s half-track 63dB,  $3\frac{3}{4}$ i/s half-track 58dB.

Full specification and prices on request. :

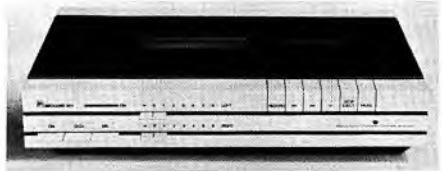
**ABR10/ABR15**

Studio quality tape recorder/reproducer. Full-, half- or quarter-track on  $\frac{1}{4}$ in tape. Speeds: any pair from  $\frac{1}{16}$ ,  $\frac{1}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  or 15i/s. Max spool: (ABR10) 5-10 $\frac{1}{2}$ in, (ABR15) 5-15in. W and F:  $7\frac{1}{2}$ i/s 0.15%. H and N:  $7\frac{1}{2}$ i/s half-track 63dB. FR:  $7\frac{1}{2}$ i/s 40Hz-15kHz  $\pm 2$ dB. Input: -17dBm 100K unbalanced. Output: +4dBm balanced. Bias oscillator: 100kHz. Replay char: NAB for  $7\frac{1}{2}$  and 15i/s. Rewind time: 90 sec for 2400ft. Tape speed accuracy:  $\pm 0.08$ %. Servo-controlled capstan motors. Bidirectional with automatic reversing. Mini two-way mixer and remote control optional extras.

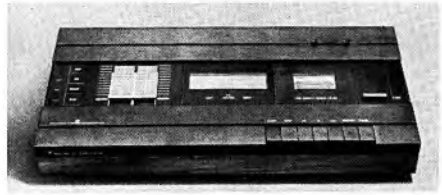
Full specification and prices on request.

**MM-1000**

Studio quality tape recorder/reproducer. Tape



Bang & Olufsen Beocord 900



Bang & Olufsen Beocord 2200

transport handles 2in tape with provision for 8, 16 or 24 channels. Speeds:  $7\frac{1}{2}$  and 15i/s (15 and 30i/s to order). FR: 15i/s 30Hz-18kHz  $\pm 2$ dB. W and F: 15i/s  $\pm 0.08$ %. Full specification and prices on request.

**CD200**

High-speed automatic cassette tape copier. Speed: 75i/s throughout length of C60 cassette. Overall cycle time: C30 cassettes approx 40 sec (75 per hour including load time); C60 cassettes approx 75 sec (45 per hour including load time). FR: (system) 30Hz-12kHz  $\pm 2$ dB, (typical copy) 50Hz-8kHz  $\pm 2$ dB. W and F: <0.05% RMS NAB weighted. Four-track stereo or two-track mono. Capacity: 100 cassettes. Load time: 7 sec. Full specification and prices on request.

■ **BANG & OLUFSEN (UK) LTD**

Eastbrook Road, Gloucester, GL4 7DE.  
Tel: Gloucester 21591.

**Beocord 900 ★**

Stereo cassette tape deck.  $\frac{1}{4}$ -track. Speed:  $1\frac{1}{8}$ i/s. Compact cassettes. W and F: 0.35% (JIS). FR: 40Hz-12.5kHz. S/N ratio: >50dB. Rewind time: 90 seconds for C60. Two VU meters. Inputs: mic 75 $\mu$ V 1K, radio 6mV 47K. Outlet: 800mV 470K. Cr<sub>2</sub> tape facility. Finish: teak or rosewood cabinet, brushed aluminium facia. Size: 15.8 x 9.4 x 3.2in. Mains: 110-130 and 220-240V 50Hz. Price: to be announced.

**Beocord 1700**

Stereo  $\frac{1}{4}$ -track cassette tape deck with a specification identical to the Beocord 2200, except that the Dolby unit is supplied as an optional extra. Can be used without this facility on Cr<sub>2</sub> and standard tape. Price: to be announced.

**Beocord 2200 ★**

Stereo  $\frac{1}{4}$ -track cassette tape deck incorporating Dolby noise reducing system. Speed:  $1\frac{1}{2}$ i/s. W and F: 0.12% (JIS). FR: 30Hz-15kHz. S/N ratio: >62dB (with Dolby on), >53dB (without Dolby). Switched characteristics for CrO<sub>2</sub> or standard tapes. Rewind time: 70 seconds for C60. High density ferrite heads. Inputs: mic 100 $\mu$ V 1K, radio 4mV 47K, aux 200mV 2.2M. Outlets: 660mV 6.3K and headphones 0.5-0.8mW. 3-digit tape counter. Mechanical auto-stop plus preset memory stop on rewind. Mains: 110-130 and 220-240V 50-60Hz. Size: 19.7 × 9.1 × 2.9in. Price: to be announced.

**BIAS ELECTRONICS LTD**

Unit 8, Coombe Trading Estate, 112-120 Coombe Lane, London, SW20 0BA. Tel: 01-947 3121.

**BE1000/RR/C ★**

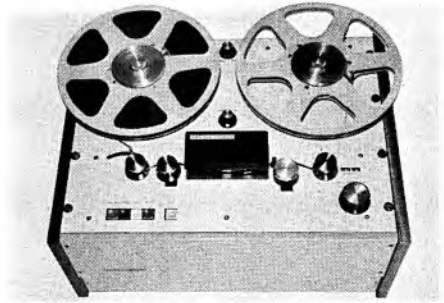
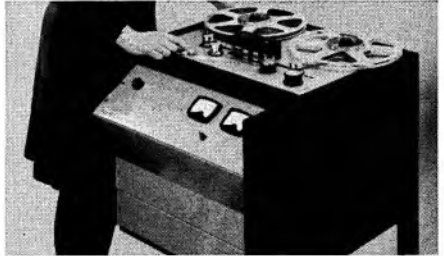
Professional tape deck with preamplifiers. Mains operated. Mono. Full-track recording and playback. Speeds:  $7\frac{1}{2}$  and 15i/s. Max spool: 11 $\frac{1}{2}$ in. W and F: ( $7\frac{1}{2}$ i/s) <0.08% RMS, (15i/s) <0.06% RMS. H and N: ( $7\frac{1}{2}$ i/s) -58dB, (15i/s) -60dB. FR: ( $7\frac{1}{2}$ i/s) 40Hz-16kHz  $\pm$ 2dB, (15i/s) 40Hz-18kHz  $\pm$ 2dB. Replay char: switchable NAB/CCIR. Variable speed spooling. Rewind time: <100 seconds for 2400ft. VU meter extra. Clock type tape indicator (driven by tape) calibrated in minutes and tenths. Inputs: line -20dB -0dB 10K floating (bridging). Output: 0dB 600 ohms (max +20dB). Motors: two Papst ROT, one Papst HSK2. Size: 20 × 14 $\frac{1}{2}$  × 10 $\frac{1}{2}$ in. Weight: 56lb. Price: £481 (plus VAT).

**BE1000/S/RR/C**

Professional tape deck with preamplifiers. Mains operated. Stereo.  $\frac{1}{2}$ -track recording and playback. Speeds:  $7\frac{1}{2}$  and 15i/s. Max spool: 11 $\frac{1}{2}$ in. W and F: ( $7\frac{1}{2}$ i/s) <0.08%, (15i/s) <0.06%. H and N: ( $7\frac{1}{2}$ i/s) -56dB, (15i/s) -58dB. FR: ( $7\frac{1}{2}$ i/s) 40Hz-16kHz  $\pm$ 2dB, (15i/s) 40Hz-18kHz  $\pm$ 2dB. Replay char: switchable NAB/CCIR. Variable speed spooling. Rewind time: <100 seconds for 2400ft. VU meters extra. Clock type tape position indicator (driven by tape) calibrated in minutes and tenths. Inputs: (two) line in -20dB -0dB at 10K bridging. Output: 0dB 600 ohms (max +20dB at 600 ohms). Motors: two Papst motors ROT, one Papst motor HSK. Size: 20 × 14 $\frac{1}{2}$  × 10in. Weight: 56lb. Price: £534 (plus VAT).

**BE1000/S/RR/Console ★**

Professional tape deck with preamplifiers. Mains operated. Stereo.  $\frac{1}{2}$ -track recording and playback. Speeds:  $7\frac{1}{2}/15$  or 15/30. W and F: ( $7\frac{1}{2}$ i/s) <0.08%, (15i/s) <0.06%, (30i/s) <0.06%. H and N: ( $7\frac{1}{2}$ i/s) -56dB, (15i/s) -58dB, (30i/s) -58dB. FR: ( $7\frac{1}{2}$ i/s) 40Hz-16kHz  $\pm$ 2dB, (15i/s) 40Hz-18kHz  $\pm$ 2dB, (30i/s) 40Hz-20kHz  $\pm$ 2dB.

*Bias Electronics BE1000/RR/C**Bias Electronics BE1000/S/RR/Console*

Replay char: switchable NAB/CCIR. Variable speed spooling. Rewind time: <100 seconds for 2400ft. Two VU meters fitted. Clock type tape position indicator (driven by tape) calibrated in minutes and tenths. Inputs: (two) line in -20dB to 0dB at 10K bridging. Output: 0dB at 600 ohms (max +20dB at 600 ohms). Motors: two Papst ROT, one Papst HSK. Size: 22 × 22 $\frac{1}{2}$  × 31in. Electronic servo tape tension. Switched line in/line out. Ferrite heads. Full remote control. Price: £710 (plus VAT).

**■ BRAUN**

Hisonic Ltd, Tovil, Maidstone, Kent, ME15 6QP. Tel: Maidstone (0622) 57258.

**TG1000**

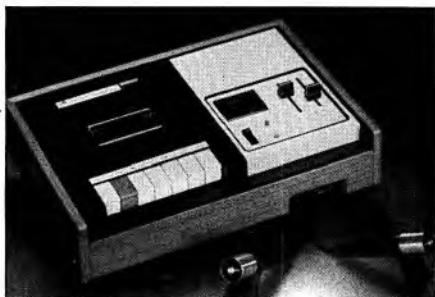
Three-speed stereo tape deck. Speeds:  $1\frac{7}{8}$ ,  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. Inputs: mic, radio and PU. FR:  $7\frac{1}{2}$ i/s 20Hz-25kHz (DIN). W and F:  $7\frac{1}{2}$ i/s 0.05% (DIN). Three motors (two outer rotor type, one electronically controlled capstan drive). Three heads. Separate record and play-back amplifiers. 44 transistors, 19 diodes. Electro-mechanical brake system. Fingertip controls. Photoelectric tape tension control. Spool size:  $8\frac{3}{4}$ in. Four-digit tape indicator with PB reset. Full specification and price on request.

**■ BRENELL ENGINEERING CO LTD**

231/5 Liverpool Road, London, N1 1LY. Tel: 01-607 8271 (5 lines).

**Mk 6 Stereo Unit**

Stereo tape deck with preamplifiers. Twin 2/2 or



Bush-Arena C430



Bush-Arena C440

quarter 2/4 track system. Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. Max spool:  $8\frac{1}{2}$ in. ( $10\frac{1}{2}$ in NAB reel version available). W and F: 15i/s 0.05%,  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.1%,  $1\frac{7}{8}$ i/s 0.12%. S/N: 56dB below 2% distortion levels of recording. FR: 15i/s 40Hz-22kHz  $\pm 3$ dB,  $7\frac{1}{2}$ i/s 40Hz-20kHz  $\pm 3$ dB,  $3\frac{3}{4}$ i/s 50Hz-14kHz  $\pm 3$ dB,  $1\frac{7}{8}$ i/s 60Hz-7kHz  $\pm 3$ dB. Two illuminated edge-scale meters. Rewind time: less than 60seconds for 1200ft. Inputs: mic 200 $\mu$ V 200-600 ohms, aux (1) 8mV 50K, aux (2) 8mV 50K. Output: two at 1.4V from tape recorded to 0dB meter level. Two output jack sockets on front panel, two phono sockets on rear. Horizontal or vertical operation. Three motors (all outer rotor). Three heads. Pause control (lockable). Four-digit tape indicator. Auto-stop. A/B switching. A/B balance. Mains: 115, 210, 240V AC 50Hz. Size:  $17\frac{1}{2} \times 16\frac{3}{4} \times 8$ in. Weight: 33lb. Price: £185 (plus VAT). Industrial version with  $10\frac{1}{2}$ in. NAB reels available. Prices: on application.

#### ■ BUSH-ARENA

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### C430 ★

$\frac{1}{4}$ -track stereo cassette unit. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: 0.35% RMS. FR: (overall using standard tape) 60Hz-7.5kHz  $\pm 3$ dB. H and N: -45dB. Two record level

meters. Three-digit tape position indicator. Inputs: mic (2), line. Output: line, stereo headphones. Seven piano-key controls, including pause. Slider type level controls. Power and motor indicator lights. Supplied with two microphones (with desk stands), blank cassette and record/play connecting lead. Mains: 220-240V AC. Finish: teak veneer. Size:  $12\frac{5}{8} \times 3\frac{5}{8} \times 8\frac{5}{8}$ in. Price: £48.04 (including VAT).

#### C440 ★

$\frac{1}{4}$ -track stereo cassette unit with provision for chromium dioxide (CrO<sub>2</sub>) tape. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: 0.3% RMS. FR: (overall using standard tape) 60Hz-8kHz  $\pm 3$ dB; (chromium dioxide tape) 50Hz-9kHz  $\pm 3$ dB. H and N: (standard tape) 45dB, (chromium dioxide tape) 50dB. Two record level meters. Three-digit tape position indicator. Inputs: mic (2), line. Output: line, stereo headphones. Seven piano-key controls, including pause. Tape bias selector switch. High filter switch for chromium dioxide tape. Power and motor indicator lights. Supplied with two microphones (with desk stands), blank chromium dioxide tape and record/play connecting lead. Mains: 220-240V 50Hz. Finish: teak veneer. Size:  $13\frac{1}{4} \times 3\frac{5}{8} \times 9\frac{7}{8}$ in. Price: £58.11 (including VAT).

#### ■ CHILTON

Magnetic Tapes Ltd, Chilton Works, Garden Road, Richmond, Surrey. Tel: 01-876 7957.

Manufacturers of high quality open reel tape decks and tape recorders for domestic hi-fi and professional use. No product information or prices obtainable as this edition of the Year Book closed for press.

#### ■ GRUNDIG (Great Britain) LTD

Newlands Park, Sydenham, London, SE265NQ. Tel: 01-778 2211.

#### CN224 ★

Mains operated  $\frac{1}{4}$ -track stereo tape deck. Compact cassette. Speeds:  $1\frac{7}{8}$ i/s. W and F:  $1\frac{7}{8}$ i/s  $\leq 0.4\%$ . H and N:  $1\frac{7}{8}$ i/s -40dB. FR: 60Hz-10kHz  $\pm 3$ dB. Replay char: DIN. Automatic level control. Inputs: mic (2) 1mV 100K, radio diode (2) 1mV 25K, PU (2) 40mV 1M. Outlet: 150mV (2) 30K. DC-controlled motor. Own deck. Pause control. Parallel track replay. Auto stop. Digital tape position indicator. Size:  $10\frac{1}{4} \times 3\frac{1}{2} \times 9\frac{1}{2}$ in. Weight: 5 $\frac{1}{4}$ lb. Price: £63.61 (including VAT).

#### ■ HANIMEX (UK) LTD

Hanimex House, 15-24 Great Dover Street, London, SE1. Tel: 01-407 8161.

New range of hi-fi stereo tape decks to be introduced under the Hanimex brand name. No



Grundig CN224



ITT Studio 82 Hi-Fi

details of models available as this edition of the Year Book closed for press.

#### ■ HARMAN-KARDON

Distributors: Highgate Acoustics,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

#### CAD5

Stereo cassette tape deck incorporating the Dolby B noise reduction system.  $\frac{1}{4}$ -track compact cassettes. Speed:  $1\frac{7}{8}$  i/s. W and F: 0-15%. S/N: better than 50dB at zero VU. FR: 30Hz-12.5kHz  $\pm$  2dB. Twin VU meters. Inputs: 200mV  $\pm$  2dB for zero VU. Input impedance: 200K. HD: < 1.5%. Tape speed variation: within 1%. Bias oscillator frequency: 105kHz. Crosstalk: 40dB. Erasure: better than 55dB. Output: 1.0V. Size:  $12\frac{1}{2} \times 9 \times 3\frac{1}{4}$  in. Weight: 10lb. Tape position indicator with pushbutton reset. Pushbutton function switches. Slider type level controls (one for each channel). Mains on/off switch. Dolby in-out switch. Indicator light to show Dolby in. Indicator light to show modulation level overload. Indicator light to show motor on. Indicator light for record. Stereo/mono microphone switch. Special equalisation/bias switch adjusts record and playback characteristics for standard or chromium dioxide tapes. Automatic motor shut-off at end of tape. AC mains. Price: £130 (plus VAT).

#### ■ HITACHI SALES (UK) LTD

New Century House, Coronation Road,  
Park Royal, London, NW10 7QS.  
Tel: 01-965 9861.

#### TRQ134D

Eight-track stereo cartridge deck. Speed:  $3\frac{3}{4}$  i/s. FR: 40Hz-12kHz. S/N ratio: better than 53dB. W and F: < 0.15%. Inputs: mic 330 ohms, line 47K. Outputs: line 2K, headphones 8 ohms. Four ICs, 13 diodes. Size:  $15\frac{3}{4} \times 4\frac{3}{8} \times 1\frac{1}{2}$  in. Weight: 12lb. Auto switching with indicator light. Price: £69 (including VAT).

#### TRQ25D

Stereo cassette tape deck. Compact cassettes. Speed:  $1\frac{7}{8}$  i/s. FR: 40Hz-12kHz. Inputs: mic 50K, line 100K. DIN socket 50K. Output: line 775mV 600 ohms, DIN socket 775mV 600 ohms. Pushbutton controls. Dynamic microphone. Pause. Three-digit tape indicator. Two VU meters. Auto shut off. Size:  $7\frac{3}{8} \times 4\frac{3}{8} \times 10\frac{3}{4}$  in. Weight:  $6\frac{1}{4}$  lb. Price: £52 (including VAT).

#### TRQ262D

Stereo cassette tape deck. Compact cassettes. Speed:  $1\frac{7}{8}$  i/s. FR: 20Hz-18kHz. W and F: < 0.15%. S/N ratio: better than 50dB. Dual VU meter. Inputs: mic 500 $\mu$ V 2K, line 100mV 120K. Output: 0-775mV 1.3K, monitor headphones 8 ohms.  $\frac{1}{4}$ -track two-channel. Auto shut-off. Pause. Three-digit tape indicator. Finish: walnut grain. Size:  $13\frac{1}{8} \times 3\frac{3}{8} \times 9\frac{3}{8}$  in. Weight:  $9\frac{1}{4}$  lb. Price: £69 (including VAT).

#### TRQ730D

Open reel stereo tape deck. Max spool: 7in. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. FR:  $7\frac{1}{2}$  i/s 20Hz-23kHz. S/N ratio: better than 52dB. W and F: < 0.12%. Dual VU meter. Inputs: mic 300 $\mu$ V 10K, line 40mV 100K. Outputs: line 775mV 10K, headphones 8 ohms. Separate record and playback heads. Monitoring. Easy load facility. Auto shut-off. Four-digit tape indicator with PB reset. Slider volume controls. Size:  $16\frac{1}{8} \times 7\frac{1}{2} \times 13\frac{1}{2}$  in. Weight: 24 $\frac{1}{4}$  lb. Price: £87.05 (including VAT).

#### TRQ2000D

Stereo cassette tape deck with Dolby. Compact cassettes. Speed:  $1\frac{7}{8}$  i/s. FR: 20Hz-16kHz.  $\frac{1}{4}$ -track, two channel system. W and F: < 0.12%. Dual VU meters. Inputs: two mic, two aux. Outputs: two 600 ohms, one headphones. Incorporates Dolby noise reduction system. Switching for standard or chromium dioxide tape. Auto stop. Two VU meters. Slider volume controls. Three-digit tape indicator with PB reset. Pushbutton controls. Size:  $17\frac{1}{4} \times 3\frac{7}{8} \times 9\frac{7}{8}$  i/s. Weight: 12lb. Price: £99 (including VAT).

#### ■ ITT

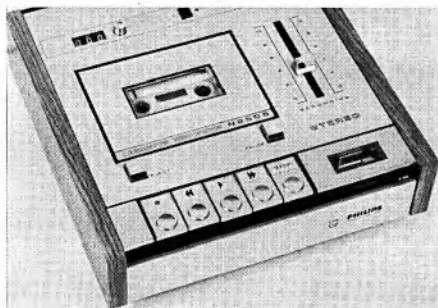
ITT Consumer Products (UK) Ltd,  
Maidstone Road, Sidcup, Kent. DA14 5HT.  
Tel: 01-300 7733.

#### Studio 82 ★

Stereo tape deck. Mains operated.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$  i/s. Standard cassette. W and F: 0.4%.

★ Indicates entry is illustrated

Replay char: IEC. Twin level meters. Three-digit tape position indicator with pushbutton reset. Rewind time: approx 60 seconds for C60. Inputs: mic 0-1mV max sensitivity (50dB auto level control) at 1K, PU/radio 100mV max sensitivity (50dB auto level control) at 1M. Outlets: line 600mV 100K, headphones 400 ohms. One motor. Size:  $11\frac{1}{8} \times 11\frac{1}{8} \times 3\frac{1}{2}$  in. Weight: approx  $6\frac{1}{2}$  lb. Pause control. Auto or manual recording level. Separate slider level controls for left and righthand channels. Switch position for CrO<sub>2</sub> tape. Mains: 220-240V 50Hz (also 110V 50Hz). Price: to be announced.



Philips N2506

#### ■ JVC-NIVICO

Denham & Morley (Overseas) Ltd,  
Denmore House, 453 Caledonian Road,  
London. N7 9BA. Tel: 01-607 6568.

New range of open reel and cassette tape decks available but no product information obtainable as this edition of the Year Book closed for press. Full specifications and prices on request.

#### ■ KELLAR ELECTRONICS LTD

Lopen Works, Lopen Road, Edmonton,  
London. N18. Tel: 01-807 4986.

New range of tape recording and playback equipment incorporating Dolby B noise reduction system and Garrard cassette deck. Full details on request.

See Tape Amplifiers Section for details of Kellar KDR-1 noise reduction unit for use between tape unit and main amplifier.

#### ■ MITSUBISHI

Mitsubishi Corporation, Bow Bells House,  
Bread Street, London, EC4. Tel: 01-248 3292.

##### MG-1300

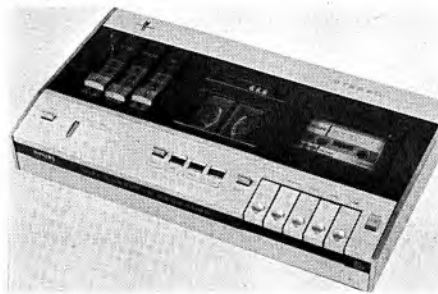
Stereo cassette tape deck. Speed:  $1\frac{7}{8}$  i/s. W and F: 0-23% or better. S/N ratio: 50dB or better. FR: 40Hz-10kHz. HD: 1.5% or less. 12 transistors. Electronically governed motor. No adjustment needed between 50Hz and 60Hz. Independent level meters for each channel. Slider volume control. Automatic shut-off and cassette eject. Tape counter. Pause control. Size:  $14\frac{1}{2} \times 9\frac{3}{8} \times 3\frac{1}{2}$  in. Weight:  $8\frac{1}{4}$  lb. Price: on request.

#### ■ NATIONAL PANASONIC (UK) LTD

Building No 63, Whitby Road,  
Trading Estate, Slough, Bucks.  
Tel: Slough 34522.

##### RS741US

Stereo two-channel/four-channel three-head open reel tape deck. High response HPF heads. Centre float motor. Separate dual input and output level controls. FR: 20Hz-25kHz. Four VU meters. Tape counter. Full specification unobtainable as this edition of the Year Book



Philips N2510

closed for press. Price: £244-95 (including VAT).

##### RS1030US

Stereo open reel tape deck. Speeds: 15,  $7\frac{1}{2}$  i/s. Max spool:  $10\frac{1}{2}$  in. Full specification unobtainable as this edition of the Year Book closed for press. Price: £529-95 (including VAT).

##### RS261US

Stereo cassette tape deck. Speed:  $1\frac{7}{8}$  i/s. Dual VU meters. Push-button controls. Auto stop. FR: 40Hz-12kHz. Integrated circuits. Full specification unobtainable as this edition of the Year Book closed for press. Price: £47-95 (including VAT).

##### RS262US

Stereo cassette tape deck. Speed:  $1\frac{7}{8}$  i/s. Auto stop. Pushbutton controls. Slider controls. Normal or CrO<sub>2</sub> tapes. FR: (normal tape) 30Hz-12kHz; (CrO<sub>2</sub> tape) 30Hz-14kHz. Full specification unobtainable as this edition of the Year Book closed for press. Price: £69-95 (including VAT).

##### RS272US

Stereo cassette tape deck with automatic reverse. Gives continuous playback of pre-recorded tapes. CrO<sub>2</sub> or normal tapes. Push-button controls. FR: (Normal tape) 30Hz-12kHz; (CrO<sub>2</sub> tape) 30 Hz-14kHz. Full specification unobtainable as this edition of the Year Book closed for press. Price: £104-95 (including VAT).

**RS263US**

Stereo cassette tape deck with Dolby noise reduction system. Normal or CrO<sub>2</sub> tapes. Auto stop. Pause button. Memory rewind. Slider and pushbutton controls. Two VU meters. FR: (normal tape) 30Hz-13kHz; (CrO<sub>2</sub> tape) 30Hz-15kHz. Full specification unobtainable as this edition of the Year Book closed for press. £92-95 (including VAT).

**RS271US**

Stereo cassette tape deck with Dolby system. Normal or CrO<sub>2</sub> tapes. Ten-year guarantee on HFP head. Electronically controlled motor. Memory rewind. Lockable pause control. Photo-electric auto stop. FR: (normal tape) 20Hz-13kHz; (CrO<sub>2</sub> tape) 20Hz-15kHz. Full specification unobtainable as this edition of the Year Book closed for press. Price: £124-95 (including VAT).

**RS276US**

Stereo cassette tape deck with Dolby system. Normal or CrO<sub>2</sub> tapes. Direct drive motor. Feather-touch controls. Lockable pause control. Memory rewind. Photo-electric auto shut-off. FR: (normal tape) 20Hz-16kHz; (CrO<sub>2</sub> tape) 20Hz-18kHz. Full specification unobtainable as this edition of the Year Book closed for press. Price: £194-95 (including VAT).

**RS279US**

Stereo cassette tape deck with three heads, two motors and the Dolby noise reduction system. Ultra slow running DC motor. HFP heads with 10-year guarantee. Feather-touch electronic pushbuttons. Memory rewind. Photo-electric auto stop. Electronic pause control. FR: (normal tape) 20Hz-16kHz; (CrO<sub>2</sub> tape) 20Hz-18kHz. Full specification not obtainable as this edition of the Year Book closed for press. Price: £254-95 (including VAT).

**PHILIPS ELECTRICAL LTD**

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

**N2506 ★**

Mains operated stereo cassette deck to fit in with Audio plan Equipment. Built-in dynamic noise limiter circuit (DNL) to reduce subjective S/N ratio. Speed: 1 $\frac{1}{8}$ i/s. W and F: 0-35% DIN weighted. H and N: better than 45dB. FR: 60Hz-10kHz. Rewind time: <80 seconds for C60. Meter level indicator. Input/output sockets for external amplifier. Input/output socket for phono/micro. One motor. Pause. Size: 8 $\frac{1}{2}$  × 8 $\frac{1}{2}$  × 2 $\frac{3}{4}$ in. Weight: 4 $\frac{1}{2}$ lb. Mains: 110-240V 50-60Hz. Price: £61-19 (including VAT).

**N2510 ★**

Mains operated stereo cassette tape deck. Speed: 1 $\frac{1}{8}$ i/s. Compact cassette. W and F: <0-2% (DIN



Pioneer T6600

45 507). Signal-to-noise: (standard tape) 45dB, (CrO<sub>2</sub>) 48dB. FR: (CrO<sub>2</sub>) 25Hz-14kHz (DIN) 45 500). Replay char: DIN 45 500. Meter tuning indicator. Three-digit tape position indicator with PB reset. Inputs: mic 0-2mV 2K, radio 2mV 20K, line 100mV 1M. Outlets: line 0-5V 10K, monitor 400mV 10K. 98 silicon transistors. One tachometer-controlled motor. Own deck. Size: 15 $\frac{1}{2}$  × 8 $\frac{1}{2}$  × 3 $\frac{3}{8}$ in. Weight: 9 $\frac{1}{2}$ lb. Pause control. Monitoring on control. Input mixing. Facilities for chromium dioxide tape. Built-in dynamic noise limiter circuit. Price: £125 (including VAT).

**N4510**

Mains operated stereo  $\frac{1}{4}$ -track tape deck. Speeds: 7 $\frac{1}{2}$ , 3 $\frac{3}{8}$ , 1 $\frac{1}{8}$ i/s. Max spool: 7in. W and F: (DIN 45 500) 7 $\frac{1}{2}$ i/s 0-15%, 3 $\frac{3}{8}$ i/s 0-2%, 1 $\frac{1}{8}$ i/s 0-35%. Noise: 7 $\frac{1}{2}$ i/s -50dB, 3 $\frac{3}{8}$ i/s -50dB, 1 $\frac{1}{8}$ i/s -48dB. Hum: 7 $\frac{1}{2}$ i/s (all speeds) -45dB. FR: 7 $\frac{1}{2}$ i/s 40Hz-20kHz ±3dB, 3 $\frac{3}{8}$ i/s 40Hz-15kHz ±3dB, 1 $\frac{1}{8}$ i/s 60Hz-8kHz ±3dB. Replay char: DIN. Rewind time: 180 seconds for 1800ft. Two level meters. Four-digit tape position indicator with PB reset. Inputs: mic 0-15mV 2K, radio 100mV 100K, line 2mV 20K, PU 1-5mV 47K. Outlets: line 1V 50K, headphones 3V 400-600 ohms, monitor 1V 50K. Three DC motors. Own deck. Size: 20 $\frac{1}{4}$  × 15 × 7 $\frac{3}{8}$ in. Weight: 24lb. Pause control. Monitoring on record. Input mixing. Parallel track replay. Solenoid controlled operation. Full remote control operation using Philips unit N6719. Price: £175-37 (including VAT).

**PIONEER**

Distributors: Shriro (UK) Ltd, 42 Russell Square, London, WC1B 5DF. Tel: 01-580 6996.

**T6600 ★**

Stereo tape deck with preamplifiers  $\frac{1}{4}$ -track.

★ Indicates entry is illustrated

Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s < 0.12%,  $3\frac{3}{4}$ i/s < 0.2%. H and N: better than 55dB. FR:  $7\frac{1}{2}$ i/s 30Hz-20kHz,  $3\frac{3}{4}$ i/s 30Hz-13kHz. Replay char: DIN. Rewind time: 110 sec for 1200ft. Meter level indicator. Inputs: mic (2) 0.3mV 50K, line (2) 30mV 330K. Outlets: line (2) 0.775V 50K, headphones 0.2mW 8 ohms. One motor, centre capstan drive. Own deck. Size:  $17\frac{1}{4} \times 17\frac{1}{4} \times 7\frac{1}{2}$ in. Weight: 28 $\frac{1}{2}$ lb. Pause control. Straight-through amplifier. Automatic reverse on record and playback. AC mains operation. Price: £184.87 (plus VAT).

#### T8800

Stereo tape deck with preamplifiers.  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s < 0.08%,  $3\frac{3}{4}$ i/s < 0.15%. H and N: better than 55dB. FR:  $7\frac{1}{2}$ i/s 30Hz-20kHz,  $3\frac{3}{4}$ i/s 30Hz-15kHz. Replay char: DIN. Rewind time: 110 sec for 1200ft. Two level meters. Inputs: mic (2) 0.5mV 50K, line (2) 55mV 100K. Outlets: line 0.775V 50K, line 0-IV, headphones 0.4mW 8 ohms. Two motors (eight-pole/four-pole). Own deck. Size:  $21\frac{3}{8} \times 9\frac{1}{2} \times 17$ in. Weight: 50lb. Superimpose. Pause control. Monitoring. Input mixing. Parallel track replay. Automatic reverse on record and replay. Three plus three heads. Recording bias selector switch. Adjustable reel height. Optional remote control. AC mains operation. Price: £372.32 (plus VAT).

#### T6100

Stereo tape deck. Open reel.  $\frac{1}{4}$ -track. two channel. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool: 7in. One motor, hysteresis synchronous. Four heads. Price: £165.97 (plus VAT).

### PLANET PROJECTS LTD

Goodman Works, Belvue Road, Northolt, Middlesex. Tel: 01-845 1775.

#### C.D.2

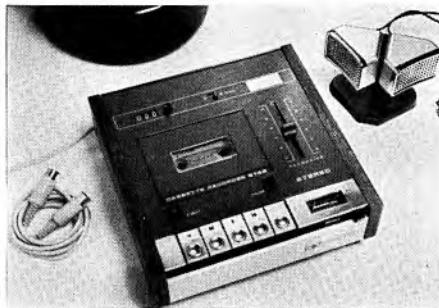
Tape deck. Speed:  $3\frac{3}{4}$ i/s ( $1\frac{7}{8}$ i/s to special order). W and F: less than 0.2% at both speeds. Mini-flux heads,  $\frac{1}{2}$ -track mono or  $\frac{1}{4}$ -track stereo. Two heads, one for each track. FR: dependent on speed and heads. Papst hysteresis motor. Spool size 7in. Automatic track change and reversal of tape direction at end of spool, no fast rewind required. Uses standard  $\frac{1}{4}$ in tape. Single knob control. Provides over 8 $\frac{1}{2}$  hours uninterrupted playing at  $1\frac{7}{8}$ i/s. Mains: 220-230V 50Hz. Size:  $14\frac{3}{4} \times 11\frac{1}{2} \times 6$ in. Weight approximately: 10lb. Price: on application.

### PYE LTD

PO Box 49, Cambridge. CB4 1DS. Tel: Cambridge 58985.

#### 9145 ★

Mains-operated stereo tape deck. Compact cassette. Speed:  $1\frac{7}{8}$ i/s. W and F:  $\pm 0.35\%$  (DIN). Noise level: >45dB (DIN). FR: 60Hz-10kHz



Pye 9145



Sansui SD5050S

(6dB DIN). Replay char: CCIR. Rewind time: (C60) 85 sec. Meter level indicator. Three-digit tape position indicator with PB reset. Inputs: PU 100mV 1M, radio 0.2mV 2K, mic 0.2mV 2K. Outlet: line 0.5V 20K. One motor. Philips tape deck. Size:  $8\frac{1}{2} \times 8\frac{1}{2} \times 3$ in. Pause control. Automatic end-of-tape switch off. Incorporates dynamic noise limiter circuit. Mains: 110, 127, 220, 240V AC. Price: £61.19 (including VAT).

#### 9148

Mains-operated stereo tape deck. Compact cassette. Speed:  $1\frac{7}{8}$ i/s. W and F: 0.2% (DIN). Noise level: >45dB (DIN Fe2 03 tape), 56-5dB (NAB Cr02 tape), 53-5dB (NAB Fe2 03 tape). FR: 40Hz-12kHz (6dB DIN Fe2 03 tape, 20Hz-15kHz (6dB DIN Cr0 $\frac{2}{2}$ )). Replay char: CCIR. Rewind time: (C60) 85 sec. Meter level indicators. Three-digit tape position indicator with PB reset. Inputs: PU 100mV 1M, radio 2mV 20K, mic 0.2mV 2K. Outlets: line 0.5V 10K, monitor

0-4V 10K. One motor. Philips tape transport. Size:  $15\frac{1}{2} \times 8\frac{1}{2} \times 3\frac{3}{8}$ in. Weight:  $9\frac{1}{2}$ lb. Pause control. Monitoring on record. Input mixing. Automatic end of tape switch off. Incorporates dynamic noise limiter circuit. Zero stop (switches off as counter reaches zero reading). Automatic tape recognition device for Fe2 O3 and CrO2 tapes. Mains: 110, 127, 220, 240V AC. Price: to be announced.

#### ■ J. RICHARDSON ELECTRONICS LTD

57 Jamestown Road, London, NW1 7EJ.

Tel: 01-267 0723/4874.

#### Modular tape amplifiers

System of pluggable tape record/playback modules. Each module is 7in high and designed to fit into 19in rack. Silicon transistors. Remote electronic switching for four separate equalisations. Modules include: record preamplifier, playback preamplifier, PPM, oscillator, self-synch switching unit, power supply. Full specifications on request. Prices: on application.

#### Mixer units

Full range of plug-in mixer modules available separately or in banks of units. Full specifications and prices on request.

#### ■ SANSUI

Vernitron Ltd, Thornhill,

Southampton, SO9 5QF.

Tel: Southampton 444811.

#### SC700 (Dolby)

Stereo cassette tape deck. Speed:  $1\frac{7}{8}$  i/s. Inputs: mic (L & R) 0.5mV 10K, mic (centre) 0.5mV 10K, line 70mV 100K, DIN 14mV 100K. Output: line (1) 1.2mV, line (2) 0.35mV, DIN 1.2mV, headphones 6mW at 8 ohms. W and F: 0-12%. Tape speed accuracy: within 1%. Fast rewind: 85 sec for C60 cassette. FR: 40Hz-13kHz (standard tape with Dolby); 40Hz-16kHz (Chrome tape with Dolby). S/N ratio: better than 50dB without Dolby, better than 56dB with Dolby. Mains: 100, 117, 220, 240V AC. Size:  $15\frac{1}{4} \times 10\frac{1}{8} \times 4\frac{1}{8}$ in. Price: £138.75 (plus VAT).

#### SD5000

Stereo reel-to-reel tape deck. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  i/s. Max spool: 7in. Forward-play head and reverse-play head. Tape speed accuracy: within 0.5%. Two eight-pole motors, one six-pole motor. Capstan drive: belt. W and F:  $3\frac{3}{4}$  i/s < 0.12%,  $7\frac{1}{2}$  i/s < 0.08%. Rewind time: 120 sec for 1800ft. FR:  $3\frac{3}{4}$  i/s 15Hz-15kHz  $\pm$  3dB,  $7\frac{1}{2}$  i/s 15Hz-25kHz  $\pm$  3dB. S/N ratio: better than 60dB. Distortion: (amplifier) < 0.15%, (tape) < 1.2%. Inputs: mic 0.5mV 50K, line 70mV 100K, DIN 14mV 100K. Two VU meters. Size:  $16\frac{1}{2} \times 10 \times 19\frac{1}{8}$ in. Finish: walnut cabinet. Two year guarantee. Price: £281.11 (plus VAT).



Sansui SD3030

#### SD3030 ★

Stereo and four-channel  $\frac{1}{4}$ -track tape deck. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s 0.09%,  $3\frac{3}{4}$  i/s 0.14%. H and N: better than 60dB. FR:  $7\frac{1}{2}$  i/s 20Hz-20kHz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 30Hz-10kHz  $\pm$  3dB. Rewind time: 90 sec for 1200ft. Four VU meters. Inputs: mic 0.5mV 50K, line 70mV 100K, DIN 14mV 100K. Outputs: two-channel 470mV, DIN/two-channel 470mV, four-channel 470mV, headphones (front and rear) 8 ohms. 26 transistors, 14 diodes. Size:  $16\frac{5}{8} \times 19\frac{3}{8} \times 9\frac{3}{4}$ in. Weight:  $47\frac{1}{2}$ lb. Superimpose. Pause. Monitoring. Input mixing. Auto reverse. Auto shut-off. Mains: 100, 110, 117, 200, 220, 240V 50-60Hz. Price: to be announced.

#### SD5050S ★

Stereo and four-channel  $\frac{1}{4}$ -track tape deck. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s 0.07%,  $3\frac{3}{4}$  i/s 0.12%. H and N: better than 60dB. FR:  $7\frac{1}{2}$  i/s 20Hz-20kHz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 30Hz-12kHz  $\pm$  3dB. Rewind time: 90 sec for 1200ft. Four VU meters. Inputs: mic 0.5mV 50K, line 70mV 100K, DIN 14mV 100K. Outputs: two-channel 470mV, DIN/two channel 470mV, four-channel 470mV. 34 transistors, 21 diodes. Size:  $16\frac{5}{8} \times 20\frac{1}{8} \times 9\frac{3}{8}$ in. Weight: 46 $\frac{1}{4}$ lb. Superimpose. Pause. Monitoring. Input mixing. Auto reverse. Remote control. Mains: 100, 110, 117, 200, 220, 240V 50-60Hz. Price: to be announced.

#### QD5500S

Stereo and four-channel  $\frac{1}{4}$ -track tape deck. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$  i/s 0.07%,  $3\frac{3}{4}$  i/s 0.12%. H and N: better than 60dB. FR:  $7\frac{1}{2}$  i/s 20Hz-20kHz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 15Hz-15kHz  $\pm$  3dB. Rewind time: 90 sec for 1200ft. Four VU meters. Inputs: mic 0.5mV 50K,



★ Indicates entry is illustrated

line 70mV 100K, DIN 14mV 100K. Outlets: two-channel 470mV, DIN/two-channel 470mV, four-channel 470mV, headphones (front and rear) 8 ohms, 38 transistors, 19 diodes. Size:  $15\frac{3}{8} \times 21\frac{7}{8} \times 10\frac{3}{8}$  in. Weight: 53½ lb. Superimpose. Pause Monitoring. Input mixing. Auto-reverse. Facilities for remote control. Auto shut-off. Mains: 100, 110, 117, 200, 220, 240V 50-60Hz. Price: to be announced

## ■ SANYO

Sanyo Marubeni (UK) Ltd, Sanyo House, Bushey Mill lane, Watford, Herts WD2 4UQ. Tel: Watford (92) 30421.

### RD2310

Stereo open-reel three-speed tape recorder. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{5}{8}$  i/s. Four-track. Max spool: 7in. Twin VU meters. Tape counter. Automatic shut-off. Single lever control for all tape functions. Monitoring with headphones. Sound-with-sound. 12 transistors. Full specification unobtainable as this edition of the Year Book closed for press. Price: £69.61 (including VAT).

### RD4300X

Stereo cassette deck with Dolby system. Introduced in August 1973 but no details of specification available as this edition of the Year Book closed for press. Price: £124.75 (including VAT).

## ■ SCOPETRONICS

Crown Works, Church Road, Kingston-upon-Thames, Surrey. Tel: 01-546 1275 and 4135

### 1150

Stereo tape deck. Speeds:  $7\frac{1}{2}$ , 15i/s. Max spool capacity: 11½ in. W and F: 0.08% (both speeds). H and N: -57dB. FR:  $7\frac{1}{2}$  i/s 40Hz-15kHz  $\pm\frac{1}{2}$  dB; 15i/s 40Hz-15kHz  $\pm\frac{1}{2}$  dB. Replay char: NARTB, CCIR. Level indicator: meter. Rewind time: 2400ft in < 1 min 45 sec. Inputs: line in, 2V 100K. Line out, 1mV 600 ohms. Valves. Motors: 3 Papst Ext. Rotor. Tape deck: own. Superimpose, pause and inching facilities. Straight-through amplifier. Variable spooling. Removable plug-in head block. Psn: 250V 50Hz. Price: (mono) from approximately £400 (plus VAT); (stereo) from approximately £600 (plus VAT); (console versions) approximately £100 (plus VAT) extra.

## ■ SHARP

Sharp Electronics (UK) Ltd, 48 Derby Street, Manchester, M8 8HN. Tel: 061-832 6115.

### R1727

Mains operated stereo  $\frac{1}{4}$ -track tape deck. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  i/s. Tracks: 4-track 2-channel stereo. Max spool: 7in. Fast forward wind: 115 sec for 1200ft. Fast rewind: 65 sec for 1200ft. Vertical or horizontal operation. Mains: 110, 220, 240V AC. 50Hz. One capacitor-start motor.



Sanyo MR801



Sharp RT811

One record/playback head, one erase head. AC bias and erase. Price: £78.14 (plus £7.81 VAT).

### RT811 ★

Mains operated eight-track stereo cartridge recorder and playback deck. Speed:  $3\frac{3}{4}$  i/s. Eight-track endless tape cartridge. Two record level meters. Channel indicator. Record indicator. Inputs: mic (2), line (2). Outlets: line (2), headphones (1). Controls: (pushbuttons) programme selector, record, pause, fast forward, eject, auto eject, (rotary) record level. Motor: 21V two-speed with mechanical governor. AC bias. AC erase. Supplied with four connecting leads. Finish: wood veneered cabinet with black steel panel. Size:  $14 \times 4\frac{3}{4} \times 8\frac{3}{8}$  in. Weight: 13lb. Mains: 240V 50Hz. Price: £72.27 (plus £7.23 VAT).

### RD423E

Mains operated  $\frac{1}{4}$ -track stereo tape deck. Speed:  $1\frac{5}{8}$  i/s. W and F: 0.18% max. FR: 40Hz-13kHz. Compact cassette. Three-digit tape position indicator. Dual VU meters. Weight: 5½ lb. Price: £51.75 (plus £5.18 VAT).

## ■ SONY (UK) LTD

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

### TC377

Stereo tape deck with preamps.  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{5}{8}$  i/s. Max spool 7in. W and F:  $7\frac{1}{2}$  i/s

<0.09%,  $3\frac{3}{4}$  i/s  $\sim$ 0.12%. FR:  $7\frac{1}{2}$  i/s 30Hz-24 kHz,  $3\frac{3}{4}$  i/s 40Hz-16kHz DIN. Rewind time: 100 sec for 1200ft. Two VU meters. Inputs: mic 0.19mV ( $-72$ dB) 600 ohms, aux 0.06V ( $-22$  dB) 100K. Outputs: line 0.775V 100K, headphones 8 ohms. Stereo recording and playback. S/N: better than 52dB (normal), 55dB (SLH). Three heads. Record and playback heads ferrite/ferrite. Uniphase system for SQ record/playback. Input mixing. Servo-controlled tape tension. Auto stop. Size:  $16\frac{1}{2} \times 8\frac{3}{8} \times 14\frac{3}{8}$  in. Finish: walnut grained wood. Price: £105 (plus VAT).

#### TC127

Stereo cassette tape deck.  $\frac{1}{4}$ -track. Compact cassette. Speed:  $1\frac{7}{8}$  i/s. W and F: 0.2%. FR: 30Hz-12kHz. S/N: 48dB. Two VU meters. Inputs: mic 0.2mV ( $-72$ dB) low impedance, aux 60mV ( $-22$ dB), 560K, record/playback connector  $-40$ dB 3-9K. Outputs: line 0.775V (0dB) 100K, headphones 8 ohms, record/playback connector 0dB 8-2K. Slider level controls. Size:  $15\frac{3}{4} \times 3\frac{7}{8} \times 8\frac{3}{8}$  in. Weight: 10lb 9oz. Mains: 100, 110, 117, 125, 220 or 240V. Price: £60 (plus VAT).

#### TC160

Stereo cassette tape deck.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$  i/s. W and F: 0.1%. H and N: 49dB. FR: 20Hz-18kHz. Replay char: NARTB. Rewind time: 1 min 20 sec for C60 cassette. Twin VU meters. Inputs: mic (2) 0.2mV 600 ohms, aux (2) 60mV 100K. Outlets: line (2) 0.775V 10K, phones 30mV 8 ohms. One motor. Size:  $15\frac{3}{4} \times 5 \times 10\frac{7}{8}$  in. Weight: 13 $\frac{1}{4}$  lb. Pause. Monitoring. Parallel track replay. Dual loop capstan drive. Cr<sub>02</sub> tape facility. Slider controls. Tape counter. Mains: 100, 110, 120, 127, 220, 240V AC. Price: £80 (plus VAT).

#### TC165 ★

Stereo cassette tape deck.  $\frac{1}{4}$ -track. Compact cassettes. Speed:  $1\frac{7}{8}$  i/s. W and F: 0.1%. H and N: 49dB. FR: 30Hz-17kHz. Rewind time: 1 min 20 sec for C60 cassette. Twin VU meters. Inputs: mic (2) 0.19mV low Z, aux 62mV 100K. Outlets: line (2) 0.775V 10K, phones 8 ohms. One motor. Size:  $15\frac{3}{4} \times 5 \times 10\frac{7}{8}$  in. Weight: 15 $\frac{1}{2}$  lb. Pause. Inching. Monitoring. Parallel track replay. Auto reverse. Auto shut-off. Cr<sub>02</sub> tape facility. Slider controls. Tape position indicator. Mains: 100, 110, 120, 127, 220, 240V AC. Price: £110 (plus VAT).

#### TC-850-2

Three-speed stereo tape deck.  $\frac{1}{4}$ - and  $\frac{1}{2}$ -track. Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  i/s. Max spool 10 $\frac{1}{2}$  in. W and F: 15i/s 0.03%,  $7\frac{1}{2}$  i/s 0.04%,  $3\frac{3}{4}$  i/s 0.08%. H and N: 59dB. FR: 15i/s 30Hz-20kHz  $\pm$  2dB,  $7\frac{1}{2}$  i/s 30Hz-22kHz  $\pm$  2dB,  $3\frac{3}{4}$  i/s 40Hz-15kHz  $\pm$  2dB. Rewind time: 170 sec for 2400ft. Twin VU meters. Inputs: mic (2) 0.2mV 100K, line (2) 0.07mV 100K. Outlets: line (2) 0.77V 2.2K,



Sony TC165

phones 8 ohms. Three motors, servo-controlled capstan drive. Size:  $17\frac{1}{2} \times 19\frac{3}{4} \times 10$  in. Weight: 57 $\frac{1}{4}$  lb. Superimpose. Pause. Inching. Monitoring. Input mixing. Parallel track replay. Remote control facility. Auto shut off. Mains: 100, 110, 127, 220, 240V AC. Price: £380 (plus VAT).

#### TC134SD

Stereo cassette deck. Dolby system.  $\frac{1}{4}$ -track.  $1\frac{7}{8}$  i/s. W and F: <0.2% NAB. S/N ratio: without Dolby 49dB, with Dolby up to 59dB. FR: Cr02, 30-17kHz. Std tape: 30-15kHz. Rewind time: 2 min. Twin VU meters. Inputs: mic  $-72$  dB 0.2mV low Z, line  $-22$ dB 0.06V 680K. Outputs: line 0.775V 10K. Phones 8 ohms. One motor. Size:  $16\frac{1}{2} \times 4\frac{9}{16} \times 8\frac{3}{8}$  in. Weight: 11lb 11oz. Pause. Auto-shut-off. Ferrite and ferrite head. Dolby on/off. Cr02 selector. Slider controls. Tape counter. Mains: 110, 127, 220, 240V AC. Price: £90 (plus VAT).

#### TC161SD

Stereo cassette deck. Dolby system.  $\frac{1}{4}$ -track.  $1\frac{7}{8}$  i/s. W and F: <0.1%. S/N ratio: without Dolby 49dB, with Dolby up to 59dB. FR: Cr02 20-17kHz. Std tape: 20-15kHz. Rewind time: 90 sec. C60. Two VU meters. Inputs: mic  $-72$  dB 0.2mV low Z, line  $-22$ dB 0.06V 100K. Outputs: line 0.775V 100K. Phones 8 ohms. One motor. Closed loop dual capstan drive. Size:  $15\frac{3}{4} \times 5 \times 19\frac{7}{8}$  in. Weight: 14lb 4oz. Pause. Auto-shut-off. Ferrite and ferrite head. Dolby on/off. Cr02 selector. Slider controls. Tape memory counter, memory on/off. Mains: 110, 127, 220, 240V AC. Price: £110 (plus VAT).

#### TC280

Three-speed stereo tape deck.  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$  i/s. Max. spool 7in. W and F:  $7\frac{1}{2}$  i/s 0.1%,  $3\frac{3}{4}$  i/s 0.15%. S/N ratio: SLH 55dB, Std tape 52dB. FR: SLH  $7\frac{1}{2}$  i/s 40-21kHz  $\pm$  3dB,  $3\frac{3}{4}$  i/s 20-17kHz. Twin VU meters. Inputs: mic  $-72$ dB 0.2mV low Z, line  $-22$ dB 0.06V 100K. Outputs: line 0.775V 100K. Phones 8 ohms. One motor. Size:  $15\frac{3}{4} \times 7\frac{3}{8} \times 14\frac{1}{8}$  in. Weight: 21lb 3oz. Ferrite and ferrite rec/playback head. Uni-

★ Indicates entry is illustrated

phase for SQ recording. SLH tape selector. Tape revolution counter. Left/right recording level controls. Price: £72.50 (plus VAT).

#### TC121

Stereo cassette tape deck.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$ i/s. W and F: <0.22%. S/N ratio: 45dB. FR: Cr02 40-13,000Hz, Std tape 40-10,000Hz. Rewind time: 90 sec. C60 cassette. Twin VU meters. Inputs: mic -72dB 0.2mV low Z, aux -22dB 0.06V 560K. Outputs: line 0.775V 100K. Phones 8 ohms. One motor. Size:  $13 \times 3\frac{3}{8} \times 8\frac{1}{2}$ in. Weight: 7lb 4oz. Pause. Auto shut-off. Cr02 selector. Slider controls. Mains: 110, 120, 220, 240V AC. Price: £47 (plus VAT).

#### TC129

Stereo cassette deck.  $\frac{1}{4}$ -track.  $1\frac{7}{8}$ i/s. W and F: <0.22% RMS. S/N ratio: 45dB. FR: 40-12kHz. Cr02 40-14kHz. Twin VU meters. Inputs: mic -72dB 0.2mV low Z. Line -22dB 0.06V 560K. Outputs: line 0dB 0.775V 10K. Headphone: 8 ohms. One motor. Size:  $13\frac{3}{8} \times 4 \times 9$ in. Weight: 8lb 13oz. Slider level controls. Tape selector. Three-digit counter. Pause. Auto shut-off. Dust cover. F and F head. Mains: 110, 127, 220, 240V. AC 50-60Hz. Price: to be announced.

#### TC131SD

Stereo cassette deck with Dolby.  $\frac{1}{4}$ -track.  $1\frac{7}{8}$ i/s. W and F: <0.22% RMS. S/N ratio: 49dB, dolby improvement 10dB at 5kHz and over. Twin VU meters. Inputs: Mic -72dB 0.6V low Z, line 22dB 0.06V, 100K. Outputs: line 0dB 0.775V 10K. Headphone: 8 ohms. One motor. Size:  $15\frac{5}{8} \times 3\frac{3}{4} \times 9\frac{1}{8}$ in. Pause. Mechanical auto shut-off. F and F head, Dolby on/off. Cr02 selector. Slider level controls. Three-digit tape counter. Rec/PB connector. Mains: 110, 127, 220, 240V AC. Price: to be announced.

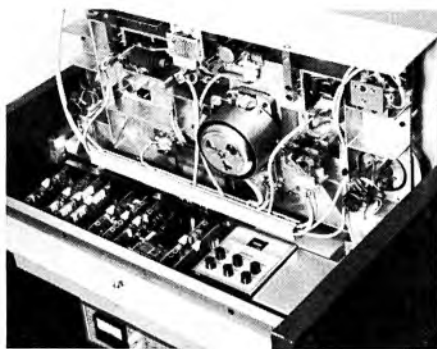
### ■ STUDER

Studer-Franz AG, Switzerland.

Distributors: F. W. O. Bauch Ltd,  
49 Theobald Street, Boreham Wood, Herts.  
Tel: 01-953 0091. Telex: 27502.

#### Studer A80 ★

Professional tape deck with preamplifiers. Mono or stereo on  $\frac{1}{4}$ in tape, four-track on  $\frac{1}{2}$ in tape, four-track or eight-track on 1in tape, 16-track on 2in tape, 24-track on 2in tape. Speeds:  $7\frac{1}{2}$  and 15i/s. Max spool: 12in. W and F: 15i/s  $\pm 0.04\%$ ,  $7\frac{1}{2}$ i/s  $\pm 0.06\%$ . H and N: 15i/s 62dB;  $7\frac{1}{2}$ i/s 60dB. FR: 15i/s 30Hz-18kHz  $\pm 1$ dB;  $7\frac{1}{2}$ i/s 60Hz-12kHz  $\pm 0.75$ dB. Replay char: switchable NAB/CCIR. Rewind time: 2 min for 1000m. Separate VU meter for each channel. Inputs: 0.3V to 10V (-8dBm to +22dBm) adjustable. Balanced input with impedance higher than 8K between 30Hz-18kHz. Outputs: -8dBm to 24dBm adjustable. Output balanced with impedance less than 30 ohms between 30Hz-18kHz.



Studer A80 (Underside)



Studer B62

Servo-controlled capstan motor, two high-torque asynchronous spooling motors. Tape deck control by eight printed circuit cards equipped with logic circuits, giving constant tape tension throughout all operating modes. Five-digit counter indicating hours, min and sec (accuracy 0.2%). Mains: 240V AC. Prices and further details to professionals on request.

#### Studer B62 ★

Professional tape deck with preamplifiers. Mono, stereo or twin-track on  $\frac{1}{4}$ in tape. Speeds:  $7\frac{1}{2}$  and 15i/s. Max spool: 10 $\frac{1}{2}$ in. W and F: 15i/s 0.05%,  $7\frac{1}{2}$ i/s 0.08%. H and N: 15i/s 61dB,  $7\frac{1}{2}$ i/s 58dB. FR: 15i/s and  $7\frac{1}{2}$ i/s 30Hz-18kHz  $\pm 2$ dB. Replay char: CCIR or NAB by quick-change equaliser printed circuit cards. Rewind time: 100 sec for 700m. Servo-controlled capstan motor, two high-torque asynchronous spooling motors. Size:  $19 \times 14 \times 8\frac{3}{8}$ in. Accurate tape timer indicating min and sec. Mains: 240V AC. Prices and further details to professional users on request.

### ■ TANDBERG

Farnell-Tandberg Ltd, Farnell House,  
81 Kirkstall Road, Leeds, LS3 1HR.  
Tel: Leeds 35111.

**TCD300 ★**

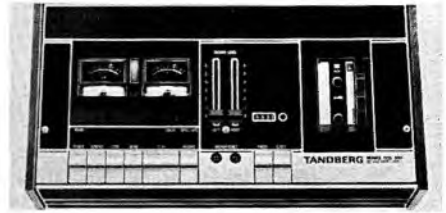
Cassette stereo tape deck.  $\frac{1}{2}$ -track. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: 0.2%. H and N: -52dB. FR: 50Hz-12kHz  $\pm$  2dB. Replay char: NARTB. Two meter level indicators. Four-digit tape position indicator with PB reset. Inputs: mic 0.1mV at less than 700 ohms, line 40mV 100K, radio 8mV 47K. Outlet: line 0.755V 10K. 47 transistors, two FETs. Three motors (synchronous hysteresis for capstan, precision fast-wind reel motors). Size:  $16\frac{3}{8} \times 4\frac{1}{8} \times 9\frac{1}{8}$ in. Weight: 14 $\frac{1}{2}$ lb. Pause. Monitoring on record. Parallel track replay. Hot-pressed ferrite heads. Dolby noise reduction system. Dual-capstan closed loop tape transport. Provision for Cr02 tape. Electronic controls. Auto-stop. Operates horizontally or vertically. Can be wall mounted. AC mains. Price: (teak) £139 (including VAT); (rosewood) £142.86 (including VAT).

**3300X Series ★**

Mains-operated stereo tape deck.  $\frac{1}{4}$ -track (3321X) or  $\frac{1}{2}$ -track (3321X). Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s 0.07%,  $3\frac{3}{4}$ i/s 0.14%,  $1\frac{7}{8}$ i/s 0.28%. H and N:  $7\frac{1}{2}$ i/s ( $\frac{1}{4}$ -track) -64dB, ( $\frac{1}{2}$ -track) -66dB. FR:  $7\frac{1}{2}$ i/s 30Hz-22kHz  $\pm$  2dB,  $3\frac{3}{4}$ i/s 40Hz-16kHz  $\pm$  2dB,  $1\frac{7}{8}$ i/s 40Hz-9kHz  $\pm$  2dB. Replay char: NARTB. Rewind time: 2 min 10 sec for 1800ft. Two meter level indicators. Four-digit tape position indicator with PB reset. Inputs: mic 0.05mV at less than 700 ohms, line 30mV 200K, radio 5mV 50K. Outlets: line IV 100 ohms, radio IV 100 ohms, headphones IV 100 ohms. 36 transistors. One motor (Papst asynchronous). Size:  $15\frac{3}{4} \times 7 \times 16\frac{1}{8}$ in. Weight: 20 $\frac{1}{4}$ lb. Straight-through amplifier. Pause. Monitoring on record. Parallel track replay. Crossfield recording technique. Four sound heads. Photo-electric end stop. Front-mounted jack for headphones. Slider level controls. AC mains. Price: (teak) £137.38 (including VAT); (rosewood) £140.68 (including VAT).

**9000X Series**

Mains operated stereo tape deck.  $\frac{1}{4}$ -track (9041X),  $\frac{1}{2}$ -track (9021X). Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s 0.1%,  $3\frac{3}{4}$ i/s 0.2%,  $1\frac{7}{8}$ i/s 0.4%. H and N:  $7\frac{1}{2}$ i/s -65dB. FR:  $7\frac{1}{2}$ i/s 40Hz-22kHz  $\pm$  2dB,  $3\frac{3}{4}$ i/s 50Hz-16kHz  $\pm$  2dB,  $1\frac{7}{8}$ i/s 50Hz-9kHz  $\pm$  2dB. Replay char: NARTB. Rewind time: 78 sec for 1800ft. Two meter level indicators. Four-digit tape position indicator with PB reset. Inputs: mic 0.05mV 200-700 ohms, radio 5mV 50K, line 100mV 1M. Outlets: radio 0.75V 5K, line 1.5V 200 ohms, headphones 5mW 8 ohms. 38 transistors, 17 ICs. Three motors (synchronous hysteresis capstan drive, two fast-wind reel motors). Size:  $15\frac{3}{4} \times 7 \times 16\frac{1}{8}$ in. Weight: 34 $\frac{1}{2}$ lb. Straight-through amplifier. Input mixing. Monitoring. Parallel track replay. Electronic fingertip control



Tandberg TCD300



Tandberg 3300X Series

based on logic circuits. Crossfield recording technique. Four sound heads. Special take-up arms for gentle tape handling. Remote control. Front-mounted jack socket for headphones. AC mains. Price: (teak) £236 (including VAT), (rosewood) £239.30 (including VAT).

**TAPE RECORDER DEVELOPMENTS LTD**

Hall Lane, Walsall Wood, Staffs.  
Tel: Brownhills 5351.

**TRD Series 700**

Mono/stereo  $\frac{1}{2}$ -track tape deck with monitor output. Speeds: 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ i/s or 30, 15,  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool: 10 $\frac{1}{2}$ in. W and F: 15i/s 0.05%,  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.12%,  $1\frac{7}{8}$ i/s 0.2%. H and N: 15i/s -64dB,  $7\frac{1}{2}$ i/s -62dB,  $3\frac{3}{4}$ i/s -60dB,  $1\frac{7}{8}$ i/s -58dB. FR: 15i/s 40Hz-18kHz,  $7\frac{1}{2}$ i/s 40Hz-16kHz,  $3\frac{3}{4}$ i/s 40Hz-12kHz,  $1\frac{7}{8}$ i/s 40Hz-6kHz (all +1dB -2dB). Replay characteristics switchable. Rewind time: 80 sec for 2400ft. Peak programme meters or VU meters. Four-digit footage indicator with PB reset. Inputs: mic 600 ohms -70dB balanced floating, line 10K bridging 0dB balanced floating. Outlets: line +20dB 600 ohms balanced, 2W into 15 ohms (monitor). Three motor deck. Size:  $18\frac{1}{2} \times 19 \times 8$ in. Weight: 60lb. Monitoring. Self-sync facility. Mains operated. Price: £425 (plus VAT).



Teac A-1230



Teac A-2520



Teac A-3300

## ■ TEAC

Acoustico Enterprises Ltd, 6-8 Union Street,  
Kingston-on-Thames, Surrey, KT1 1RP.  
Tel: 01-549 3471/3. Telex: 929916.

### A-350

Cassette tape deck.  $\frac{1}{4}$ -track stereo. Speed:  $1\frac{7}{8}$ i/s. Compact cassettes. W and F: 0-13%. H and N: -50dB, (with Dolby switched-in) -58dB. FR: 30Hz-13kHz, (chromium dioxide) 30Hz-16kHz. Replay char: NAB. Rewind time: 80 sec for C60 cassette. Two VU meters. Inputs: mic 72dB 600 ohms, line 18dB 50K. Outlets: line 0-3V 10K, headphones 8 ohms. Outer rotor motor. Pause. Monitoring. Dolby noise reduction system built-in. Auto-stop. Two heads. Mains: 100, 117, 200, 220, 240V AC. Size:  $17 \times 4\frac{3}{8} \times 9\frac{3}{8}$ in. Weight:  $11\frac{3}{4}$ lb. Price: £156 (plus VAT).

### A1230 ★

Two-speed  $\frac{1}{4}$ -track reel-to-reel tape deck. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. W and F:  $3\frac{3}{4}$ i/s 0-1%,  $7\frac{1}{2}$ i/s 0-08%. FR:  $3\frac{3}{4}$ i/s 40Hz-12kHz  $\pm 3$ dB,  $7\frac{1}{2}$ i/s 40Hz-18kHz  $\pm 3$ dB. Replay char: NAB. Rewind time: 90 sec for 1200ft. VU meter. Inputs: mic 0-3mV 600 ohms, line 0-1V 100K. Outlets: 0-3V 10K, headphones 8 ohms. Three motors; two eddy current, one dual-speed. Superimpose. Pause. Monitoring. Input mixing. Parallel-track replay. Size:  $17\frac{3}{8} \times 8 \times 15\frac{1}{8}$ in. Weight:  $37\frac{1}{2}$ lb. Mains: 110, 117, 200, 220, 240V AC. Price: £175 (plus VAT).

### A-2520 ★

Two-speed  $\frac{1}{4}$ -track stereo reel-to-reel tape deck. Max spool 7in. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. W and F:  $3\frac{3}{4}$ i/s 0-1%,  $7\frac{1}{2}$ i/s 0-08%. H and N:  $3\frac{3}{4}$ i/s -45dB,  $7\frac{1}{2}$ i/s -48dB. FR:  $3\frac{3}{4}$ i/s 40Hz-10kHz  $\pm 3$ dB,  $7\frac{1}{2}$ i/s 40Hz-18kHz  $\pm 3$ dB. Replay char: NAB. Rewind time: 90 sec for 1200ft. Two VU meters. Inputs: mic 0-3mV 10K, line 0-1V 100K. Outlets: line 0-3V 10K, headphones 0-3mW 8 ohms. Three motors: one dual-speed, two eddy current. Superimpose. Pause. Input mixing. Monitoring. Parallel track replay. Two-channel recording, four-channel playback. Size:  $17\frac{3}{8} \times 15\frac{3}{8} \times 8\frac{3}{8}$ in. Weight:  $37\frac{1}{2}$ lb. Mains: 100, 117, 200, 220, 240V AC. Price: £272 (plus VAT).

### A3300 ★

Two-speed  $\frac{1}{4}$ -track stereo reel-to-reel tape unit. Max spool: 10 $\frac{1}{2}$ in. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. W and F:  $3\frac{3}{4}$ i/s 0-09%,  $7\frac{1}{2}$ i/s 0-06%. H and N:  $3\frac{3}{4}$ i/s -45dB,  $7\frac{1}{2}$ i/s -48dB. FR:  $3\frac{3}{4}$ i/s 50Hz-10kHz  $\pm 3$ dB,  $7\frac{1}{2}$ i/s 40Hz-18kHz  $\pm 3$ dB. Replay char: NAB. Rewind time: 120 sec for 2400ft. Two VU meters. Inputs: mic 0-3mV 10K, line 0-1V 100K. Outlets: line 0-3V 10K, headphones 0-3mV 8 ohms. Three motors; one dual speed, two eddy current. Superimpose. Pause. Monitoring. Input mixing. Parallel track replay. Bias level switch. 100, 117, 200, 220, 240V AC. Size:  $15\frac{3}{8} \times$



Teac A-703G-SL

15 $\frac{3}{8}$  × 9 $\frac{1}{2}$  in. Weight: 40 $\frac{1}{2}$  lb. Price: £252 (plus VAT).

#### A7010-GSL

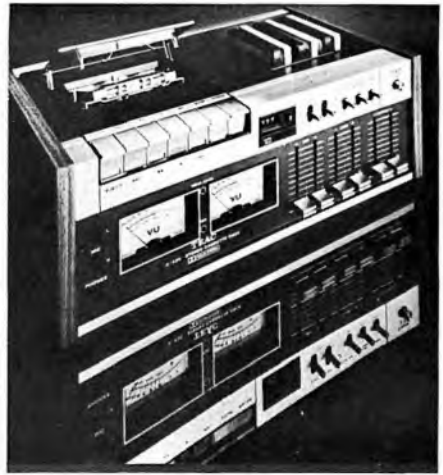
Two-speed  $\frac{1}{4}$ -track stereo tape deck. Speeds: 3 $\frac{3}{4}$ , 7 $\frac{1}{2}$  i/s. Max spool: 10 $\frac{1}{2}$  in. W and F: 3 $\frac{3}{4}$  i/s 0.09%, 7 $\frac{1}{2}$  i/s 0.06%. H and N: 3 $\frac{3}{4}$  i/s -46dB, 7 $\frac{1}{2}$  i/s -48dB. FR: 3 $\frac{3}{4}$  i/s 40Hz-7.5kHz  $\pm$ 2dB, 7 $\frac{1}{2}$  i/s 30Hz-20kHz  $\pm$ 2dB. Replay char: NAB. Rewind time: 200 sec for 3600ft. VU meter. Inputs: mic -7dB (0.25mV) 600 ohms, line 0.1V 50K. Outputs: line 0.3V 10K, headphones 8 ohms. Three motors. Superimpose. Pause. Input mixing. Monitoring. Parallel track replay. Auto reverse. Bias level switch. Size: 20 $\frac{3}{8}$  × 17 $\frac{1}{2}$  × 8 $\frac{1}{2}$  in. Weight: 62lb. Mains: 100, 117, 200, 220, 240V AC. Price: £500 (plus VAT).

#### A7030-GSL ★

Two-speed  $\frac{1}{2}$ -track stereo tape deck. Speeds: 7 $\frac{1}{2}$ , 15 i/s. Max spool: 10 $\frac{1}{2}$  in. W and F: 7 $\frac{1}{2}$  i/s 0.06%, 15 i/s 0.04%. FR: 7 $\frac{1}{2}$  i/s 30Hz-20kHz  $\pm$ 3dB, 15 i/s 30Hz-22kHz  $\pm$ 3dB. Replay char: NAB. Rewind time: 90 sec for 1200ft. Two VU meters. Inputs: mic 0.25mV 600 ohms to 10K, line 0.1V 50K. Outputs: line 0.3V 10K, headphones 8 ohms. Three motors. Superimpose. Pause. Input mixing. Monitoring. Parallel track replay. Size: 17 $\frac{3}{8}$  × 21 $\frac{1}{8}$  × 9 $\frac{1}{2}$  in. Weight: 62lb. Mains: 100, 117, 200, 220, 240V AC. Price: £500 (plus VAT).

#### R720

Three-speed  $\frac{1}{4}$ - or  $\frac{1}{2}$ -track stereo tape deck. Speeds: 3 $\frac{3}{4}$ , 7 $\frac{1}{2}$ , 15 i/s. Max spool: 10 $\frac{1}{2}$  in. W and F: 3 $\frac{3}{4}$  i/s 0.06%, 7 $\frac{1}{2}$  i/s 0.03%, 15 i/s 0.02%. FR: 3 $\frac{3}{4}$  i/s 25Hz-10kHz  $\pm$ 3dB, 7 $\frac{1}{2}$  i/s 25Hz-20kHz  $\pm$ 3dB, 15 i/s 25Hz-22kHz  $\pm$ 3dB. Replay char: NAB. Rewind time: 120 sec for 2400ft. Two



Teac A-450

VU meters. Inputs: mic 600 ohms, line 50K. Outputs: line 10K, headphones 8 ohms. Three motors. Full specification and prices on request.

#### A360

Stereo cassette tape deck. Speed: 1 $\frac{7}{8}$  i/s.  $\frac{1}{4}$ -track stereo. W and F: 0.07%, H and N: (Cr02 tape without Dolby) >47dB, (Cr02 tape with Dolby) >58dB. FR: 30Hz-16kHz  $\pm$ 3dB. Replay char: NAB. Rewind time: 95 sec for C60. VU meter. Three-digit tape indicator with PB reset. Inputs: mic 0.25mV 600 ohms-10K, line 100mV 50K. Outputs: line 300mV 10K. One hysteresis synchronous motor. Pause control. Calibration tone. Memory rewind. Auto stop. Dolby system. Size: 17 $\frac{3}{8}$  × 4 $\frac{3}{8}$  × 10 $\frac{1}{2}$  in. Weight: 16 $\frac{1}{2}$  lb. Mains: 100, 117, 220, 240V AC. Price: to be announced.

#### A450 ★

Mains-operated stereo cassette tape deck with Dolby system.  $\frac{1}{4}$ -track. Speed: 1 $\frac{7}{8}$  i/s. W and F: 0.07%. H and N: (Cr02 tape without Dolby) 47dB, (Cr02 tape with Dolby) >60dB. FR: (Cr02 tape) 30Hz-16kHz  $\pm$ 2dB. Replay char: NAB. Rewind time: 95 sec for C60. VU meter. Three-digit tape position indicator with PB reset. Inputs: line 100mV 100K, mic 0.25mV 600 ohms-10K. Outlet: line 300mV 10K. One hysteresis outer-rotor motor. Input mixing. Dolby FM copy. Limer switch. Auto stop. Dolby system. Size: 17 $\frac{1}{2}$  × 7 × 10 $\frac{5}{8}$  in. Weight: 21lb. Pause control. Mains: 100, 117, 220, 240V AC. Price: £210 (plus VAT).

#### A2340

Mains-operated two-speed tape deck. Four-channel with simultaneous sync. Multi-track recording. Speeds: 3 $\frac{3}{4}$ , 7 $\frac{1}{2}$  i/s. Max spool: 7in.

★ Indicates entry is illustrated

W and F:  $3\frac{3}{4}$ i/s 0.1%,  $7\frac{1}{2}$ i/s 0.08%. S/N ratio: 55dB. FR:  $3\frac{3}{4}$ i/s 40Hz-10kHz  $\pm$  3dB,  $7\frac{1}{2}$ i/s 40Hz-18kHz  $\pm$  3dB. Rewind char: NAB. Rewind time: 90 sec for 1200ft. VU meters. Four-digit tape indicator with PB reset. Inputs: mic 0.25mV 600 ohms-10K, line (5) 100mV 50K. Output: line 300mV 10K. One hysteresis synchronous motor, three eddy current motors. Superimpose. Pause control. Input mixing. Monitoring on record. Parallel track record. Size:  $18\frac{3}{4} \times 17\frac{3}{8} \times 8\frac{3}{4}$ in. Weight:  $4\frac{1}{2}$ lb. Mains: 100, 117, 220, 240V AC. Price: £382 (plus VAT).

#### A2505

Mains-operated cassette tape deck.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: 0.15%. H and N: (without Dolby) 50dB, (with Dolby) 58dB. FR: (C60 tape) 30Hz-16kHz  $\pm$  3dB. Replay char: NAB. Rewind time: 80 sec for C60. VU meter. Three-digit tape indicator with PB reset. Inputs: mic 0.25mV 600 ohms-10K, line 100mV 50K. Outlet: line 300mV 10K. One hysteresis synchronous motor. Pause control. Dolby system. Auto stop. Mains: 100, 117, 220, 240V AC. Size:  $16\frac{3}{4} \times 4\frac{1}{8} \times 9\frac{7}{8}$ in. Weight: 10lb. Price: to be announced.

#### A3340 ★

Mains-operated four-channel stereo tape deck. Speeds:  $7\frac{1}{2}$ , 15i/s. Max spool:  $10\frac{1}{2}$ in. W and F: 15i/s 0.04%,  $7\frac{1}{2}$ i/s 0.06%. S/N ratio: 55dB. FR: 15i/s 30Hz-20kHz  $\pm$  3dB,  $7\frac{1}{2}$ i/s 30Hz-18kHz  $\pm$  3dB. Replay char: NAB. Rewind time: 90 sec for 1200ft. Four VU meters. Four-digit tape indicator with PB reset. Inputs: mic 0.25mV 600 ohms-10K, line 100mV 50K. Outlet: line 300mV 10K. One hysteresis synchronous motor, two eddy current motors. Superimpose. Pause control. Input mixing. Monitoring on record. Parallel track replay. Four-channel with simultaneous sync. Complete multi-track recording. Size:  $20\frac{1}{2} \times 17\frac{3}{8} \times 8\frac{3}{4}$ in. Weight: 50lb. Mains: 100, 117, 220, 240V AC. Price: £445 (plus VAT).

#### A4300

Mains-operated stereo tape deck.  $\frac{1}{4}$ -track. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.1%. S/N ratio: 55dB. FR:  $7\frac{1}{2}$ i/s 30Hz-22kHz,  $3\frac{3}{4}$ i/s 30Hz-16kHz. Replay char: NAB. Rewind time: 100 sec for 1200ft. Two VU meters. Four-digit tape indicator with PB reset. Inputs: mic 0.25mV 600 ohms-10K, line 100mV 10K. Outlet: 300mV 10K. One hysteresis synchronous capstan motor, two eddy current reel motors. Superimpose. Pause control. Input mixing. Monitoring on record. Parallel track replay. Auto-reverse and repeat. Solenoid controls. Size:  $19\frac{3}{4} \times 17\frac{3}{8} \times 8\frac{1}{2}$ in. Weight:  $50\frac{1}{2}$ lb. Price: to be announced.

#### A5300

Mains-operated stereo tape deck.  $\frac{1}{4}$ -track. Speeds:  $3\frac{3}{4}$ ,  $7\frac{1}{2}$ i/s. Max spool: 7in. W and F:



Teac A-3340

$7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.1%. S/N ratio: 55dB. FR:  $7\frac{1}{2}$ i/s 30Hz-22kHz,  $3\frac{3}{4}$ i/s 30Hz-16kHz. Replay char: NAB. Rewind time: 100 sec for 1200ft. VU meter. Four-digit tape indicator with PB reset. Inputs: line 100mV 50K, mic 0.25mV 600 ohms-10K. Outlet: 300mV 10K. One direct drive DC servo capstan motor, two coreless rotor type DC reel motors. Superimpose. Pause control. Input mixing. Monitoring. Parallel track replay. Solenoid operation. Remote control microphone. Auto-reverse and repeat. Size:  $21 \times 18 \times 8\frac{1}{2}$ in. Weight:  $35\frac{1}{4}$ lb. Price: to be announced.

#### A5500

Mains-operated stereo tape deck.  $\frac{1}{4}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ i/s. Max spool: 7in. W and F:  $7\frac{1}{2}$ i/s 0.08%,  $3\frac{3}{4}$ i/s 0.1%. FR:  $7\frac{1}{2}$ i/s 30Hz-22kHz  $\pm$  3dB,  $3\frac{3}{4}$ i/s 30Hz-16kHz  $\pm$  3dB. Replay char: NAB. Rewind time: 100 sec for 1200ft. VU meter. Four-digit tape indicator with PB reset. Inputs: mic 0.25mV 600 ohms-10K, line 100mV 50K. Outlets: 300mV 50K. One direct drive DC servo capstan motor, two coreless rotor type DC reel motors. Superimpose. Pause. Input mixing. Monitoring. Parallel track replay. Dolby noise reduction system. Auto-reverse. Solenoid operation. Size:  $21 \times 18 \times 8\frac{1}{2}$ in. Weight:  $35\frac{1}{4}$ lb. Price: to be announced.

#### ■ TELETON

Teleton Electro (UK) Co Ltd, Teleton House, Waterhouse Lane, Chelmsford, Essex, CMI 1BD.  
Tel: Chelmsford (0245) 62442. Telex: 99338.

#### STC106

Four-track stereo cassette deck. Speed:  $1\frac{7}{8}$ i/s. Compact cassette. W and F: 0.25%. S/N ratio: 32dB. FR: 100Hz-10kHz. Motor speed tran-

sistor controlled. AC bias and erasure. Inputs: mic (2) 10K, aux (2) 100K. Output: 0.775V. Mains: 115 or 230V AC. Master level control. Peak metering, switchable left or right. Finish: oiled walnut. Size:  $9\frac{3}{4} \times 9\frac{7}{8} \times 3\frac{1}{8}$  in. Weight:  $6\frac{1}{4}$  lb. Price: to be announced.

### TRIO

Distributors: B. H. Morris & Co (Radio) Ltd, Trio House, The Hyde Industrial Estate, The Hyde, London NW9 6JP. Tel: 01-205 6441.

### KX7010

Stereo cassette tape deck.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$  i/s. Compact cassettes. W and F: <0.2%. H and N: better than 45dB. FR: 40Hz-10kHz. Rewind time: < 70 sec with C60 cassette. Two VU meters. Inputs: microphone (left and right) 0.25mV (69dB) at 50K, line (left and right) 100mV (18dB) at 470K. Outlets: line (left and right) 0.775V (0dB) at greater than 50K, headphones at 8 ohms or over. One motor. Own deck. Pause control. HF filter. Three-digit tape position indicator. Automatic eject cassette system. Record/play indicator light. Size:  $10\frac{1}{2} \times 9 \times 4$  in. Weight: 7lb. Mains: 100, 110, 117, 125, 220 and 240V 50-60Hz. Price: £69 (plus VAT).

### KX700

Stereo cassette deck with Dolby B noise reduction system.  $\frac{1}{4}$ -track. Speed:  $1\frac{7}{8}$  i/s. W and F: <0.15%. FR: CrO<sub>2</sub> 25Hz-16kHz, (standard tape) 25Hz-13kHz. HD: <2%. Inputs: mic 0.11mV 600 ohms, line 24mV 680K. Output: 0dB (0.775V). Outlet for headphones: 8-16 ohms. Two FETs, 31 transistors, 17 diodes. Rewind time: 75 sec for C60 cassette. H and N: (Dolby in and CrO<sub>2</sub> tape) 88dB, (Dolby in and standard tape) 66dB, (Dolby out and CrO<sub>2</sub> tape) 48dB, (Dolby out and standard tape) 45dB. Automatic shut-off. Dolby indicator. Record level indicator. Three-digit tape position indicator with PB reset. Headphone jack. Mains: 110-120V, 220-240V AC. Size:  $11\frac{3}{4} \times 4\frac{5}{8} \times 10\frac{3}{8}$  in. Weight: 7lb. Price: £115 (plus VAT).

### UHER

Distributors: Bosch Ltd, PO Box 166, Rhodes Way, Radlett Road, Watford, Herts, WD2 4LB. Tel: Watford 44233.

### Uher Royal de luxe (C)

Transistorised semi-professional mains tape unit. Mono/stereo.  $\frac{1}{4}$ -track or  $\frac{1}{2}$ -track. Speeds:  $7\frac{1}{2}$ ,  $3\frac{3}{4}$ ,  $1\frac{7}{8}$ ,  $\frac{1}{2}$  i/s. Max spool 7in. W and F:  $7\frac{1}{2}$  i/s 0.05%,  $3\frac{3}{4}$  i/s 0.1%,  $1\frac{7}{8}$  i/s 0.25%,  $\frac{1}{2}$  i/s 0.35%. H and N:  $7\frac{1}{2}$  i/s -54dB,  $3\frac{3}{4}$  i/s -54dB,  $1\frac{7}{8}$  i/s -54dB, FR:  $7\frac{1}{2}$  i/s 20Hz-20kHz,  $3\frac{3}{4}$  i/s 20Hz-15kHz,  $1\frac{7}{8}$  i/s 20Hz-9kHz,  $\frac{1}{2}$  i/s 20Hz-5kHz. Replay char: NARTB. Level indicators: two meters. Inputs: mic 0.2mV-100mV 200 ohms,



Wharfedale DC9

radio 2mV-1V 47K, PU (1) 50mV 1M. PU (2) 200mV 50K. Outlets: line 775mV 15K. One Papst motor. Pause. Inching. Horizontal or vertical operation. Input mixing. Parallel track replay. Interchangeable head assemblies available as optional extras. Dia-pilot. Multiplay. Echo. Price: approximately £240 (including VAT).

### WHARFEDALE

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

### DC9 ★

Cassette tape unit incorporating Dolby 'B' noise reduction system. Stereo. Speed:  $1\frac{7}{8}$  i/s. Compact cassette. W and F: <0.18%. FR: 50Hz-12kHz  $\pm 2$ dB. Rewind time: < 120 sec for C90 cassette. Level indicators: twin VU meters. Inputs: mic 0.2mV  $\pm 2$ dB for zero VU, 100mV  $\pm 2$ dB for zero VU. Solid state speed controlled DC motor. Pause control. Mains 240V 50Hz. For use with chromium dioxide or standard tape. Price: £114.41 (including VAT).

### YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road, North Wembley, London, HA9 8QL. Tel: 01-904 0141.

### TB-700 (Dolby)

Stereo  $\frac{1}{4}$ -track cassette tape deck incorporating Dolby noise reduction system. Speed:  $1\frac{7}{8}$  i/s. Compact cassette. W and F: 0.12%. H and N: (without Dolby) 50dB; (with Dolby) 59dB. FR: (standard tape) 30Hz-13kHz  $\pm 3$ dB, (CrO<sub>2</sub>) 30Hz-16kHz  $\pm 3$ dB. Adjustable replay characteristics. Rewind time: 90 sec for C90 cassette. Two VU meters. Adjustable output. DC servo-controlled motor. Pause. Monitoring. Input mixing. Tape speed control gives  $\pm 5\%$  variation. Three-position bias switch for standard, high-energy and chromium-dioxide (CrO<sub>2</sub>) tapes. Size:  $17\frac{1}{2} \times 4\frac{3}{4} \times 11\frac{3}{8}$  in. Weight:  $18\frac{1}{2}$  lb. Price: on application.





■ **LAMB LABORATORIES**

Lamb House, Church Street, Chiswick,  
London, W4 2PB.  
Tel: 01-995 4551.

**PML 420 ★**

4 input, 2 output mixer for Mono or Stereo applications. Variable input sensitivity with switched line input position. H.F. and L.F. Cut and Lift. Mid Lift. Channel Pan and mono Echo Send controls.

Outputs incorporate stereo Echo Return controls and switched Limiters with variable threshold and release.

Cannon input connectors.

Mic Inputs: 200ohm, max. gain 70dB. Input Noise: 0.5uV unweighted. Line Input: +6dBm max. into 6k. Outputs: max. +10dBm into 600 ohms. Limiter Release: 0.25 - 3.0 sec. H.F. Cut/Lift: 15dB at 15kHz. L.F. Cut/Lift: 15dB at 40Hz. Mid Lift: +10dB at 4kHz. Supply: +24v 130mA. Dimensions: 16½" x 14½" x 7", 15lb. 10oz. Price: £170 retail + V.A.T.

**LPS 10**

24v Power Unit for up to 3 PML 420's 115/230v. 50/60Hz. Price: £25 retail + V.A.T.

**LVS 10**

24v Regulator for one PML 420 off Revox Remote Control socket. Price: £15 retail + V.A.T.

**LAMB LABORATORIES**

# Tape Amplifiers and Mixer Units

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ BIAS ELECTRONICS LTD

Unit 8, Coombe Trading Estate,  
112-120 Coombe Lane, London, SW20 0BA.  
Tel: 01-947 3121.

### BE106 ★

Professional six-way mono mixer. 17 transistors, six diodes. Inputs: (six) 600 ohms -80dB or -20dB. Output: 600 ohms 0dB. Controls: six gain controls (one for each channel), on-off and master gain. Indicator lamp. VU level meter. Mains operated. Size:  $17\frac{3}{8} \times 6 \times 3\frac{1}{2}$  in (also available in rack mounting version). Finish: blue stove enamel. Price: £89.25 (plus VAT).

### BE206 ★

Professional six-way stereo mixer. 38 transistors, two ICs, 11 diodes. Inputs: (four) 600 ohms -80dB, (two) 100K -20dB. Outputs: (two) 600 ohms 0dB (max +20dB). Controls: six slider gain controls, one talkback gain, two slider master gain, one push-to-talk button, six PFL, six preset gain. One indicator lamp. PPM level meter. Mains operated. Size:  $19 \times 7\frac{1}{2} \times 7$  in. Finish: blue stove enamelled front panel with black anodised chassis. Switchable monitor to either output or PFL. Monitor switches PPM meter. PFL on each channel. Price: £294 (plus VAT).

## ■ BRENELL ENGINEERING CO LTD

231-235 Liverpool Road, London, N1 1LY.  
Tel: 01-607 8271 (5 lines).

### Hi-Fi Tape Link ★

Stereo tape preamplifier and oscillator unit. Connects between tape deck and hi-fi system. Twin transistorised recording amplifiers, bias/erase oscillator, twin transistorised playback amplifiers. Designed for use with three-headed stereo tape deck (i.e. separate erase, record and playback heads).  $\frac{1}{4}$ -track or  $\frac{1}{2}$ -track. Mono and stereo recording facilities provided. Monitoring. Immediate comparison of recorded and original signal. Individual gain controls for each amplifier. Frequency correction for four tape speeds. Inputs: mic 200 $\mu$ V 200 ohms, aux 8mV 50K,

aux 8mV 50K. Cross-fade mixing between inputs. Two illuminated level meters. Output: 1.4V (2V at 2% distortion level). FR: (when used with specified heads)  $7\frac{1}{2}$ i/s 40Hz-20kHz  $\pm$ 3dB,  $3\frac{3}{4}$ i/s 50Hz-14kHz  $\pm$ 3dB,  $1\frac{3}{8}$ i/s 60Hz-7kHz ( $\pm$ 3dB), 15i/s 40Hz-22kHz  $\pm$ 3dB. S/N: 56dB. Size: (tape link)  $15 \times 7 \times 4\frac{1}{2}$  in; (power unit)  $5\frac{1}{2} \times 5\frac{3}{4} \times 4\frac{3}{4}$  in. Weight: (tape link) 9lb; (power unit) 5lb. Price: (complete with PU) £88.50 (plus VAT).

## ■ DEIMOS LTD

8 Corwell Lane, Hillingdon, Middlesex.  
Tel: 01-573 3561.

Manufacturers of high quality and custom built mixers. No product information or prices obtainable as this edition of the Year Book closed for press.

## ■ EAGLE INTERNATIONAL

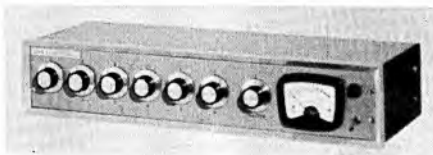
Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

### MP12 ★

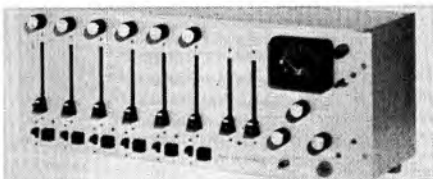
Six-channel stereo/mono mixer and preamplifier. Studio type slider controls. Mic inputs can be individually switched between high and low impedance. Inputs: four microphone 1mV 600 ohms or 2mV 50K, two pickup 3.5mV at 47K RIAA. S/N: better than 50dB. Output: (switched stereo/mono) two 250mV. Low profile desk console. Price: £30.46 (plus VAT).

### FF1

Transistorised five-channel mono mixer. Slider type controls. Microphone inputs: 500mV at 600 ohms, switchable for 4mV 50K. Aux input: 180mV 100K. Two outputs: (low) 200mV 50K-500K, (high) 2V 50K-500K. Controls: on/off switch, slider control for each input, overall master gain control. Power: two PP3 batteries.



Bias Electronics BE106



Bias Electronics BE206

★ Indicates entry is illustrated



Brenell Tape Link



Eagle MPI2

Size:  $10 \times 7 \times 1\frac{3}{4}$  in. Monitoring facilities included. Price: £23.10 (plus VAT).

#### FF10 ★

Stereo seven-channel mixer/preamplifier. Inputs: mic 3mV 50K, stereo PU (1) 3mV 47K, stereo PU (2) 3mV 47K, stereo tape 100mV 100K. Output: two 250mV 50K (switchable stereo/mono). Controls: master gain, mic gain, PU (1) gain, PU (2) gain, tape gain, on-off, stereo/mono mode switch. Power supply: internal 9V battery. Size:  $9\frac{7}{8} \times 7\frac{1}{8} \times 1\frac{7}{8}$  in (sloping down to  $1\frac{1}{8}$  in). Finish: black and silver trim. Price: £31.30 (plus VAT).

#### ■ A. R. FRANKLIN

(Audio engineer) 4 Birch House, Howard Road, Penge, London, SE20 8HJ. Tel: 01-659 0912.

#### Stereo mixer/control unit

Three stereo plus three mono inputs. Inputs: (2) stereo mag PU 4mV 47K RIAA corrected, (3) mono microphone 1mV 200 ohms with auto matching for dynamic units, (1) stereo line 250mV 47K. Make-and-break jacks on microphone inputs allow for up to three different stereo inputs of 250mV 47K or use with filter unit. Outputs: stereo line output (1V 22K) prior to tone controls, stereo line output (250mV 600 ohms) after tone controls, stereo line output (1V 4.7K) after tone controls. Slider faders on all inputs and on stereo output. Controls: bass  $\pm 14$ dB, treble  $\pm 14$ dB. Headphone socket for monitor-



Eagle FF10



Grundig 422 stereo mixer

ing or pre-fade listen on pickup inputs. HD:  $< 1\%$ . FR: 20Hz-30kHz  $\pm 3$ dB. H and N:  $-60$ dB. Mains: 110-240V 50-60Hz. Size:  $15\frac{7}{8} \times 5\frac{1}{2} \times 3\frac{1}{8}$  in. Weight:  $3\frac{1}{2}$  lb. Price: £85 (plus VAT).

#### Studio mixer/control unit

Inputs: four microphone with variable sensitivity from 100 $\mu$ V at a nominal 200 ohms floating. Make-and-break jacks for filter units or 100mV 47K alternative inputs. Two echo return. Output: four echo send, stereo output tapped at 1V into 600 ohms, 3V into 5K. Controls: (each channel) phasing switch, attenuator, bass  $\pm 14$ dB, treble  $\pm 14$ dB, channel fader, pan control. One each output: echo return and main fader. Two VU meters. Headphone socket. H and N:  $-60$ dB. HD:  $< 1\%$ . FR: 20Hz-20kHz  $\pm 3$ dB. Mains: 110, 240V 50-60Hz. Free-standing. Size:  $13\frac{7}{8} \times 13\frac{3}{8} \times 6\frac{1}{8}$  in. Weight:  $13\frac{1}{2}$  lb. Price: £150 (plus VAT).

Special units built to customer's requirements. Send s.a.e. for details.

#### ■ GRAMPRIAN REPRODUCERS LTD

19 Hanworth Trading Estate, Feltham, Middx. Tel: 01-894 9141/3. Cables: Reamp, Feltham.

#### Gramprian 18/4

Four channel preamplifier mixer. Transistors. Inputs: 0.2mV 25 ohms, 0.8mV 600 ohms, 10mV high impedance, 100mV high impedance. Output: 0.775V. Output impedance: 600 ohms floating. Distortion:  $< 1.5\%$ . Bass control:  $-8$

dB at 100Hz on mic,  $\pm 8$ dB at 100Hz on aux. Treble control:  $\pm 8$ dB at 10kHz. FR: 100Hz-10kHz  $\pm 3$ dB (tone controls level). Noise:  $-60$ dB. Supply: PP9 (or equivalent) 9V battery. Consumption: average 18mA. Jack socket outlet at rear. Size:  $11\frac{3}{8} \times 7 \times 2\frac{7}{8}$  in. Weight: 4½lb. Price: £39.75 (plus VAT).

#### Grampian 16/6

Six-channel preamplifier mixer for professional sound engineers. Six independently controlled microphone inputs. On/off key switch for each input permits gain control to be preset if desired. Master gain control normally controls all channels but there is provision for some inputs to operate independently. Sensitivity: 0.2mV input for 0.775V output. Output meter scaled for 1V with overload warning on scale, 1mW indicated by red marker at 0.775V. Specially damped movement. Output impedance: 600 ohms floating. Distortion:  $< 0.1\%$  for 0.775V output. FR: 100Hz-15kHz  $+2$ dB with tone controls level. Bass cut:  $-10$ dB at 100Hz. Treble cut:  $-12$ dB at 10kHz. Treble lift:  $+6$ dB at 10kHz. H and N: better than  $-65$ dB. Input sensitivity from 200  $\mu$ V at 25 ohms to 100mV at high impedance to order. Mains: 200-250V AC. Size:  $19\frac{1}{4} \times 7\frac{1}{8} \times 6\frac{3}{8}$  in. Weight: 12½lb. Price and full specification on request.

#### ■ GRUNDIG (Great Britain) LTD

Newlands Park, Sydenham, London, SE26 5NQ. Tel: 01-778 2211.

#### 422 ★

Transistorised stereo mixer for four inputs. Three coarse level controls, directional control and control for reverberation unit. Four microphone preamplifiers fitted. Channel separation: 50dB (mic), 35dB (PU). Response: 40Hz-20kHz  $\pm 2$ dB. Powered by two 9V batteries. Size:  $13\frac{1}{2} \times 2\frac{1}{2} \times 7\frac{1}{2}$  in. Price: £41.62 (including VAT).

#### 420

Mono version of 422 mixer above. Price: £28.55 (including VAT).

#### ■ HARWELL INSTRUMENTS

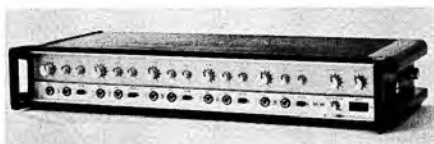
5-9 Anerley Station Road, London, SE20. Tel: 01-778 9456.

#### 400 Series

Mono or stereo five-way mixer. 30 (or more) transistors, 4 diodes. Inputs: mag PU (1) 1mV, mag PU (2) 1mV, aux (1) 100mV 47K, aux (2) 100mV 47K, mic 50-200 ohms. Outlets: monitor (2) 2V RMS into 2K, pre-fade listen into 600 ohm phones, signal for light driver as required. Rotary or slider volume, bass, treble, channel I/channel II. Low and high filters. Microphone muting switching. Mains indicator lamp (neon). Level meters to order. Full input monitoring. AC mains. Size:  $27\frac{3}{4} \times 4\frac{3}{4} \times 3\frac{3}{4}$  in. Finish: black



Harwell Mixer Unit in discotheque console



H/H Electronic MA100

anodised panel, aluminium controls. Price: from £100 (plus VAT).

#### ■ H/H ELECTRONIC

Industrial Site, Cambridge Road, Milton, Cambridge, CB4 4AZ. Tel: Cambridge 65945/6.

#### MA100S

High quality mixer/amplifier. Inputs: 10 inputs (five stereo channels) all 50mV 68K also aux input 500mV 100K. Controls: bass  $+17$ dB  $-12$ dB at 30Hz, treble  $+17$ dB  $-30$ dB at 10kHz, volume on each input, master volume, master presence  $+12$ dB at 1.5kHz. Output: 100W continuous into 7.5 ohms, 130W continuous into 4 ohms. Peak power output: 180W. FR: (power) 20Hz-20kHz  $\pm 0.5$ dB. HD: (mixer and power amplifier)  $< 0.2\%$  20Hz-20kHz (typically  $< 0.05\%$  at 1kHz at 100W. Open circuit and short circuit protection. Mains: 115, 210, 220, 230, 240V 50-60Hz. Power consumption: (quiescent) 20VA, (full power) 220A. Finish: electro-luminescent front panel. Size:  $26\frac{3}{8} \times 4\frac{1}{2} \times 11\frac{1}{2}$  in. Weight: approximately 24½lb. Price: £100 (plus VAT).

#### MA100 ★

High quality mixer/amplifier with same specification and dimensions as the MA100S, but with the addition of reverb facilities. Price: £119 (plus VAT).

#### H/H console

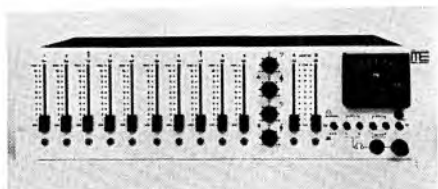
Chromium plated steel tubular stand designed to accommodate up to four mixer/amplifiers. Is also useful as means of carrying amplifiers and mixers. Full details on request. Price: £25 (plus VAT).

#### ■ KELLAR ELECTRONICS LTD

Lopen Works, Lopen Road, Edmonton, London, N18. Tel: 01-807 4986.



Kellar Electronics KDB-1



Millbank MCC Mk III

### KDB-1 ★

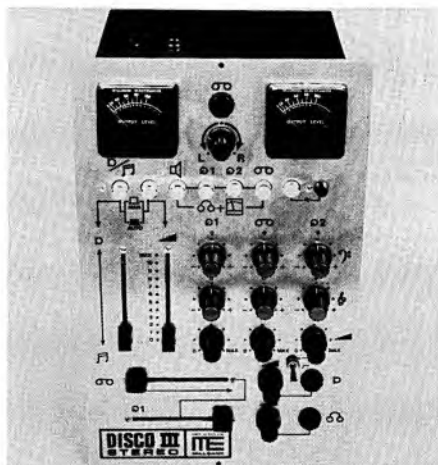
Noise reduction unit employing Dolby 'B' system. Designed for use with domestic recorders for recording and playback. Can be used for replay of commercially recorded tapes and cassettes now available under Dolby B format.

KDB1 connects in circuit between tape unit or recorder and main amplifier. Improvement in signal/noise ratio is 3dB at 600Hz, 6dB at 1200 Hz and 10dB for all frequencies above 3kHz. Only low-level signals are treated, being boosted by a preset amount during record and reduced in replay mode by an exactly complementary manner. Separate circuits for each channel.

Separate level controls for each channel, plus master overall gain control. MPX filter switch prevents interference from inadequately suppressed stereo carrier and pilot tone frequencies.

Two calibration meters, internal test tone oscillator and special Dolby set-level tape included. Output: (record) 580mV 50 ohms (5K load); (replay) 580mV 5K (50K load). Levels refer to 'Dolby level' which is 18.5mM/mm for open reel recorders and 20mM/mm for cassette recorders.

Input: (record) 25mV for 580mV output, input impedance 20K. (replay) 25mV for 580mV output, input impedance 30K. HD: <0.1%. FR: (MPX filter out) 20Hz-15kHz  $\pm$  1dB; 15kHz-20kHz  $\pm$  2dB. MPX filter: -36dB at 19kHz. Separation: better than 50dB at 1kHz. S/N: better than 70dB reference to 580mV unweighted. Mains: 200-250V 40-60Hz. Regulated power supply. Size: 17  $\times$  3 $\frac{1}{4}$   $\times$  9in. Weight: 9 $\frac{1}{4}$ lb. Finish: simulated black leather finish steel cabinet with brushed aluminium panel and control knobs. Price: approximately £50 (plus VAT).



Millbank Disco III

### ■ MILLBANK ELECTRONICS GROUP

Bellbrook Estate, Uckfield, Sussex, TN22 1PS. Tel: Uckfield (0825) 4166.

### MEX-6 ★

Six-way mains operated mono mixer. 11 transistors. Range of plug-in modules to suit all standard signal sources, also tone and alarm circuits, etc. Output: Nominal 0.77V 10K (0dB). Tape record output before or after tone controls. Controls: six independent gain controls, bass  $\pm$  12dB at 60Hz, treble  $\pm$  12dB at 12kHz. Indicator light integral with on-off switch. Peak reading level meter. Mains: 220, 250V 50-60Hz. Size: 19  $\times$  3 $\frac{1}{2}$   $\times$  8in. Price: £66.42 (plus VAT).

### Disco III ★

Four-way stereo mains-operated mixer. 52 transistors and 16 diodes. Inputs: mag PU 5mV 68K, ceramic PU 90mV 1M, mic (1) 100 $\mu$ V at 200 ohms, mic (2) 3mV at 30K, tape 55mV 47K. Output: 0.775V 5K (0dB) each channel. Pre-set gain and tone controls on gram and tape inputs. Controls: treble  $\pm$  12dB at 12kHz, bass  $\pm$  12dB at 80Hz, crossfade between PU (1) and PU (2). Mains indicator lamp in on-off switch. Two peak reading VU meters. Full monitoring facilities. Size: 13  $\times$  8  $\times$  6 $\frac{1}{2}$ in. Mains: 220-250V 50-60Hz. Price: £154 (plus VAT).

### MCC Mk III ★

Mono or stereo 10-way mixer. Range of input modules to suit all signal sources, also signal and alarm inputs available. Outputs: 0.775V 0dBm each channel, 50-ohm 2V monitoring output. Controls: two master linear faders, independent gain controls, bass  $\pm$  12dB at 100Hz, treble  $\pm$  12dB at 12kHz. Pre-fade listen switches under input faders. Mains indicator lamp in on-off switch. Meters: PPM, standard or peak-reading level meters. Mains: 220-250V 50-60Hz. Full

monitoring facilities. Size:  $19 \times 5\frac{3}{8} \times 8\frac{1}{8}$  in. Price: £193.05 (plus VAT).

**Musicmaster II ★**

Mono or stereo eight-way mixer. 28 transistors, one diode. Eight channels arranged in two groups of four to accept low Z mics (30-200 ohms), high Z mics (3.5mV input) and a range of other high Z inputs. Outlets: 0.775V at 10K per channel. Eight input faders. Preset gain controls. Input selector. Controls: bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz. Mains indicator lamp in on-off switch. Mains: 220-250V 50-60Hz. Size:  $19 \times 7 \times 5\frac{3}{8}$  in. Finish: colour-coded identification on knobs. Price: £198 (plus VAT).

**■ RADON**

Radon Industrial Electronics Co Ltd, Orme Road, Worthing, Sussex. Tel: Worthing 34904.

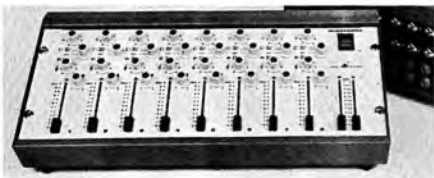
**DL6/CM★**

Mains operated mono six-channel mixer. Transistors. Six inputs: 1mV 35-100 ohms (high impedance to order). Output: 1V p-p at 6K, 0.25V p-p at 68 ohms. Independent gain control for each input. Mains on/off switch with indicator light. H and N: better than 40dB down. FR: 10Hz-35kHz (level 30Hz-25kHz). Mains: 110-120V 50/60Hz or 220-240V 50Hz. Size:  $3\frac{1}{2} \times 13 \times 7$  in. Weight:  $6\frac{1}{2}$  lb. Finish: satin polished wood cabinet with grey laminate front panel. Price: on application.

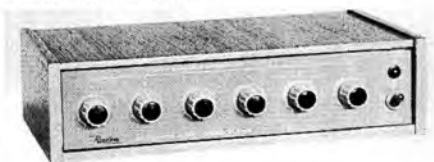
**■ SENNHEISER ELECTRONIC**

Distributors: Hayden Laboratories Ltd, Hayden House, 17 Chesham Road, Amersham, Bucks, HP6 5AG. Tel: Amersham 5511.

Audio equipment showroom, service department and despatch department: 12-13 Poland Street, London, W1V 3DE. Tel: 01-734 3748.



Millbank Musicmaster II



Radon DL6/CM

**M101 ★**

Battery operated portable mixer. Inputs: four microphone inputs switchable for 200 ohm dynamic and 12V powered capacitor (MKH series of Sennheiser mics). Output: unbalanced +6dB at 60 ohms. Pre-fade listening using ML101 mixer monitoring unit. PPM. Slider-treble faders. Separate bass and treble controls switchable to one channel or to mixed output. Treble control:  $\pm 12$ dB at 15kHz, bass control +10dB-14dB at 40Hz. Power supply: two 9V Ever-Ready cells type 276 or equivalent, or 18V from other equipment. Price: on application.

**■ SONY (UK) LTD**

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

**MX10K/MX600M**

Three-input mono mixer. Inputs: mic (3) 10K or 600 ohms. One outlet. Output impedance: (MX10K) 13.5K, (MX600M) 300 ohms. Three level controls. Passive system. Size:  $9\frac{1}{2} \times 2\frac{1}{2} \times 4$  in. Price: £8.25 (plus VAT).

**MX12M**

Mono/stereo mixer with six inputs. Inputs: mics (3) 0.195mV 600 ohms, aux (3) 61.5mV 100K. DIN connector 0.775V 10K. Two outlets plus headphone socket. Outlets: (high) 245mV 100K, (low) 0.775mV 10K. Controls: power on/off, battery check, six level controls, selector, attenuate on/off. Twin VU meters. Power: six HP11 batteries or 12V DC source. Size:  $15\frac{3}{8} \times 7\frac{7}{8} \times 7$  in. Monitoring facilities by 8-ohm phones. Price: £49.50 (plus VAT).

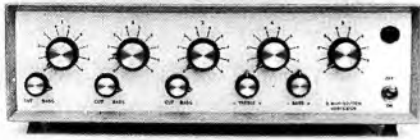
**MX6S**

Six-input stereo mixer. Inputs: mic (3) 0.775mV low Z, aux 0.245mV high Z. Two outlets. Outlets: 0.245mV low Z. Six-level controls plus channel selector. Passive system. Size:  $13\frac{7}{8} \times 2\frac{7}{8} \times 4\frac{5}{8}$  in. Price: £12.10 (plus VAT).



Sennheiser M101

★ Indicates entry is illustrated



Vortexion 50/70

#### ■ T.T.C.

Joint distributors: Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU. Tel: 01-452 6288.

E.R. (Factors) Ltd, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.

#### B2004

Transistorised stereo/mono microphone mixer. Power supply: 9V. Two stereo channels (with independent gain controls) or four mono channels. Input jack sockets, output phono sockets. Mono/stereo mode switch. On/off switch. Input impedance: 100K. Max input signal: 1V. Gain: 3dB. Free-standing case. Price: £7.26 (including VAT).

#### B2005

Transistorised mono microphone mixer. Power supply: 9V. Four channels with individual gain controls. Input jack sockets, output phono sockets. Input impedance: 100K. Max input signal: 1V. Gain: 3dB. Free-standing case. Price: £4.84 (including VAT).

#### B2006

Six-channel stereo mixer/preamplifier. Enables multiple combinations of high and low impedance microphones, pickup cartridges and other signal sources to be controlled by slider type gain controls. Low-noise transistorised circuit. Special RIAA 50K socket. Power supply: internal battery. Weight: 3¼lb. Price: £33.50 (including VAT).

#### ■ UHER

Distributors: Bosch Ltd, PO Box 166, Rhodes Way, Radlett Road, Watford, Herts, WD24LB. Tel: Watford 44233.

#### A122

Mixer unit for five channels: two stereo plus one mono or five mono channels. Inputs available for 200 ohm microphone, radio or pickup. Outputs: one 40mV nominal, one 500mV nominal. FR: 20Hz-20kHz. Slider faders with directional control, muting switches and 1kHz generator. Powered by PP3 battery. Price: approximately £55 (including VAT).

#### ■ UNIMIXER

Soundex Ltd, 18 Blenheim Road, London, W4 1ES. Tel: 01-995 1661.

#### Studio 4

Four- and six-channel mixers for studio and location work. Each channel switchable for five different inputs. One input with 48V phantom circuit for capacitor microphones. Input connections: jack socket, DIN or Cannon. Slider faders. Mono and stereo. Tone controls and plug-in PPM optional extras. Noise level: better than -127dBv with 200 ohms source. FR: 20Hz-20kHz +2dB -3dB. Overload capability: >55dB. Full monitoring with pre- and post-fade listening. Mains: 110-120, 220-240VAC, or batteries. Test and line-up oscillator provided. Mild steel cases. Price: (four channel) from £87 (plus VAT).

#### Studio 6

Similar specification to the Studio 4 but with six channels. Price: (six-channel) from £108 (plus VAT).

#### ■ VORTEXION

257-263 The Broadway, Wimbledon, London, SW19 1SF. Tel: 01-542 2814 and 6242/4.

#### 50/70 ★

All-silicon transistor amplifier with built-in four-channel mixer. Amplifier circuit similar to 100W model described in Amplifier Section. Mixer portion arranged for three 30-60 ohms balanced line inputs and one high impedance input. Separate bass and treble controls. Balanced line 100V output. Sensitivity: 100µV on low impedance inputs, 100mV 100K on high impedance input. 15-ohm output model available. Size: 14 × 11½ × 4½ in. Weight: 22lb. Price: on application.

#### 50/70 plus 5-way mixer

Similar specification to 50/70 with four-channel mixer, but with additional bass-cut controls on three low impedance inputs. Inputs: three 100µV 30-60 ohms balanced, 100mV 10M, 100mV 100K. Size: 14 × 11½ × 2½ in. Weight: 22lb. Price: on application.

#### FET mixers and PPMs

Various types of mixers available. Three-, four-, six- and eight-channel with peak programme meter. Four-, six, eight- and ten-way mixers. Twin three-, four- and five-channel stereo. Twin four- and five-channel stereo with two PPMs.

# Tape Accessories/ Components

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ADASTRA ELECTRONICS LTD

Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288 (answering service 01-452 6289).

### Imp-Verta

Matches low impedance tape heads, PU cartridges and microphones into high impedance amplifier inputs. Solid state printed circuit device using silicon transistor. Automatically switched 9V internal battery. Negligible drain. Conversion factor approximately 20 (depending on load). Virtually no hum or signal loss. Metal case, finished black crackle. Size:  $5 \times 1\frac{1}{2} \times 1\frac{1}{2}$  in. Price: £3.90 (including VAT).

### Tape Editing Kit

See entry under Synchronotape.

### Cassette Carrying Case

Designed to hold 15 compact cassettes in rigid drop-front case. Finished in padded simulated leathercloth. Snap-fast closing. Carry handle. Finish: red, tan or black. Size:  $11\frac{1}{4} \times 3\frac{1}{2} \times 4\frac{3}{4}$  in. Price: £1.56 (including VAT).

## ■ AGFA-GEVAERT LTD

Great West Road, Brentford, Middlesex.  
Tel: 01-560 2131 (20 lines). Telex: 28154.

### Editing Accessory Kit★

Price: £2.04 (including VAT).

### Splicing Tape Outfit

Price: 40½p (including VAT)

### Splicing Tape

33ft  $\frac{1}{4}$  in wide. Price: 24p (including VAT).

### Leader Tape

80ft  $\frac{1}{4}$  in tape in red, green, white and yellow.  
Price: 24p (including VAT)

### Silver Stop Foil

33ft  $\frac{1}{4}$  in. Price: 40½p (including VAT)

### Plastic library boxes

No. 11 ( $4\frac{1}{4}$  in) 32p, No. 13 (5in) 32p, No. 15 ( $5\frac{3}{4}$  in) 41p, No. 18 (7in) 51½p. All prices include 10% VAT.

### Plastic spools

No. 8 (3in) 16½p; No. 10 (4in) 17½p; No. 11 ( $4\frac{3}{4}$  in) 17½p; No. 13 (5in) 23p; No. 15 ( $5\frac{3}{4}$  in) 23p; No. 18 (7in) 25½p; No. 22 ( $8\frac{3}{4}$  in) 59½p; No. 25 (10in) 67p; No. 26 ( $10\frac{1}{2}$  in) £1.39½. All prices include 10% VAT.

## ■ ALPHA

Distributors: Highgate Acoustics,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

### DB6

Noise reducing unit for use between any tape recorder or tape deck and main hi-fi amplifier. Phono and DIN sockets for inputs and outputs. Inputs: two line inputs (>20K) with level control. Input sensitivity: 30mV for Dolby level (0 VU). Slider type level controls. Two VU meters. Outputs: 580mV for 0 VU at 1K impedance. HD: <0.5% at Dolby level at any frequency 20Hz-20kHz. Noise reduction: 8dB at 2kHz, 10dB at 5kHz. With noise reduction switched out the unit becomes a unity gain amplifier. MPX 19kHz filter, response <1dB down at 15kHz, >30dB down at 19kHz and >20dB down at 38kHz. Mains: 117, 220, 230, 250V AC. Price: £54 (plus VAT).

## ■ AUDIO PACKS

Audio Packs Ltd,  
206-210 Ilderton Road, London, SE15 1NS.  
Tel: 01-639 7844.

### Audio Packs

Pre-packed spares and audio accessories.

### Connecting Cords

Cables of various types with plugs, sockets and other terminations covering all equipment in use for domestic audio.



Agfa Tape Editing Kit



★ Indicates entry is illustrated

### Adaptors

Convert from any type of plug or socket termination to any other type.

### Audio Spares

Plugs, sockets, chassis-mounted components, fuses and audio accessories. Pre-packed for counter or showroom display.

### Mains Units

Three different 6-12V battery eliminators complete with connecting leads for use with all standard battery-operated tape recorders and radios. Full specifications on request.

### Sound Selector Units

A range of five units for routing signals to phones, speakers and amplifiers. Four of the units provide for the selection of up to three pairs of stereo headphones or up to three pairs of speakers.

The fifth unit, model HZ793, provides facilities for connecting any three signal sources to any three amplifiers. Particularly suitable for demonstration purposes in showrooms and for comparative tests. Prices on request.

### ■ AVEL-LINDBERG LTD

13-16 Ayron Road, South Ockendon, Essex, RM15 5TD. Tel: South Ockendon 2263.

### MP3 DC/AC inverters

A range of four DC to AC electronic inverters. Suitable for operating tape recorders and other similar equipment from DC supplies. Input voltages: 20-30V DC, 41-60V DC, 100-125V DC, 200-250V DC. Output: 217-227V 50Hz for first two models, 215-225V 50Hz AC for second two models. Efficiency: greater than 70%. Output frequency 50Hz sinewave  $\pm 1\%$ . No moving parts. Electrically and mechanically robust. Protected against overload, short circuit and incorrect polarity. Full details and prices on request.

### ■ BASF UNITED KINGDOM LTD

Audio/Video Tapes Division, PO Box 473, Knightsbridge House, 197 Knightsbridge, London, SW7 1SA.

Tel: 01-584 5080. Telex: 267574/5.

### Special requirement tapes LPR35LH

SP 52 8 $\frac{1}{2}$ in 1800ft £3; LP 35 8 $\frac{1}{2}$ in 2400ft £3-80; 10in 3600ft £5-60; 10 $\frac{1}{2}$ in 4200ft £6-25. LP 35 LH 8 $\frac{3}{4}$ in 2400ft £4-10; 10in 3280ft £5-60; 10 $\frac{1}{2}$ in 4200ft £6-95. All prices exclude 10% VAT.

### Technical-look spools

Standard sizes: 2 $\frac{1}{4}$ in 19p; 3in 17p; 3 $\frac{1}{2}$ in 19p; 4in 19p; 4 $\frac{1}{4}$ in 19p; 5in 22p; 5 $\frac{3}{4}$ in 24p; 7in 25p; 8 $\frac{1}{4}$ in 57p; 8 $\frac{3}{4}$ in 57p; 10in 70p; 10 $\frac{1}{2}$ in £1-18. All prices exclude 10% VAT.

### Leader Tape

Green, red or white. Plastic centre spool. 984ft £1-50; 80ft 25p. All prices exclude 10% VAT.

### Splicing Tape

80ft of  $\frac{1}{4}$ in white splicing tape, type AW. Price: 70p; 80ft  $\frac{1}{2}$ in splicing tape, type PW. Price: 80p. All prices exclude 10% VAT.

### Splicing Set

Plastic box with bonding groove and 33ft of splicing tape. Price: 36p (excluding VAT).

### Metallized foil

82ft  $\frac{1}{4}$ in sputtered silver tape. Price: £1-02 (excluding VAT).

### Leader Tape Set

Containing red and green leader tapes, 25 strips of metallized foil and spare spool labels. Price: 64p (excluding VAT).

### Adhesive LG

Splicing fluid for PVC base tapes. 1oz bottle. Price: 37p (excluding VAT).

### Plastic Tape Clips

Box of 10. Price: 16p (excluding VAT).

### Head Alignment Tape

Price: 92p (excluding VAT).

### Hobby Box

Contains splicer, marking pencil, 33ft splicing tape, 80ft each of red, white and green leader tapes, 50 pieces of metallized foil, 25 spool labels, 3 tape clips. Price: £1-86 (excluding VAT).

### ■ BIB

Bib Sales Division, Multicore Works, Maylands Avenue, Hemel Hempstead, Herts.

Tel: Hemel Hempstead 3636. Ext 10.

### Tape Head Cleaning Kit

Comprises: bottle of Bib non-inflammable tape head cleaner, two tape head applicator tools (blue), two tape head polisher tools (white), 10 applicator and polisher sticks, cleaning cloth and plastic wallet. Price: 46p (plus VAT).

### Recording Tape Splicer ★

Model 20. For use with  $\frac{1}{4}$ in or 6-3mm tape of any thickness. Chrome finished clamps for holding tape. Makes diagonal or butt splices. Non-slip base. Complete with razor cutter and instructions. Price: £1-24 (plus VAT).

### Model 21

Special larger version of Model 20. Designed for editing and splicing  $\frac{1}{2}$ in video tape. Four razor cutters and cleaning kit included. Price: £9 (plus VAT).

### Tape Editing Kit

Model 23. Kit contains tape splicer for  $\frac{1}{4}$ in or 6-3mm tape, 12 tape reel labels, razor cutter, splicing tape, tape marker, instruction leaflet and plastic wallet. Price: £1-40 (plus VAT).

### Cassette tape editing kit ★

Model 24. Enables cassette tapes to be edited



Bib splicer



Bib Cassette Cleaning Tape

quickly and easily. Kit contains cassette tape splicer ( $\frac{1}{8}$  in or 3.2mm), two precision tape cutters, tape piercer, 10 self-adhesive cassette and container labels, reel splicing tape, three tape winders and removers (two spares), instruction leaflet and plastic wallet. Price: £1.56 (plus VAT).

#### Precision tape cutters

Model M. Set of four stainless steel cutters with special plastic grips for all types of magnetic recording tape. Price: 17p (plus VAT).

#### Tape reel labels

Self-adhesive labels printed with spaces for title, composer, date, type of tape and number. On backing paper in sheet form so that details can be easily filled in by typewriter or pen. Prices: (T5 cassette title labels) 39p (plus VAT) for pack of 108; (T6 tape reel labels) 39p (plus VAT) for pack of 110.

#### Cassette head cleaning tape ★

Special tape incorporated in Compact cassette for cleaning heads; capstan and pinch wheel in one operation. Suitable for all cassette recorders and players. Price: 49p (plus VAT).

#### Splicing tape

On handy plastic dispenser. Suitable for  $\frac{1}{8}$  in and  $\frac{1}{4}$  in tapes. Price: 26p (plus VAT).

#### Cassette recorder care kit

Kit contained in plastic box comprising  $\frac{1}{8}$  in splicer, splicing tape, tape piercer, 10 cassette labels, three tape winders, two tape cutters, polishing cloth and cassette cleaning tape. Price: £1.80 (plus VAT).

#### Cassette salvage kit

Enables welded cassette cases to be opened and tape joined using Model 24 kit. Comprises



Bib Cassette Tape Editing Kit

instructions, razor cutter, two tape winders and new cassette. Price: 46p (plus VAT).

#### Luxury cassette case

Padded cassette case to hold 12. Designed for easy withdrawal and replacement. Easy opening lid and fitted with carry handle. Price: £1.15 (plus VAT).

#### Cassette wallet

Holds six cassettes in their containers for quick and easy selection. Suitable for car or home. Folds to  $9\frac{3}{4} \times 4\frac{1}{2}$  in and is held closed by stud. Finished in brown grain PVC. Price: 50p (plus VAT).

#### Eight-track cartridge tape head cleaner

Fitted in standard eight-track cartridge case. Removes dust and dirt from tape heads. Normal use is one minute for every five hours playing. Complete with dust cover. Price: 85p (plus VAT).

#### Cassette hub locking clips Ref 57

Pack of 20. Designed to stop tape unwinding. Price: 26p (plus VAT).

#### Cassette re-record kit Ref 54

For converting Musicassettes for further recording. Also makes normal cassettes erase proof. Contains tab removing tool, 24 re-record tabs and 27 self-adhesive colour-coded title labels. Complete with instructions in plastic container. Price: 44p (plus VAT).

#### Cable and flex tidies Ref D/2

Shortens without cutting inter-unit cables, speaker leads, mains flex. Plastic. Price: (pack of five) 20p (plus VAT).

#### Eight-track cartridge case Ref 35

Luxury padded case designed to give easy withdrawal and replacement of tapes. Easy opening

★ Indicates entry is illustrated

fastener, carry handle, room for eight cartridges. Price: £1.36 (plus VAT).

#### **Hi-fi stereo test cassette Ref 53**

Devised by Bib and recorded by Decca. Includes channel identification, balance control, speaker phasing, adjusting record level controls, reducing hiss and eliminating hum and noise. Gives sounds you can record yourself. 523 musicians, six symphony orchestras, D'Oyley Carte Opera Company, grand organ, brass band, six individual instruments. Plays for 50 minutes. Price: £1.93 (plus VAT).

#### **Cassette care kit Ref 51**

Contains head cleaner, cassette salvage and re-record kit, editing and joining kit. Price: £2.70 (plus VAT).

#### **Eight-track stereo test cartridge Ref 58**

Similar contents to the Hi-Fi Stereo Cassette Test Tape above, but plays for 54 minutes and includes 43 minutes of high quality music. Price: £1.93 (plus VAT).

#### **BLACK KNIGHT RUMBLECURE**

Bank Top, Currier Lane, Ashton-under-Lyne, Lancs, OL6 2TA.

Tel: 061-330 2836 (open 7 days).

Specialists in curing rumble due to acoustic feed-back through floors and cabinets (Patent 15493/71).

Plinths fitted with Rumblecure equipment available. Details on request. Many standard items now available and more being added all the time. Quotations on receipt of full details of equipment. Prices from £30 (with kits). Kits not available separately (Patent 28949/69).

#### **BOGEN**

Cole Electronics Ltd,  
Church Road, Croydon, Surrey, CR0 1SG.  
Tel: 01-686 7581.

#### **Bogen tape heads**

Comprehensive range of magnetic tape heads including record-only, replay-only, combined record/replay and erase. Models and types available for most domestic and professional applications, such as data storage, films, cassettes, audio, video, etc. Details and prices available on request.

#### **BRADMATI LTD**

338 Aldridge Road, Streetly, Sutton Coldfield, Warwickshire. Tel: 021-353 3171.

Magnetic recording heads manufactured to order. Enquiries welcomed and full details of service offered provided on request.

#### **CALYX**

Calyx Shelving Systems Ltd, Stanley Works,  
Belgrave Road, London, SE25 5AN.  
Tel: 01-771 1221.

#### **P7 Cassette Rack**

An all acrylic product holding 18 cassettes, or stereo cartridges, or 5½ in tapes. 13¼ in long. Price: £1.50 (plus VAT).

Full range of specialist audio products from small cassette rack listed above to a full modular wall system (see also Hi-Fi Cabinets Section). Colour brochure available on receipt of 6p in stamps (not s.a.e. please).

#### **CAROL CINESOUND**

Cresta Electronics Ltd, 72 Loom Lane, Radlett, Herts, WD7 8PA.

Tel: Radlett 5342 and Harpenden 60397.

#### **Carol Cinesound**

Tape/film and tape/slide synchroniser to enable home movies to be made with sound commentary and background music. The Carol Cinesound provides the vital link between the projector and the tape recorder. Details of models below.

#### **Model R.1**

Record-only unit for projector<sup>s</sup> or cameras. Housed in cream moulded case (size: 4 × 2 × 1½ in). Powered by PP3 or equivalent. Weight approximately 5½ oz. Input from camera DIN three-pin plug, output 3.5mm jackplug. Cinepulse cassette (see below) plugs into output socket. Cable included. Price: £10.40 (including 94p VAT).

#### **Model T.T.1**

Transcription unit for the transfer of pulses from cassette (or from tape to tape) when making copies of sound track, or transferring from pulse to sprocket tape. Size: 4 × 2 × 1½ in. Cable included. Price: £10.40 (including 94p VAT).

#### **Model CS/2 Mk III**

Record/playback unit. Mains: 120-240V AC. 23 resistors and 15 diodes. Control circuit operates via isolating transformer and silicon controlled rectifier (thyristor) in motor circuit. Unit also suitable for manual or automatic transfer to stripe in sync. Finish: metal case in grey and off-white stove enamel. Size: 12 × 7 × 3½ in. Price: £45.30 (including £4.11 VAT).

#### **Cinepulse cassette**

Compact cassette with built-in head on which to record pulses in addition to sound, which is recorded in the normal way. Enables most portable cassette tape recorders to be used for pulse sync sound recording without modification. Price: £6.15 (including 56p VAT).



Gardners 107 inverter

#### **½ in editing blocks**

Price: 60p (including 5p VAT).

#### **½ in leader and editing tape**

Price: 28p per reel (including 2p VAT).

#### **Cassettes and ¼ in tape**

Prices and details on request.

#### **Special services**

Transfer of sound from cassettes or reels to sprocket tape or 8mm stripe. Striping service for 8mm cine. Compilation of 8mm sound tracks. Camera and projector adaptations for use with pulse sync systems. Full details and prices on request.

#### ■ COLTON

Musonic Ltd, 34-38 Verulam Road, St Albans, Herts. Tel: St Albans 50611/2.

#### **Gripex**

Anti-slip dressing. A spirit suspended solution supplied in 1fl oz bottles with brush. Applied thinly to drive surfaces of belts or friction wheels, it dries in 10-15 minutes. Price: 25p per bottle (plus VAT).

#### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

#### **TD.79 Tape Head Demagnetiser**

250V mains operation. Price: £1.90 (plus VAT).

#### **T.635 Tape Splicer**

Complete with cutting and trimming blades. Price: £1.10 (plus VAT).

#### ■ EMI TAPE LTD

Tape House, Dawley Road, Hayes, Middlesex, UB3 1BT. Tel: 01-573 3888. Telex: 22417.

#### **AP123 Jointing Block**

Professional non-magnetic jointing block for

precision splicing at 45° or 90°. Price: 53p (plus VAT).

#### **AP38 Coloured Leader Tape**

Approximately 150ft in plastic dispenser. Range of five colours as follows: white, red, blue, green, grey. Price: (per reel) 23p (plus VAT).

#### **Jointing Tape**

Adhesive polyester tapes specially prepared for splicing. Approximately 30ft in plastic dispenser. Type AP102 (¾ in wide) 24p; type AP103 (½ in wide) 37p. All prices exclude VAT.

#### **AP125 Stop Foil**

Metallic stop foil on 50ft reels in plastic dispenser. Sufficient for 50 tapes. Price: 32p (plus VAT).

#### **AP124 Accessory Kit**

Kit for splicing and editing. Contains three dispensers of leader tape, one of stop foil, one of jointing tape, jointing block and two cutters. In plastic tray with two spare compartments for additions. Price: £1.88 (plus VAT).

#### **Plastic Spools**

In cartons; 4in 14p; 5in 15p; 5½ in 16p; 7in 18p. In self-standing dust-proof plastic library boxes with index: 3in 12p, 4in 20p, 5in 25p; 5½ in 25p; 7in 30p. All prices exclude VAT.

#### ■ FERROGRAPH CO LTD

Auriema House, 442 Bath Road, Cippenham, Slough, SL1 6BR. Tel: Burnham 062-86 62511. Telex: 847297.

#### **Defluxer**

For depolarising heads, capstans and guides. Ensures maximum signal/noise ratio. Prevents hiss and protects tapes from cumulative background noise. Price: £3.98 (plus VAT).

#### **Carrying case for Series 7 recorders**

Waterproof canvas case with zip fastener. Price: £6 (plus VAT).

#### **Plugs**

IPS-401 screened plug with aluminium body and cable clamp. Price: 40p (plus VAT).

#### **Endless loop cassette**

Permits Ferrograph to be operated continuously on an endless loop of 8 min duration at 7½ i/s. Price: £8 (plus VAT).

#### **Ferrotape spools**

Aluminium, anodised grey. Prices: 7in 93p (plus VAT); 8½ in £1.04 (plus VAT).

#### ■ GARDNERS TRANSFORMERS LTD

Christchurch, Hampshire, BH23 3PN.  
Tel: Christchurch (02015) 2284. Telex: 41276.

#### **DC/AC Inverters 107 (A and B) ★**

Provide 240V AC squarewave output from DC input. Output: 300VA at 220-240V nominal.

★ Indicates entry is illustrated

Frequency: 50Hz ± 1Hz. Efficiency: > 80% at full load. Input: (107A) 11-15V DC; (107B) 22-30V DC. Size: 9½ × 8¼ × 8½ in. Weight: 28½ lb. Full specification sheet on request. Price: £61 (plus VAT).

### GRAMPIAN REPRODUCERS LTD

Hanworth Trading Estate, Feltham, Middx.  
Tel: 01-894 9141. Cables: Reamp, Feltham.

#### Grampian G.7 ★

Matching units, consisting of double-wound transformer in a Mu-metal case with jack socket on the primary and a screened lead on the secondary. Dimensions: 3¾ × 1¼ in diameter. Versions available for matching 15/30 ohms, 600 ohms and 50,000 ohms or greater. Price: £5.46 (plus VAT).

#### Grampian Parabolic Reflector

Diameter 24in, depth 5in. Gain: 14dB over range of 500Hz-5kHz. To take Grampian DP4 and DP6 mics. Weight: 4¾ lb. Price: £10.29 (plus VAT).

#### Grampian Reverberation Unit

Self-contained portable unit, transistorised and operated from internal dry batteries. Independent input channels, low level and high level. Output: 1V, 600 ohms. Size (including detachable lid): 17½ × 5¼ × 6¼ in. Weight: 12lb. Price: £70.35 (plus VAT) (batteries extra). Mains unit available.

### GRUNDIG (Great Britain) LTD

Newlands Park, Sydenham, London, SE26 5NQ.  
Tel: 01-778 2211.

#### Sona Dia ★

Designed to synchronise a tape recorder with automatic slide change projector. Records and reads control pulse on lower ¼-track. Pulse frequency: 100Hz. Power consumption: 3W. Price: £18.63 (including VAT).

### JOHN HORWITZ (IMPORT)

305 Kenton Road, Kenton, Harrow,  
Middlesex, HA3 0HP. Tel: 01-907 6667.

#### Stereo stamp

Small rubber stamp to enable tape enthusiasts who record in stereo to label their tapes, making them instantly visible. Price: 40p including postage.

### IMPEX

McArdle & Brainsby (Import & Export) Ltd,  
PO Box 2BB,  
Newcastle upon Tyne, NE9 2BB.

#### MS7

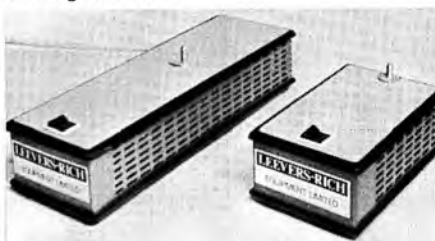
Stereo magnetic pickup preamplifier designed specifically for use with Ferrograph Series Seven tape recorders. Other versions available for earlier Ferrographs and other makes of ampli-



Grampian G7 matching unit

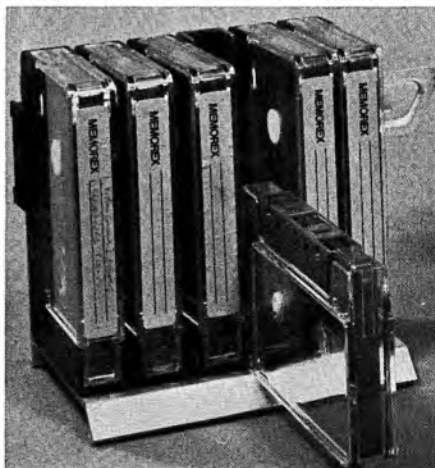


Grundig Sona Dia



Leevers-Rich LR71

Leevers-Rich LR70



Memorex library holder

fier. Input: 3mV 47K. Output: 100mV 470 at 1kHz. HD: <0.03% at 100mV output. Overload margin: >28dB. S/N ratio: >60dB. Power supply: from Ferrograph, or 50V DC at 7mA. Price: £9. Also available in kit form, see Constructional Kits Section. All prices exclude VAT.

#### ■ LEEVERS-RICH EQUIPMENT LTD

319 Trinity Road, Wandsworth, London, SW18 3SL. Tel: 01-874 9054/6. Cables: Leemag, London, SW18. Telex: 923455.

#### Leeraser LR70, LR71 ★

Bulk tape demagnetisers. Model LR70 for tapes up to 8½ in diameter. Price: £18 (plus VAT). Model LR71 for tapes up to 11¼ in diameter. Price: £28 (plus VAT).

#### ■ LENNARD DEVELOPMENTS LTD

206 Chase Side, Enfield, Middlesex, EN2 0QX. Tel: 01-363 8238.

#### Dry-splice

Precut adhesive tape for splicing and mending without the aid of a splicing block. Envelopes of 24. Price: 19p.

#### Playfair antistatic cleaning fluid

30cc polythene bottle. Price: 23p.

#### Playfair cassette cleaners

Further details and price to be announced.

#### ■ MAC

Modular Audio Components Ltd, Canterbury Road, Nottingham, NG8 1PQ. Tel: Nottingham 79797.

#### AAU-1

Audio Adaptor unit providing connections for tape recorders. Provision for fitting attenuator resistors internally. 24in connecting leads fitted with either phono or DIN plugs (AAU-1Q). Panel fitted with two DIN sockets for record/Play. One stereo or two mono recorders can be connected to cabinet mounted Hi-Fi system. Size: 3 × 3 × 3in. Finish: jaguar silver. Price: £3.80 (plus VAT).

#### AAU-4

As previous model, but with provision for connecting two stereo recorders to one amplifier for record/replay, one via rear phono sockets, the other via front DIN socket. 3-way switching gives various combinations for copying, etc. Price: £5 (plus VAT).

#### AAU-4M

As AAU-4, but fitted with additional replay leads and extra switching for use with amplifiers incorporating special tape monitor circuits. Price: £7.36 (plus VAT).

#### AAU-TV

Audio adaptor unit provides a ready means of connecting various hi-fi equipments to a TV

receiver. Built-in isolating transformer tapped 3-8-15 ohms for matching external speakers. Switchable output attenuator for matching input of tape recorder or amplifier. 3-way switching enables TV speaker to be switched on or off. (Remote control switch available with 10ft lead to switch speakers off/on from chair.) Size: 3¼ × 3¼ × 3½ in. Solid teak case. Finish: jaguar silver. Price: £8.40 (plus VAT).

#### AAU-BOX

Connector box with facilities for various combinations of audio leads fitted with the plugs in common use. Two independent channels of: 4mm sockets, co-ax, ¼ in jack, miniature jack, 3-pole jack, 5-pin DIN, two pairs of phono. DIN pins selected by slide switch. Screw terminals underneath for fitting attenuator and load resistors, which can be switched in or out. Size: 4¾ × 3¾ × 1¼ in. Finish: jaguar silver. Price: £5.70 (plus VAT).

All MAC AAU units are available in solid teak case at an additional cost of £1.32 (plus VAT).

#### ■ MARRIOTT MAGNETICS LTD

Penryn, Cornwall. Tel: Penryn (032-67) 2267.

#### Magnetic Heads

Manufacturers of a wide range of competitively-priced high quality magnetic record/playback and erase heads. Included in the range are versions for two-track and four-track open-reel and cassette recorders, also eight-track cartridge types. Full details and prices on application.

#### ■ MASTERTAPE (MAGNETIC) LTD

Blackthorne Road, Poyle Trading Estate, Colnbrook, Bucks, SL3 0AQ. Tel: 01-964 2431.

#### Leader Tapes

45ft; colours, red, white, blue, green. Price: (per reel) 15p (plus VAT).

#### Plastic Tape Clips

25 per packet. Price: 19p (plus VAT).

#### Metallic foil

20ft reel. Price: 30p (plus VAT).

#### Adhesive tape

18ft reel. Price: 23p (plus VAT).

#### Empty Spools (boxed)

3in 11p; 4in 13p; 5in 17p; 5¾in 19p; 7in 21p; 8½in 37p. (All prices plus VAT).

#### ■ MEMOREX (UK) LTD

50 Salisbury Road, Hounslow West, Middlesex. Tel: 01-570 7716.

#### Cassette cleaner

Price: 57p (including VAT).

#### Cartridge cleaner

Price: 90p (including VAT).

#### Cassette Library Holder ★

Without cases. Price: 75p (including VAT).

★ Indicates entry is illustrated

### **Cassette Library Holder ★**

Complete with cases. Price: £1.95 (including VAT).

### **Audio Training Cassette kits ★**

Available in boxes of 50 in C30, C45, C60, C90 and C120 sizes. Further details and prices on application.

## **■ METRO SOUND**

Metrosound Manufacturing Co Ltd,  
Cartersfield Road, Waltham Abbey,  
Essex, EN9 1JF. Tel: Waltham Cross 31933.

### **M.4 Klenzatape kit**

Patented head cleaner. Kit comprises ribbed cleaning tape, two special spools and bottle of Klenzatape fluid. Price: 75p (plus VAT).

### **M.12 Metro-Strobe**

Stroboscope for checking accuracy of tape recorders on all speeds at 50Hz and 60Hz. Price: 65p (plus VAT).

### **M.17 Metro-Splicing Block**

Professional precision metal splicing block for  $\frac{1}{4}$  in tape, supplied with non-magnetic cutter blade. Price: 60p (plus VAT).

### **M.18 Leader tapes**

Choice of six colours, approximately 40ft of leader tape, wound on to plastic mini-spool. Price: 25p (plus VAT).

### **M.19 Stop foil**

Metallic tape for actuating electronic auto stop mechanisms for tape recorders. Approximately 15ft on mini-spool. Price: 25p (plus VAT).

### **M.20 Jointing tape**

$\frac{1}{4}$  in wide, approximately 12ft on mini-spool. Price: 25p (plus VAT).

### **M.24 Lubricating Kit**

Suitable for tape recorders and mechanical moving parts. Comprises small bottle of each of R.O.B. and R.O.G. oil and container of Starfax. Price: 40p (plus VAT).

### **M.32 Cassette Head Cleaner**

Same size as Philips Compact Cassette. Non-abrasive. Cleans and polishes record and erase heads. For all recorders and tape players using Philips type cassettes. Price: 50p (plus VAT).

### **M.30 Accessory Rack**

For radio and audio retailers. Wire display rack with assortment of Metrosound accessories in packs. Full details and prices on request.

### **M.33 C60 Blank Cassette**

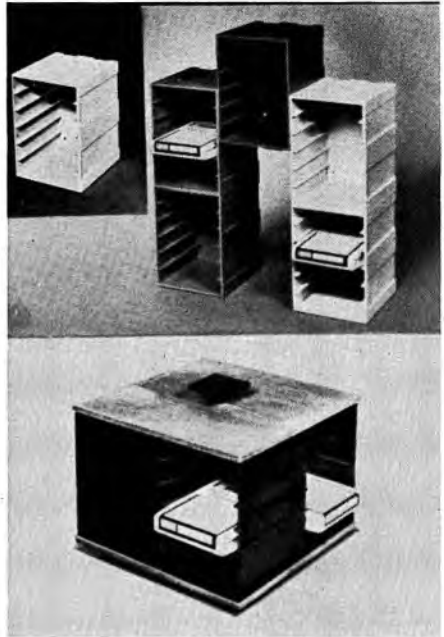
Price: 60p (plus VAT).

### **M.34 Ioniser fluid**

Price: 25p (plus VAT).

### **M.39 Cartridge Head Cleaner**

Designed for cleaning heads on eight-track car-



*Musonic N' Stac*

*Musonic Carousel*

tridge tape players and recorders. Price: £1 (plus VAT).

### **M.46 Test Cassette and Sampler**

Compact cassette containing directions for cassette tape recorder maintenance and setting up procedure. Includes test music and recorded stereo works. Price: £2.25 (plus VAT).

## **■ MUSONIC LTD**

34-38 Verulam Road, St Albans, Herts.  
Tel: St Albans 50611/2.

### **CaseSet**

Carry case for compact cassettes. Made in wood and plastic. Price: £1.39 (plus VAT).

### **Cartabout**

Carry case for eight-track cartridges. Made in wood and plastic. Price: £1.80 (plus VAT).

### **Cassette Head Cleaner**

Compact cassette containing cleaning tape. Cleans and polishes the tape heads. Price: 42p (plus VAT).

### **Cartridge Head Cleaner**

With 'beep' tone. Inserted into recorder or player until three 'beeps' are heard, after which the heads are clean. Price: 72p (plus VAT).

### **Cartridge Head and Drive Cleaner**

Reversible cartridge that cleans the tape heads and the drive wheel. Price: £1.05 (plus VAT).

**N Stac (MT12)**

Adaptable storage system for cassettes. Each module locks together and can be wall mounted or free standing. Capacity: eight cassettes. Price: 57p (plus VAT).

**N Stac (MT13) ★**

Similar to N Stac MT12 above but designed to hold six cartridges. Price: 57p (plus VAT).

**Cassette Carousel (MT14)**

Revolving unit with four sections each holding eight cassettes. Neat and compact way to store cassettes. Price: £3.75 (plus VAT).

**Cartridge Carousel (MT15) ★**

Similar to the Cassette Carousel above but designed to hold six cartridges in each section. Price: £3.75 (plus VAT).

**Cassette Library (MT11)**

Compact cassette case in vinyl. Interior fitted to hold 15 cassettes. Price: £1.72 (plus VAT).

**Cassette Library (MT10)**

Vinyl case with carry handle and lock. Interior fitted to hold 30 cassettes. Price: £2.58 (plus VAT).

**■ OSMABET LTD**

46 Kenilworth Road, Edgware, Middlesex, HA8 8YG. Tel: 01-958 9314.

**'Instant' Bulk Tape Eraser and Recording Head Demagnetizer**

Operates from AC mains to provide rapid and complete erase of tapes and cassettes prior to making quality recordings. Weight: 18oz. Price: £2.50 (plus VAT).

**■ PD CONNECTORS**

Parry Electronic Developments Ltd, Assay House, 28 Greville Street, London, EC1. Tel: 01-242 1100.

**DIN plugs**

New design of DIN plug which requires no soldering or screw connections. Pins interchangeable to match any DIN configuration. Space inside housing to accommodate matching or attenuating resistors. Ratchet-type cable clamp adjusts to all sizes of connecting lead. Designed for home constructors and hi-fi enthusiasts. Price: 28p.

**■ PHILIPS ELECTRICAL LTD**

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777. Cables: Philamps, London.

**EL3787A Pre-Amplifier**

Designed for use with Philips ¼-track mono mains-operated recorders which have stereo socket and first-stage input transistor circuit. EL3787A with additional equipment offers

play-back of pre-recorded stereo tapes, duo-play (playback of one track while recording on parallel track) and multi-play (copying from one track to another and simultaneously adding an accompaniment). Price: £8.12 (including VAT).

**EL1995/N6400 Slide Synchroniser**

For use with most tape recorders and automatic slide projectors (max voltage 30V, max current 1A). Supply: 9V battery. Price: £16.16 (including VAT).

**N6502**

Mains supply unit. Inputs: 110-245V (switchable). Outputs: 6V, 7.5V and 9V (switchable). For use with Philips battery tape recorders and radios fitted with appropriate socket. Price: £5.78 (including VAT).

**SK10 Splicing Kit**

Contains white, green, red and blue leader tape, switching foil, adhesive tape, adhesive labels, cutting blade, splicing jig and instructions. Contained in plastic case. Price: £1.38 (including VAT).

**Mono headphones**

For use with Philips recorders. Price: (N6308) £3.96 (including VAT).

**Empty spools in cardboard boxes**

5in 20p; 5½in 21p; 7in 24p; 10½in cine centre £1.09. All prices include VAT.

**Library cases**

5in 12p; 5½in 15p; 7in 18p. All prices include VAT.

**ET 4743/00**

Compact cassette box. Price: 4p (including VAT).

**ET 4744/00**

Library rack. Price: 6p (including VAT).

**Cassette Cleaning Tape**

Price: 76p (including VAT).

**N6705**

Car mounting unit for models EL3300, 3301, 3301T, 3302, N2202 tape recorders. 6V or 12V, positive or negative earth (negative earth only with N2202). Price: £15.70 (including VAT).

**EL/1900 Leader Tape**

LT10 (white), LT20 (green), LT30 (red). Price: 14p per reel (including VAT).

**EL3880/50 Switch foil**

Price: 17p (including VAT).

**EL3916/10 Jointing tape**

Price: 33p (including VAT).

**N6719**

Remote control unit for stereo tape recorders N4450, N4418 and N4510. Illuminated 'tip-touch' controls for; pause, record, fast-forward, fast-rewind, start and stop. Supplied complete with 22½ft cable. Price: £13.83 (including VAT).



★ Indicates entry is illustrated

### **N6720 DNL**

Dynamic noise limiter designed to improve signal-to-noise ratio of existing recordings. Connects between recorder or tape deck and main amplifier. Operates only during playback. Price: £17.55 (including VAT).

### **N6302**

Stereo headphones designed for use with Philips recorders. Stereo 'sound dimension' control permits listener to adjust stereo effect to personal taste. FR: 16Hz-20kHz. Impedance: 600 ohms. Price: £22 (including VAT).

### **N8500**

Hyper-cardioid electret microphone designed for use with Philips cassette and open reel recorders. FR: 100Hz-16kHz (DIN 45 500). Impedance: 1K. Power supply: 1.5V Penlight battery. Price: £16 (including VAT).

### ■ **Q A S**

Quality Audio Supplies,  
Wollaton Road, Beeston, Nottingham,  
NG9 2PB. Tel: 0602 252222 and 256141.

Wide range of audio accessories including phono plug, DIN plugs and sockets, 4mm and wander plugs, couplers, screw terminals, slider switches, connecting leads with all types of terminations, audio switching units and remote control stations. All items individually blister-packed for over the counter or self-service sales.

See Pickup Accessories and Speaker Accessories Sections for details of other QAS equipment.

### ■ **SCHOTT**

Jacrex Marketing Ltd, 40 Bell Street, Reigate, Surrey, RH2 7BA. Tel: Reigate 40540.

#### **Cassette Bar**

Storage unit for cased and uncased tape cassettes. Rotates on base. One unit can be stacked upon another. Each tape location incorporates latch-in device to prevent accidental spillage. Holds 20 cased or 32 uncased cassettes. Three different colour combinations available. Colours: black and white, black and yellow, black and orange. Price: £4.50 (plus 45p VAT).

### ■ **SCOTCH**

3M (UK) Ltd, 3M House, Wigmore Street, London, W1. Tel: 01-486 5522.

#### **No. 41 Splicing Tape**

A white pressure sensitive adhesive tape specifically designed for splicing magnetic tape.  $\frac{1}{2} \times 150$  in 39p;  $\frac{1}{2} \times 66$ in 73p;  $\frac{3}{8} \times 66$ in 64p. All prices include VAT.

#### **Tape a Letter**

Send a letter on tape. You can talk for up to thirty minutes on a SCOTCH Tape a Letter. The 3in reel fits all spool type tape recorders. Handy pack is specially designed for easy post-

ing. Price: 42p (including VAT).

#### **Accessory Kit**

A slim pocket-size kit for outside work or 'on-the-spot' editing. The accessory kit contains: splicer, No. 41 splicing tape on a dispenser, No. 24 white leader tape, in handy pack with cutter, ten tape clips. Price: £2.64 (including VAT).

#### **Tape Clips**

For holding tape secure on a spool and preventing spilling or tangling in storage, handling and shipment. Available in packets of ten. Price: (per packet) 14p (including VAT).

#### **Empty Spools**

Made of strong, high-quality plastic except 10 $\frac{1}{2}$ in which is metal. Available in all popular reel sizes each individually boxed and with a slot to allow easy tape threading. In larger sizes the slot is calibrated. Price: 3in 17p; 4in 21p; 5in 22p; 5 $\frac{3}{8}$ in 25p; 7in 29p; 10 $\frac{1}{2}$ in £2.09. All prices include VAT.

#### **No. 24 Leader Tape**

Used to identify ends of tape and sections within a reel. Supplied in red, yellow, white, green and blue.  $\frac{1}{4}$ in  $\times$  50ft. Price: 15p (including VAT).

### ■ **SILICON**

Arthur Dennis Taylor, 211 Pield Heath Road, Hillingdon, Middlesex. Tel: Uxbridge 38843.

#### **DC to AC inverters**

Wide range of electronic inverters for converting almost any DC voltage into AC suitable for operating tape recorders, record decks and audio equipment. Suppressed against interference. Fully protected and designed to withstand up to 20% overload. Full details and prices on request.

### ■ **SONY (UK) LTD**

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames, Middlesex.  
Tel: Sunbury 87644/7.

#### **HE-2**

Tape head demagnetizer. Size: 2 $\frac{1}{2}$   $\times$  1 $\frac{1}{2}$   $\times$  5in. Weight: 13oz. Price: £4.60 (plus VAT).

#### **CSS-4**

Sound-on-sound adaptor for recorders and tape decks without suitable facilities. Inputs for microphone and line, outlets for feeding into low impedance mic sockets. Price: £5.20 (plus VAT).

#### **BE-7**

Bulk eraser for compact cassettes. Permanent magnet. Size: 4 $\frac{1}{2}$   $\times$  4 $\frac{5}{8}$   $\times$  1 $\frac{3}{4}$ in. Weight: 2 $\frac{1}{2}$ lb. Price: £5.70 (plus VAT).

### ■ **SYNCHROTAPE**

Sole Distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288 (answering service 01-452 6289).

**Synchrotape Editing Kit**

Instant cut and trim splicer, four reels coloured leader tape, one reel metallic stop foil, one reel adhesive tape, six coloured tape-securing clips and 28 self-adhesive titling labels. Presented in see-through crush-proof carton. Complete with 12-page instruction and information booklet. Price: £2.47 (including VAT).

**TAPE RECORDER SPARES LTD**

Harmsworth House, 9 Harmsworth Street, London, SE17 3TL. Tel: 01-735 9683.

**Audio Packs**

Pre-packed spares and audio accessories.

**Connecting cords**

Cables of various types with plugs, sockets and other terminations covering all equipment in use for domestic audio.

**Adaptors**

Convert from any type of plug or socket termination to any other type.

**Audio Spares**

Plugs, sockets, chassis mounted components, fuses and audio accessories. Pre-packed for counter or showroom display.

**Mains units**

Three-different 6-12V battery eliminators complete with connecting leads for use with all standard battery-operated tape recorders and radios. Full specifications on request.

**TDK ELECTRONICS**

Peter Bowthorpes & Associates Ltd, 33 Holmethorpe Avenue, Holmethorpe Trading Estate, Redhill, Surrey. Tel: Redhill 67411.

**Cassette head cleaner HCl**

Price: 79p (including VAT).

**Cassette storage cabinet CAB-1**

Price: £1.82 (including VAT).

**Cassette Library Case CLC**

Price: 14p (including VAT).

**Open reel accessories**

AR10M 10½ in metal reel £4, AR7M 7 in metal reel £3.14, AR7D 7 in plastic reel 81p, NAB hub adaptor £2.12, plastic library box for 7 in reel 80p. All prices include VAT.

**TELEFI**

Rola-Celestion Ltd, Ditton Works, Foxhall Road, Ipswich, Suffolk, IP3 8JP. Tel: Ipswich (0473) 73131.

**Telefi**

Special adaptor to permit sound channel output to be taken from most UHF 625-line television receivers. Easy fitting. No connections or modifications to TV. Usually operates without even removing cabinet back. Special probe picks up stray 6MHz inter-carrier sound signal, prior to

TV sound detector, and processes the signal to provide a high quality audio output for feeding hi-fi system. Finish: teak. AC mains. Output: typically 100mV-1V adjustable. Output impedance: 2K. Distortion: <1%. FR: 30Hz-20 kHz. Two screened leads 6ft long. Price: £30 (including VAT).

**THORN CONSUMER ELECTRONICS LTD**

284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.

**Synchro-amp adaptor TA/01**

Preamplifier unit for second channel stereo playback. Monitoring one track whilst recording on another. Automatic slide projector synchronisation. For models using D842 and DC43 decks only. Price: £11.22 (including VAT).

**Foot switch TA/19**

Facilitates use of recorder as dictating machine. Recorder runs when switch is depressed. For models with remote pause facility. Price: £2.77 (including VAT).

**Monitoring Stethoset TA/29**

Stethoscope type earpiece to monitor programme during recording. Fitted with Continental speaker plug. Price: £1.48 (including VAT).

**Slide Projector Synchroniser TA/28**

For operating slide change on projectors having a remote control. Used with ¼-track recorders. Price: £8.84 (including VAT).

**Stereo headphones TA/39**

General purpose stereo headphones. Fitted with ¾ in standard jackplug. Price: £8.25 (including VAT).

**Stereo headphones TA/41**

Stereo headphones. High impedance. High quality performance. Price: £10.16 (including VAT).

The tape recorder accessories listed above are primarily for use with machines marketed under the Thorn brand names Ferguson and Marconiphone.

**T.T.C.**

Joint distributors: Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU. Tel: 01-452 6288. E.R. (Factors) Ltd, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.

**I.1001**

Tape splicer. Self-contained with instant cut and trim action. Spring-loaded arms secure tape to padded cutting block. Price: £1.25 (including VAT).

**I.1003**

Tape head defluxer. AC mains. For removing

★ Indicates entry is illustrated

residual magnetism from tape heads, capstan, guides and other parts of recorders. Hand-shaped moulded body with 1½ in probe. 3ft mains lead. 200-250V. Price: £1·81 (including VAT).

#### **I.1004**

Bulk tape eraser. Heavy duty. For reels up to 10in diameter. Non-magnetic moulded top. Free-standing metal case with non-scratch feet. On/off switch. Indicator light. Price: £8·40 (including VAT).

#### **UHER**

Distributors: Bosch Ltd, PO Box 166, Rhodes Way, Radlett Road, Watford, Herts, WD2 4LB. Tel: Watford 44233.

#### **W212 Stethoset**

Stethoscope earphones. Price: £3·60 (plus VAT).

#### **Uher A401 Timer**

Self-starting synchronous clock mechanism with hour and minute hands. A third hand indicates time over a 24-hour period (i.e. operates at half speed of normal hour hand). This third hand operates switch striker.

72 selectors round perimeter of clock, spaced at 20-minute intervals, permit on/off/on/off switching in sequence, i.e. up to 36 on and 36 off operations within every 24-hour period. Accuracy is ± two minutes of the set time. Price: £16·80 (plus VAT).

#### **Z124**

Mains unit/charger designed to operate models 1200 Report Stereo, 4000L, 4200/4400 from 110-240V AC mains, or to recharge Dryfit battery (Z212) or nickel cadmium battery (Z214). Price: approximately £18 (including VAT).

#### **Z212, Z214**

Lead acid accumulator (Z212) and nickel cadmium battery (Z214). Designed to fit into models 1200 Report Stereo, Pilot, 4000L, 4200/4400. Capacity: approx 2·5 AH. Running time per charge: approx 4-5 hours. Prices: on application.

#### **Z213, Z215**

Lead acid accumulator (Z213) and nickel cadmium battery (Z215) for Uher Compact Report Stereo. Capacity 1·5AH. Running time per charge approximately 5 hours. Price: on application.

#### **VALRADIO LTD**

Browells Lane, Feltham, Middlesex.

Tel: 01-890 4837/4242.

Service agents: Vibro Supply, 57 Fortess Road, London, NW5. Tel: 01-485 5165.

#### **DC converters**

Designed for operating tape recorders, video recorders and similar mains equipment from ship's supply or car battery. Input voltage from

12V to 220V DC. Output from 30W to 1000W AC. Prices from £21.

#### **Transvector C12/30S**

Input 12V DC. Output 50Hz ± ¼ Hz sine wave at 30W. Suitable for positive or negative earthed input. Built-in switch and socket. Supplied complete with input lead. Size: 8 × 6 × 6in. Weight: 8lb. Price: approximately £32.

#### **Transvector C12/120S**

Input 12V DC. Output: 115-230V 50Hz ± ¼ Hz sine wave at 120W. Price: approximately £57.

#### **Transvector C12/200**

Input 12V DC. Output: 115-230V 50Hz ± ¼ Hz sine wave at 200W. Price: approximately £81.

#### **Transvector C12/400S**

Input 12V DC nominal. Output 115-230V 50Hz ± ¼ Hz sine wave at 400W. Price: approximately £197.

#### **Frequency changer**

AC-DC. Suitable for records, films, television programme special effects. Price: (200W) from about £65.

#### **WAL**

Sole distributor: A. C. Farnell Ltd, Kenyon Street, Sheffield, S1 4BD. Tel: 0742 78901.

#### **WAL D-Mag**

Pinpoint eraser for striped film, tapes and tape heads. Nylon-cushioned probes. Weight: 9½ oz. Size: 2in sq × 1in wide. Psn 200-250V 50-100Hz. Consumption: 110mA at 240V. Price: £3·98 (plus VAT).

#### **WAL professional tape eraser**

Will erase both sides of a 7in tape reel in 30 sec and sound from 16mm 10in aluminium reels. Weight: 7lb. Size: 6½ × 4¾ × 3¾ in. Psn 200-250V 50Hz, or 110-125V 60Hz. Finish: oyster hammer grey. Price: £9·50 (plus VAT).

#### **WEIRCLIFFE**

Amos of Exeter Ltd,

Weircliffe Court, Exwick, Exeter, Devon.

Tel: Exeter 72132. Cables: Amos, Exeter.

#### **Weircliffe Bulk Erasers**

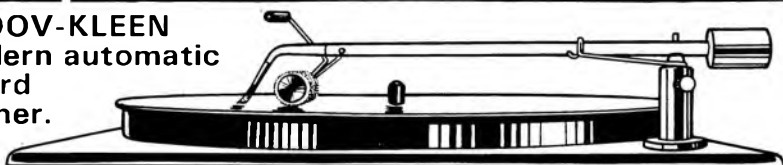
Models 6, 7 and 8. Model 6 accepts reels up to 8½ in diameter of ¼-1in tape. Capacity 180-400 reels per hour. Model 7 accepts 8 × 8in cassettes of ¼ in tape. Model 8 accepts reels of up to 14½ in diameter containing tape from ¼ in audio up to 2in video including ½ in and 1in instrument tape and 16 and 35mm film. Capacity 100-400 reels per hour (NATO catalogue No. 5835-99-972-5371). Model 9 now takes reels of 2in wide video tape on 16in reels as against 35mm only. Sizes: (Models 6 and 7) 11½ × 12½ × 7½ in. Weight: 43lb. Size: (Model 8) 20½ × 20½ × 10½ in. Weight: 92lb. Prices: (Models 6 and 7) £51·75; (Model 8) £155·25; (Model 9) £271·50; (Model 14) £1883·70 ex works. Models available for 115V 60Hz.

# Bib®

## HI-FI ACCESSORIES

RECOMMENDED BY LEADING EQUIPMENT MANUFACTURERS AND AUDIO SPECIALISTS

### GROOV-KLEEN Modern automatic record cleaner.



- Removes and collects dust without using liquid.
- Reduces record and stylus wear. Counter weight ensures lightweight tracking.
- Beautifully finished in Chrome, bright anodised Aluminium and shiny black.
- Improves reproduction.
- Operates silently.
- Armrest incorporated.

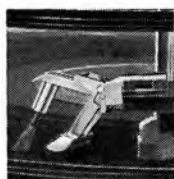
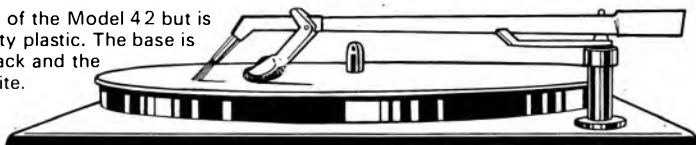
Model 42 £1.67



### The popular priced Model 50 GROOV-KLEEN

has all the features of the Model 42 but is made in high quality plastic. The base is finished in matt black and the cranked arm is white.

Model 50  
£1.08



### AUTO-CHANGER GROOV-KLEEN

Finished in chrome—fits most units with flat top cartridge housings. Adaptor available for Zero 100. Velvet and stylus cleaning brush included.

Pat. App. No. 38099/72  
Reg. Des. No. 958457

Model 45 98p

### Cassette Head Cleaning Tape

For all cassette machines. Removes oxide and dirt from heads. Packed in plastic "library" case.



Ref 31 49p

### Stylus Balance



Precision built. Calibrated. Measures stylus pressure within 1/4 gramme. In plastic container.

Ref 32A £1.24



### Tape Editing Kits — in Wallets

Tape splicer, cutter, marker, splicing tape. Reel or cassette labels. Instructions. For 1/4" tape.

Ref 23 £1.40

Ref 24 £1.56 (for cassettes)

### 8 Track Cartridge Tape Head Cleaner

Maintains tape heads in clean condition. Recommended use after every five hours playing. Complete with dust cover.

Ref 41 85p



### HI-FI Stereo Hints and Tips



Ref 56 38p

3rd enlarged edition, completely revised. How to make the most of your equipment by John Borwick, BSc., Technical Editor of "The Gramophone". 56 pages of useful information with 57 invaluable reference charts and illustrations for Hi-Fi enthusiasts. VAT Exempt

Cassette Re-record Kit	Ref 54	44p
Cassette Title Labels	Ref T/5	39p
Cassette Salvage Kit	Ref 29	46p
Record Dust Off	Ref 48	20p
Spirit Level	Ref 46	56p
Hi-Fi Cable and Flex Ties	Ref D/2	20p

All prices shown are Recommended Retail excluding VAT.

Bib Hi-Fi Accessories Limited, P.O. Box No 78, Hemel Hempstead, Herts HP2 7EP

# Agfa low-noise tape. Made to make better sound.

Agfa never take their customers for granted. That's why they carry out a continuous series of tests on their products to make sure they live up to Agfa's high reputation in amateur and professional fields.

Agfa Low-noise tapes represent the best value in hi-fi recording. They're coated with a specially formulated oxide, which uses aligned particles of uniform size to keep noise and distortion to a minimum.

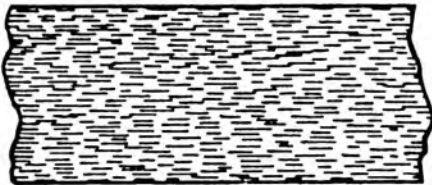


Illustration of Agfa Low-noise tape, showing aligned particles.

Plastic materials, like the polyester base used in Agfa tape, gain in strength if they are stretched to exacting tolerances before being coated with oxide. Agfa tapes are pre-stretched in two directions to ensure they can stand all the rough handling they may be given. Even though the tape is only 32 microns thick, it can stand years of use

and still keep to its original high standard.

Oxide layer, held on by a special abrasion-resistant binder that ensures even contact with the tape heads.



Pre-stretched polyester base allows strength with extreme flexibility, giving greater freedom from 'dropouts'.

The results of all this research and improvement don't look very different from any other tape you can buy. The difference lies in the sound. Listen to an Agfa tape on a top-quality machine, and you'll see why Agfa tape lets you get the very best out of your tape recorder.

#### SPECIFICATION

Frequency response:  $\pm 0$  dB 30Hz-18kHz

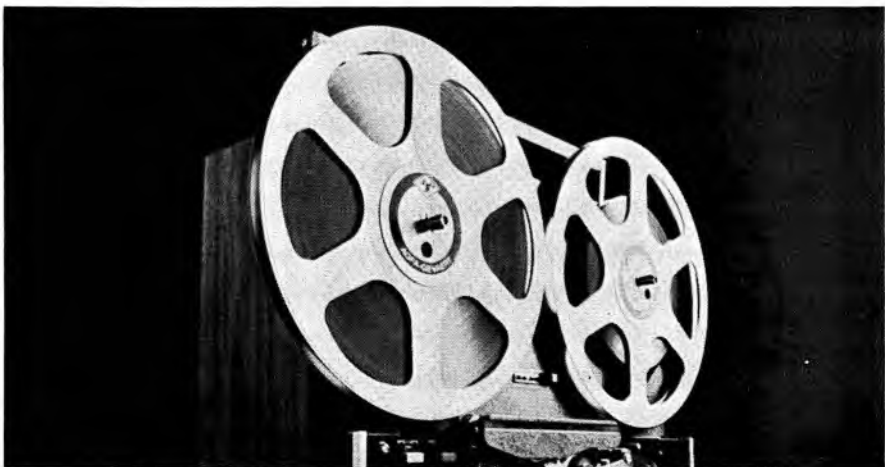
Distortion: Less than 0.7%

Signal-to-noise-ratio: Greater than 49dB weighted  
Dynamic range: 57dB

Agfa Low-noise tape. Made for people who appreciate the best.



**AGFA-GEVAERT**



# Magnetic Tape

★ Indicates entry is illustrated

## ■ AGFA-GEVAERT LTD

Great West Road, Brentford, Middlesex.  
Tel: 01-560 2131 (20 lines). Telex: 28154.

### PE36K

Low-noise long-play tape supplied in plastic library box. 3in 210ft (in universal mailing box) 49½p; 4¼in 600ft £1-39½; 5in 900ft £1-72½; 5¾in 1200ft £2-13; 7in 1800ft £3-12½. All prices include 10% VAT.

### PE36

Low-noise long-play tape supplied in cardboard box. 8¾in 2400ft £3-95½; 10in 3280ft £5-35; 10½in 4200ft £6-73. All prices include 10% VAT.

### PE46K

Low-noise double-play tape supplied in plastic library box. 3in 300ft (in universal mailing box) 73½p; 4¼in 900ft £1-72½; 5in 1200ft £2-14½; 5¾in 1800ft £3-13½; 7in 2400ft £3-97. All prices include 10% VAT.

### PE46

Low-noise double-play tape supplied in cardboard box. 8¾in 3280ft £5-35½ (including 10% VAT).

### PE66K

Low-noise triple-play tape supplied in plastic library box. 3in 450ft (in universal mailing box) 99p; 4in 900ft £1-72½; 4¼in 1200ft £2-14½; 5in 1800ft £3-14½; 5¾in 2400ft £3-96; 7in 3600ft £4-73½. All prices include 10% VAT.

## Compact Cassettes

Conventional and colour. C60 (2×30 min) 82½p; C90 (2×45 min) £1-10; C120 (2×60 min) £1-65. All prices include 10% VAT.

## Cassette Album

Three C60 plus three C90 cassettes. £5-77½ (including VAT).

## Stereochrome

Chromium dioxide tape cassettes. C60 (2×30 min) £1-48; C90 (2×45 min) £1-92. All prices include 10% VAT.

## Super Cassettes

Super C60+6 (2×33 min) £1-04½; Super C90+6 (2×48 min) £1-37½; Super C120 (2×60 min) £2-10. All prices include 10% VAT.

For empty library boxes and spare spools see Tape Accessories Section.

## ■ AUDIO MAGNETICS (UK) LTD

12 Fife Road, Kingston-on-Thames, KT1 1SZ.  
Tel: 01-549 3271/2.

## Compact Cassettes

C60. In library case. Low-noise tape giving 60 min recording time. Price: 50p.

C90. In library case. Low-noise tape giving 90 min recording time. Price: 70p.

C120. In library case. Low-noise tape giving 120 min recording time. Price: 90p.

Also available in budget priced economy packs of three cassettes (without library case), and in the well-known Twinpack presentation.

## ■ BASF UNITED KINGDOM LIMITED

Audio/Video Tapes Division, PO Box 473, Knightsbridge House, 197 Knightsbridge, London, SW7 1SA.

Tel: 01-584 5080. Telex: 267574/5.

### SP52

Standard play. Round pack: 5in 600ft £1-13; 5¾in 900ft £1-53; 7in 1200ft £1-77. In plastic swivel box: 5in 600ft £1-31; 5¾in 900ft £1-72; 7in 1200ft £1-98. All prices exclude VAT.

### LP35

Long play. Round pack: 3in 210ft 45p; 4in 450ft 95p; 4¼in 600ft £1-13; 5in 900ft £1-53; 5¾in 1200ft £1-77; 7in 1800ft £2-63. In plastic swivel box: 3in 210ft 57p; 4in 450ft £1-13; 4¼in 600ft £1-30; 5in 900ft £1-71; 5¾in 1200ft £1-97; 7in 1800ft £2-83. All prices exclude VAT.

### LP 35 LH

Long-play. Low-noise, high output. In plastic swivel box: 5in 900ft £1-89; 5¾in 1200ft £2-17; 7in 1800ft £3-11. All prices exclude VAT.

### LPR 35 H

Low-noise high output tape for fast winding machines without pads.

### DP 26

Double-play. Round pack: 3in 300ft 60p; 4in 600ft £1-13; 4¼in 900ft £1-53; 5in 1200ft £1-77; 5¾in 1800ft £2-63; 7in 2400ft £3-27. In plastic swivel box: 3in 300ft 72p; 4in 600ft £1-30; 4¼in 900ft £1-70; 5in 1200ft £1-96; 5¾in 1800ft £2-82; 7in 2400ft £3-48. All prices exclude VAT.

### DP 26 LH

Double-play. Low noise, high output. In plastic swivel box: 5in 1200ft £2-16; 5¾in 1800ft £3-10; 7in 2300ft £3-83. All prices exclude VAT.

### TP 18

Triple-play. Round pack: 3in 450ft 95p; 3½in 600ft £1-13; 4in 900ft £1-53; 4¼in 1200ft £1-77; 5in 1800ft £2-63; 5¾in 2400ft £3-27; 7in 3600ft £4-13. In plastic swivel box: 3in 450ft £1-09; 3½in 600ft £1-30; 4in 900ft £1-70; 4¼in 1200ft £1-95; 5in 1800ft £2-81; 5¾in 2400ft £3-47; 7in 3600ft £4-33. All prices exclude VAT.

### TP 18 LH

Triple-play. Low noise, high output. In plastic

★ Indicates entry is illustrated

swivel box: 5in 1800ft £3.09; 5½in 2400ft £3.82; 7in 3600ft £4.75. All prices exclude VAT.

#### Compact Cassettes

BASF LH tape in KK8 swivel box for posting or use stacked as book: C60 79p; C90 £1.07; C120 £1.57. In normal pack: C30 59p; C60 71p; C90 99p; C120 £1.49. All prices exclude VAT.

#### SM Compact Cassettes

Incorporate BASF special mechanics for smooth winding and avoidance of jamming. Reduces wow and flutter. Price: (C60) £1.34; (C90) £1.74; (C120) £2.24. All prices exclude VAT.

#### Special requirements tapes

See details in Tape Accessories Section.

#### EMI TAPE LTD

Tape House, Dawley Road, Hayes, Middlesex, UB3 1BT.

Tel: 01-573 3888. Telex: 22417.

#### 88 Standard Play (Red Band)

Prestretched polyester base. 3in 175ft 43p; 4in 300ft 59p; 5in 600ft £1.18; 5½in 900ft £1.56; 7in 1200ft £2.01. All prices exclude VAT.

#### 99 Long Play (Green Band)

Prestretched polyester base. 3in 210ft 52p; 4in 450ft 81p; 5in 900ft £1.58; 5½in 1200ft £2.01; 7in 1800ft £2.82. All prices exclude VAT.

#### 100 Double Play (Blue Band)

Superflex polyester base. 3in 300ft 79p; 4in 600ft £1.39; 5in 1200ft £2.36; 5½in 1800ft £3.11; 7in 2400ft £4.34. All prices exclude VAT.

#### 300 Triple Play (Grey Band)

Extra tensile polyester base. 3in 450ft £1.24; 4in 900ft £2.13; 5in 1800ft £3.69. All prices exclude VAT.

All Emitape is supplied in transparent hinged library case. A prefolded index card is included. Card is designed to provide maximum space for titling with easily visible reference without opening the box.

#### Compact Cassettes

C60 (1 hour playing time) 71p; C90 (1½ hours playing time) 98½p; C120 (2 hours playing time) £1.48½. All prices exclude VAT.

EMI cassettes are supplied in library case with index sheet. Playing time is measured at the appropriate tape speed (normally 1½in/s for compact cassettes).

#### HMV Voice Letter

Supplied in mailing pack. 3in spool. Price: 30p (plus VAT).

#### Plastic Spools

In cartons: 4in 14p; 5in 15p; 5½in 16p; 7in 18p. In self-standing dust-proof plastic library cases with index: 3in 12p; 4in 20p; 5in 25p; 5½in 25p; 7in 30p. All prices exclude VAT.

#### GRUNDIG (Great Britain) LTD

Newlands Park, London, SE26 5NQ.

Tel: 01-778 2211.

#### GT11

Triple-play: 4½in 1200ft £2.60 (including VAT).

#### GL15 Hi-Fi

Long-play: 5½in 1200ft £2.10 (including VAT).

#### GD15 Hi-Fi

Double-play: 5½in 1800ft £2.90 (including VAT).

#### GL18 Hi-Fi

Long-play: 7in 1800ft £2.95 (including VAT).

#### GD18 Hi-Fi

Double play: 7in 2400ft £4 (including VAT).

#### C60 Hi-Fi

Compact cassette. 60 minutes playing time at 1½in/s. Price: 92p (including VAT).

#### C90 Hi-Fi

Compact cassette. 90 minutes playing time at 1½in/s. Price: £1.32 (including VAT).

#### DC90

Cassette. 90 minutes playing time. Price: £1.60 (including VAT).

#### DC120

Cassette. 120 minutes playing time. Price: £1.87 (including VAT).

#### HITACHI

Hitachi Sales (UK) Ltd, New Century House, Park Royal, London NW10 7QN.

Tel: 01-965 9861.

#### Cassettes

UDC60 £1.20; UDC90 £1.50; UDC120 £1.80. All prices include VAT.

#### Cartridges

8T-200 40 minutes £1.25; 8T-300 60 minutes £1.70; 8T-400 80 minutes £2.25. All prices include VAT.

#### LENNARD DEVELOPMENTS LTD

206 Chase Side, Enfield, Middlesex, EN2 0QX.

Tel: 01-363 8238.

#### Playfair Compact Cassettes

Available in C60, C90 and C120 sizes. Price to be announced.

#### MASTERTAPE (MAGNETIC) LTD

Blackthorne Road, Poyle Trading Estate, Colnbrook, Bucks, SL3 0AQ.

Tel: 01-964 2431.

#### Standard (red)

3in 150ft 30p; 4in 300ft 54p; 5in 600ft £1.05; 5½in 900ft £1.29; 7in 1200ft £1.64. (VAT to be added to all prices).

#### Long Play (green)

3in 225ft 39p; 4in 450ft 75p; 5in 900ft £1.29;

5½in 1200ft £1.62; 7in 1800ft £2.34. (VAT to be added to all prices).

#### Double Play (blue)

3in 300ft 54p; 4in 600ft 99p; 5in 1200ft £1.62; 5½in 1800ft £2.34; 7in 2400ft £3. (VAT to be added to all prices).

#### Triple Play (grey)

3in 600ft 99p; 4in 900ft £1.26; 5in 1800ft £2.34; 5½in 2400ft £3; 7in 3600ft £4.50. (VAT to be added to all prices).

#### Mini Voice Letter (mailing carton)

3in 100ft 25p (plus VAT).

#### Senda Message (mailing envelope)

1¾in 100ft 25p (plus VAT).

#### Compact Cassettes

C60 60p (plus VAT); C90 90p (plus VAT); C120 £1.20 (plus VAT).

### ■ MEMOREX (UK) LTD

50 Salisbury Road, Hounslow West, Middlesex.  
Tel: 01-570 7716.

#### Cassettes (Ref 702)

C30 (00175) 55p; C45 (00302) 67p; C60 (00183) 75p; C90 (00191) £1; C120 (00209) £1.50.

#### Chromium dioxide cassettes (Ref 704)

CC45 (00051) £1.10; CC60 (00217) £1.35; CC90 (00031) £1.75.

#### Cartridges (Ref 703)

8T-40 (00013) £1.55; 8T-64 (00025) £1.70; 8T-80 (00037) £1.85.

#### Reel-to-reel Standard

5in 600ft £1.34; 7in 1200ft £2.26.

#### Reel-to-reel Long Play

5in 900ft £1.89; 7in 1800ft £3.21.

#### Reel-to-reel Double Play

5in 1200ft £2.26; 7in 2400ft £4.01.

#### Audio Training Cassette Kit

Available in boxes of 50 in C30, C45, C60, C90 and C120 sizes. Full details and prices on application.

### ■ MAXELL

Distributors: Harris and Russell Ltd,  
124-130 East Road, London, N1.  
Tel: 01-253 7551.

#### Compact Cassettes

Low-noise tape with anti-static arrangement and freedom from print-through. C60 (red label) 60 minutes playing time. Price: 49½p. C90 (blue label) 90 minutes playing time. Price: 74½p. C120 (green label) 120 minutes playing time. Price: 99½p. All prices exclude VAT.

All Maxwell compact cassettes are supplied in individual library type hinged plastic storage cases.

### ■ MUSONIC LTD

34-38 Verulam Road, St Albans, Herts.  
Tel: St Albans 50611/2.

#### Musonic cassettes

Low-noise professional tape. Price: (C60) 60p (plus VAT); (C90) 80p (plus VAT); (C120) £1 (plus VAT).

### ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue,  
London, WC2H 8AS.  
Tel: 01-437 7777. Cables: Philamps, London.

#### Standard Play (Green) in library case

Coercivity 290 OE, retentivity 950G, tensilised polyester base, S/N at 3½i/s better than 50dB, print through about 55dB, relative frequency response 333Hz-12.5kHz + 1dB. Price: 5in 600ft £1.35; 5½in 900ft £1.81; 7in £2.09. All prices include VAT.

#### Long Play (Red) in library case

Coercivity 290OE, retentivity 950G, tensilised polyester base, S/N at 3½i/s better than 50dB, print through about 55dB, relative frequency response 333Hz-12.5kHz + 1dB. Price: 5in 900ft £1.52; 5½in 1200ft £1.92; 7in 1800ft £2.75. All prices include VAT.

#### Double Play (Blue) in library case

Coercivity 290OE, retentivity 950G, tensilised polyester base, S/N at 3½i/s better than 50dB, print through about 55dB, relative frequency response 333Hz-12.5kHz ± 1dB. Price: 5in 1200ft £2.07; 5½in 1800ft £3.06; 7in 2400ft £4.29. All prices include VAT.

#### Triple Play (Olive)

Price: 5in 1800ft £3.61 (including VAT).

#### 10½in cine centre

Red LP26 3600ft £6.05 (including VAT).

#### C30 postal pack compact cassette

Playing time 30 minutes. Price: 58p (including VAT).

#### Compact Cassettes

Polyester base, S/N 50dB, bias adjustment 0dB, maximum output level (MOL) at 333Hz 0dB, maximum output level (MOL) at 8kHz -10dB, relative frequency response (RFR) at 10kHz 0dB, relative tape sensitivity (RTS) at 333Hz 0dB (tape speed 1¾i/s). C60 (one hour playing time) 77p; C90 (1½ hours playing time) £1.08; C120 (two hours playing time) £1.63. All prices include VAT.

#### CrO<sub>2</sub> Hi-Fi Cassettes

Chromium dioxide tape in Compact cassettes. Bias adjustment: +5dB (relative 0dB standard tape). Max output level: (333Hz) +2.5dB (relative 0dB standard tape); (8kHz) -7dB (relative -10dB standard tape). S/N ratio: 57dB (relative 51dB standard tape). Suitable for recorders



★ Indicates entry is illustrated

with facilities for recording with chromium dioxide tape, preferably models that conform to DIN 45 500 standards. 13 $\frac{7}{8}$ in leadertapes. C60 (one hour playing time) £1.33; C90 (1 $\frac{1}{2}$  hours playing time) £1.73. All prices include VAT.

#### **EL1907/52 Endless loop cassette CE.10**

Approx playing time: 40 minutes at  $\frac{1}{2}$  $\frac{5}{8}$ i/s. Approximately 195ft. Price: £3.84 (including VAT).

### ■ PYRAL (UK) LTD

Airport House, Purley Way,  
Croydon, Surrey CRO 0XZ.  
Tel: 01-681 2833. Telex: 946670.

#### **CJ47 Professional Studio Quality**

$\frac{1}{2}$ in width on plastic spool: 5in 585ft 75p; 7in 1200ft £1.39; NAB spool 2400ft £2.66; NAB spool 3650ft £3.74. Prices exclude VAT which must be added.

#### **CJ47 Professional Studio Quality**

$\frac{1}{2}$ in 2400ft £5.80; 1in 2400ft £11.61; 2in 2400ft £23.18. Prices exclude VAT which must be added.

#### **Pyral Standard Tape**

$\frac{1}{2}$ in plastic spool: 4in 295ft 55p; 5in 585ft 80p; 7in 1170ft £1.44; 9 $\frac{3}{8}$ in 2400ft £2.79. Prices exclude VAT which must be added.

#### **Pyral Long Play Tape**

$\frac{1}{2}$ in plastic spool: 5in 900ft 95p; 5 $\frac{3}{8}$ in 1200ft £1.15; 7in 1800ft £1.59; 9 $\frac{3}{8}$ in 2400ft £2.33. Prices exclude VAT which must be added.

#### **Pyral Double Play Tape**

$\frac{1}{2}$ in on plastic spool: 5in 1170ft £1.09; 5 $\frac{3}{8}$ in 1700ft £1.43; 7in 2350ft £1.84. Prices exclude VAT which must be added.

#### **Pyral Compact Cassettes**

C30 35p; C60 70p; C90 90p. Prices exclude VAT which must be added.

### ■ SCOTCH

3M (UK) Ltd, 3M House, Wigmore Street,  
London, W1. Tel: 01-486 5522.

#### **175**

Standard play, polyester base. 5in 600ft £1.21; 5 $\frac{1}{2}$ in 900ft £1.56; 7in 1200ft £1.93. All prices include VAT.

#### **215**

Long play, polyester base. 3in 300ft 57p; 4in 500ft 94p; 5in 900ft £1.54; 5 $\frac{3}{8}$ in 1200ft £1.93; 7in 1800ft £2.75; 8 $\frac{1}{4}$ in 2400ft £3.66; 10 $\frac{1}{2}$ in 3600ft £5.55. All prices include VAT.

#### **220**

Double play, tensilised polyester base. 3in 400ft 83p; 4in 600ft £1.26; 5in 1200ft £2.07; 5 $\frac{3}{8}$ in 1800ft £2.95; 7in 2400ft £3.72. All prices include VAT.

### **Scotch Dynarange Specification**

Coercivity 315 oersteds, retentivity 790 gauss, remanence 0.64 lines/quar.in, erasing field required 1000 oersteds, standard bias 100%, peak bias 117% compared with standard tape. Full technical data on Scotch Dynarange magnetic tape available on Sheet 202-203 which includes notes on testing.

#### **Hi-Fi range 222**

Polyester base. Standard play in library cases. 5in 600ft £1.58; 5 $\frac{3}{8}$ in 900ft £2.02; 7in 1200ft £2.33. All prices include VAT.

#### **Hi-Fi range 223**

Polyester base. Long play in library cases. 5in 900ft £2.02; 5 $\frac{3}{8}$ in 1200ft £2.37; 7in 1800ft £3.18. Long play in cardboard boxes: 8 $\frac{1}{4}$ in 2400ft £4.29. All prices include VAT.

#### **Hi-Fi range 224**

Polyester base. Double play in library case. 5in 1200ft £2.50; 5 $\frac{3}{8}$ in 1800ft £3.41; 7in 2400ft £4.37. All prices include VAT.

#### **Hi-Fi range 225**

Triple play in library box. 5in 1800ft £3.61; 5 $\frac{3}{8}$ in 2400ft £4.29; 7in 3600ft £5.28. All prices include VAT.

#### **Scotch low-noise cassettes**

Using Dynarange low-noise tape. C60 77p; C90 £1.08; C120 £1.63. All prices include VAT.

#### **Scotch high energy cassettes**

High output cobalt energised tape for use with new generation cassette tape recorders. C60 £1.20; C90 £1.58. Both prices include VAT.

#### **Eight-track low-noise cartridges**

45 minutes £1.65; 90 minutes £1.98. Both prices include VAT.

### ■ SONY (UK) LTD

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames, Middlesex.  
Tel: Sunbury 87644/7.

#### **PR150/PR200 series specification**

Polyester base. Bias current: 100%. Sensitivity:  $\pm 2$ dB. Uniformity: (333Hz)  $\pm 0.5$ dB, (10kHz)  $\pm 0.5$ dB. FR: 10kHz  $\pm 2$ dB. HD: 6% max at 333Hz. S/N: 58dB minimum. Print-through ratio: 50dB minimum. Erasure: 70dB minimum. Test conditions: 7 $\frac{1}{2}$ i/s, NAB reference tape.

#### **PR150**

3in spool 300ft 33p; 5in spool 900ft 80p; 6in spool 1200ft £1.10; 7in spool 1800ft £1.50. All prices exclude VAT.

#### **PR200**

3in spool 400ft 61p; 5in spool 1200ft £1.30; 6in spool 1800ft £1.60; 7in spool 2400ft £2.10. All prices exclude VAT.

**SLH (low-noise/high-output) specification**

Polyester base, Bias current; 108%. FR: 10kHz +4.5dB, 16kHz +7dB. HD: 3%. Linearity: (16kHz) +10dB. Dynamic range: +6.5dB. S/N ratio: 62dB. Erasure: 68dB. Retentivity: 1100 gauss. Intrinsic coercivity: 300 oersted. Test conditions: NAB reference tape.

**SLH<sup>+</sup>**

72-370BL 7in 1200ft £2.17; 7-550BL 7in 1800ft £2.77; 11-740B 10½in NAB 2400ft £5.97. All prices exclude VAT.

**HF series specification**

Sensitivity: at 333Hz: (C60HF) +1.5dB, (C90HF) +1.0dB, (C120HF) -1.0dB. S/N ratio: 58.5dB. Bias current: (C60HF) 100%, (C90HF and C120HF) 95%. (C60CR) Sensitivity 0dB, S/N 57dB, bias current 110%.

**Cassettes**

C60K 62p; C60HF 86p; C60CR £1.43; C90K 86p; C90HF £1.24; C120/C120K £1.24; C120HF £1.42. All prices exclude VAT.

**SYNCHROTAPE**

Sole distributors: Aadastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU. Tel: 01-452 6288 (answering service 01-452 6289).

Specification of Synchrotape includes the following: Coercivity 270 oersteds, remanent induction 0.75 maxwell per 6.25 mm width. At 7½i/s ½-track, biased to give max output at 1kHz, with DIN 70µ Sec playback equalisation, main characteristics are: recorded flux for 2% third harmonic distortion 0.2 maxwell, unweighted RMS noise referred to 0.2 maxwell -65dB, print-through after 72 hours at 20°C -58dB.

**Standard Play**

PVC base. 3in 150ft 25p; 5in 600ft 90p; 5¾in 900ft £1.07; 7in 1200ft £1.40. All prices include VAT.

**Long Play**

PVC base. 2¾in 200ft 33p; 3in 200ft 33p; 4in 450ft 75p; 5in 900ft £1.02; 5¾in 1200ft £1.23; 7in 1800ft £1.71. All prices include VAT.

**Double Play**

Tensilised polyester base. 2¾in 300ft 41p; 3in 300ft 41p; 4in 600ft £1.07; 5in 1200ft £1.71; 5¾in 1800ft £2.15; 7in 2400ft £2.75. All prices include VAT.

**Triple Play**

Tensilised polyester base 3in 450ft 82p; 4in 900ft £1.32; 5in 1800ft £2.30; 5¾in 2400ft £3.05; 7in 3600ft £4.12. All prices include VAT.

Except for 2¾in and 3in spools, all Synchrotape tapes have leader, trailer and double metallic stop-foils.

**Synccassettes**

Compact cassettes. C60 60p; C90 76p; C120 £1.09. All prices include VAT.

**TDK ELECTRONICS**

Peter Bowthorpes & Associates Ltd, 33 Holmethorpe Avenue, Redhill, Surrey. Tel: Redhill 67411.

**Low noise cassettes**

C30LN 68p, C60LN 78p, C90LN £1.08, C120LN £1.63. All prices include VAT.

**Super dynamic cassettes**

C30SD 97p, C60SD £1.21, C90SD £1.65, C120SD £2.35. All prices include VAT.

**Krom-0<sub>2</sub> cassettes**

C60KR £1.65, C90KR £2.35. All prices include VAT.

**Open reel low noise**

Long Play (150); 5in 900ft £1.65, 7in 1800ft £2.75. All prices include VAT.

**Open reel low noise**

Double Play (200); 5in 1200ft £2.20, 7in 2400ft £4.32. All prices include VAT.

**Open reel super dynamic**

SD150-7H 1200ft large hub £2.75, SD150-7 1800ft £3.67, SD150-7 (with library box) 1800ft £4.32, SD150-10½ 3600ft NAB hub £8.65. All prices include VAT.

**Open reel accessories**

AR10M 10½in metal reel £4, AR7M 7in metal reel £3.14, AR7D 7in plastic reel 81p, NAB hub adaptor £2.12, plastic library box for 7in reel 80p. All prices include VAT.

**TELEFUNKEN**

AEG Telefunken (UK) Ltd, Bath Road, Slough, Bucks. Tel: Slough (75) 33311.

**Telefunken Endless Tape Cassette**

Price: £3.36 (plus VAT).

**TUDOR TAPE**

A. C. Farnell Ltd, Kenyon Street, Sheffield, S1 4BD. Tel: 0742 78901.

**Standard Play (green)**

3in 150ft; 5in 600ft.

**Long Play (red)**

3in 250ft; 5in 900ft; 5¾in 1200ft; 7in 1800ft.

**Double Play (blue)**

5¾in 1800ft; 7in 2400ft.

**Cassettes**

C60, C90 and C120.

**Empty spools in boxes**

3in, 4in, 5in, 5¾in and 7in.

No retail prices are quoted for Tudor Tape.

# Directory of Test Tapes and Discs

Abbreviations used in this section are given on page 30.

## ■ AGFA-GEVAERT LTD

Great West Road, Brentford, Middlesex.  
Tel: 01-560 2131 (20 lines). Telex: 28154.

### Calibration Test Tape 38-25

Full-track recording. Speed: 15i/s. NARTB core. Magnetic coating out. 1in tape. Reference frequency: 1kHz. Gap adjustment frequency: 1kHz and 10kHz. Equalisation: 35 $\mu$  sec. Gliding tone: 31.5Hz-18kHz. Blank sections as per DIN 45 513. Price: £39.60 (including VAT).

### Calibration Test Tape 38-12

Same specification as Tape 38-25 above but on  $\frac{1}{2}$ in tape. Price: £20.90 (including VAT).

### Calibration Test Tape 38

Same specification as Tape 38-25 above but on  $\frac{1}{4}$ in tape wound on AEG core. Price: £11.33 (including VAT).

### Stereo Reference Tape 38

Recordings for both stereo channels and the separation track. Speed: 15i/s. Wound on AEG core.  $\frac{1}{4}$ in tape. Reference frequency: 1kHz. Gap adjustment recording: random noise. Equalisation: 35 $\mu$  sec. Gliding tone: 63Hz-10kHz. Price: £11.30 (including VAT).

### Reference Tape 19-25

Full-track recording. Speed: 7 $\frac{1}{2}$ i/s. 1in tape. Wound on NARTB core. Reference frequency: 1kHz. Gap adjustment frequency: 1kHz and 10kHz. Equalisation: 70 $\mu$  sec. Gliding tone: 31.5kHz-18kHz. Price: £39.60 (including VAT).

### DIN Reference Tape 19S (Studio)

Same specification as Reference Tape 19-25 but on  $\frac{1}{4}$ in tape. Price: £11.33 (including VAT).

### DIN Reference Tape 19H (Amateur)

Full-track recording. Speed: 7 $\frac{1}{2}$ i/s.  $\frac{1}{4}$ in tape type PE31. Spool with 3 $\frac{3}{8}$ in diameter. Magnetic coating in. Reference frequency: 1kHz. Gap adjustment frequency: 1kHz and 10kHz. Equalisation: 50/1590 $\mu$  sec. Gliding tone: 31.5Hz-18kHz. Price: £11.33 (including VAT).

### DIN Reference Tape 9-5

Similar to Tape 19H above except speed 3 $\frac{3}{4}$ i/s and reference frequency 333Hz. Gliding tone: 31.5Hz-12.5kHz. Price: £11.33 (including VAT).

## Magnetic Symmetry Tape

Available as tape or film in various widths. Full data and application sheet available on request.

## ■ AMPEX GREAT BRITAIN LTD

Acre Road, Reading, Berks.  
Tel: Reading 84411.

A complete range of  $\frac{1}{4}$ in,  $\frac{1}{2}$ in, 1in and 2in NAB/CCIR test tapes. Prices and details of specifications on request.

## ■ A.P.A.E.

Association of Public Address Engineers Ltd,  
6 Conduit Street, London, W1R 9TG.  
Tel: 01-493 5256.

### A.P.A.E. Test Disc

7in 45rpm double-sided mono disc for testing sound systems, particularly public address and sound reinforcement installations.

Side One consists of three minutes of male speech followed by three minutes of female speech. At end of male speech there is a period of 30 seconds of 'off-mic' speech to illustrate correct microphone technique.

Side Two starts with 60 test phrases selected for phonetic balance. The next two bands are 1000 Hz tone and warble tone, for equipment line-up and measurement with sound level meters. Final two bands are white noise and pink noise. Produced primarily for A.P.A.E. members the record is now available generally. Price: 70p (plus VAT) plus 12p postage.

## ■ BASF (UK) LTD

Knightsbridge House, 197 Knightsbridge,  
London, SW7 1SA.  
Tel: 01-584 5080. Telex: 267574/5.

### Calibration Tape 9

3 $\frac{3}{4}$ i/s (9cm per second) full-track tape recorded to 90 $\mu$  Sec + 3780 $\mu$  Sec characteristic. Range: 30Hz-16kHz in steps, also for azimuth alignment.

### Calibration Tape 19H

7 $\frac{1}{2}$ i/s (19cm per second) full-track tape recorded to 50 $\mu$  Sec + 3780 $\mu$  Sec characteristic. Range: 30Hz-18kHz in steps, also section for azimuth alignment.

### Calibration Tape 19S

7 $\frac{1}{2}$ i/s (19cm per second) full-track tape recorded to 70 $\mu$  Sec characteristic. Range: 30Hz-18kHz in steps, also section for azimuth alignment.

### Calibration Tape 38

15i/s (38cm per second) full-track tape recorded to 35 $\mu$  Sec characteristic. Range: 30Hz-18kHz in steps, also gliding tone from 30Hz-16kHz and section for azimuth alignment.

### Calibration Tape 4-75

1 $\frac{1}{8}$ i/s (4.75cm per second) full-track tape recorded to 120 $\mu$  Sec characteristic. Range: 30Hz-

10kHz in steps, also section for azimuth alignment.

### **Stereo Test Tape 38**

15i/s (38cm per second) test tape used in conjunction with Calibration Tape 38 for aligning stereo recorders. Contains: (1) Tone level section of 1kHz for 15 seconds on each channel, (2) Track position section of 1kHz, (3) Azimuth alignment section of noise containing frequencies from 5.6kHz to 16kHz across the full tape width, (4) Cross-talk section of 63Hz for 8 seconds on each channel, 1kHz for 8 seconds on each channel and 10kHz for 8 seconds on each channel.

### **Alignment Tape**

3 $\frac{3}{4}$ i/s (9cm per second) tape used for adjusting replay heads. Noise is recorded full-track, with track 3 erased. Frequencies 5.6kHz to 16kHz.

### **Azimuth Test Tape**

Used for aligning replay heads at tape speeds of 7 $\frac{1}{2}$ i/s, 15i/s, and 30i/s. A high frequency is recorded on two 2.75mm edge tracks, and their phase relationship is switched alternately from +45° -45° every second at 15i/s. The replay head is correctly adjusted when there is maximum output without level variations. In stereo both replay channels must be phase-correct.

### **Calibration Tape**

Speed: 1 $\frac{7}{8}$ i/s. Equalisation: 120 $\mu$  Sec + 1590 $\mu$  Sec. Range: 30Hz-10kHz in steps. Section for azimuth alignment. In cassette or on spool.

### **Calibration Tape**

Speed: 1 $\frac{7}{8}$ i/s. Equalisation: 70 $\mu$  Sec + 1590 $\mu$  Sec. Range: 30Hz-12.5kHz in steps. Section for azimuth alignment. In cassette or on spool.

### **Speed Test Tape**

Speed: 1 $\frac{7}{8}$ i/s. For control of speed on compact cassette tape machines.

### **Wow and Flutter Test Tape**

Speed: 1 $\frac{7}{8}$ i/s. For control of wow and flutter on compact cassette tape machines.

### **Service Cassette**

Speed: 1 $\frac{7}{8}$ i/s. For fast control of compact cassette machines. Tests for level, speed, wow and flutter, azimuth and frequency response. Equalisation: 120 $\mu$  Sec + 1590 $\mu$  Sec.

### **Dolby-B Cassette**

Speed: 1 $\frac{7}{8}$ i/s. Frequency: 400Hz. For alignment of compact cassette recorders with Dolby-B system.

Prices of calibration and test tapes available on request.

## **■ DEUTSCHE GRAMMOPHON**

Polydor Ltd,  
17-19 Stratford Place, London, W1N 0BL.  
Tel: 01-499 8686.

## **101497**

Stereo 7in 45rpm record providing tests for balance, phase, music, voice and effects. Price: on application.

## **■ EMI RECORDS**

Gramophone Co Ltd, EMI House,  
20 Manchester Square, London, W1.  
Tel: 01-486 4488.

### **TCS102**

12in stereo record at 33 $\frac{1}{3}$ rpm. 30Hz-20kHz gliding tone.

### **TCS101**

12in stereo record at 33 $\frac{1}{3}$ rpm. 30Hz-20kHz in bands.

### **TCS104**

12in mono record (lateral) at 33 $\frac{1}{3}$ rpm.

### **TCS105**

12in mono record (vertical) at 33 $\frac{1}{3}$ rpm.

Prices and further details of EMI test records available on request.

## **■ EMI SERVICE DIVISION**

EMI Sound and Vision Equipment Ltd,  
252 Blyth Road, Hayes, Middlesex, UB3 1HW.  
Tel: 01-573 3888.

### **SRT14A**

Test tape at 3 $\frac{3}{4}$ i/s with 120 $\mu$  Sec characteristic. Full-track recording. Spoken announcement followed by 40Hz-10kHz in bands. Section of 3kHz tone for wow and flutter check, also strobe markings for checking speed.

### **SRT15A**

Test tape at 3 $\frac{3}{4}$ i/s with 200 $\mu$  Sec characteristic. Full-track recording. Spoken announcement followed by 40Hz-8kHz in bands. Section of 3kHz tone for wow and flutter check, also strobe markings for checking speed.

### **SRT18**

Test tape at 7 $\frac{1}{2}$ i/s with 70 $\mu$  Sec characteristic. Full-track recording. Spoken announcement followed by 30Hz-16kHz in bands. Section of 3kHz tone for checking wow and flutter, also strobe markings for checking speed.

### **SRT17**

Test tape at 15i/s with 35 $\mu$  Sec characteristic. Full-track recording. Spoken announcement followed by 30Hz-20kHz in bands. Section of 3kHz tone for wow and flutter check also strobe markings for checking speed.

### **TBT.1A**

Test tape at 7 $\frac{1}{2}$ i/s with 100 $\mu$  Sec characteristic for domestic recorders. Full-track recording. 8kHz section for azimuth adjustment, followed by 40Hz-12kHz.

### **TBT.2A**

Test tape at 3 $\frac{3}{4}$ i/s with 120 $\mu$  Sec characteristic

★ Indicates entry is illustrated

for domestic recorders. Full-track recording. 6kHz section for azimuth adjustment, followed by 40Hz-8kHz.

Prices and further details of EMI test tapes available on request.

### ■ HI-FI SOUND

Distributors: Howland-West Ltd,  
3-5 Eden Grove, London, N7 8EQ.

Tel: 01-609 0293/4/5.

#### Test record HFS69

Side 1. Test 1, channel recognition, phasing and balance using transient random noise bursts with spoken announcements recorded in free-air conditions; test 2, white noise (monophonic) for subjective evaluation of pickups and speakers and for setting up tape recorder bias and heads; test 3, determination of side-thrust adjustment and minimum tracking weight of pickup by means of lateral and vertical modulations in four different bands; test 4, applause—for identifying greatest possible number of individual sounds; test 5, music.

Side 2. Test 1, reference level and channel separation at 1kHz 5cm/sec 45 degrees; test 2, pink noise producing constant energy per octave; test 3, tone bursts—eight bands of 1kHz tone in bursts on separate channels at 7 or 10 cm/sec; test 4, wow and flutter, lateral cut 5cm/sec 3kHz for use with wow and flutter meters, also concentricity check; test 5, rumble, lateral cut 10cm/sec 1kHz tone followed by unmodulated grooves. Price: £1.22 (including VAT).

### ■ PYE BUSINESS COMMUNICATIONS

Cromwell Road, Cambridge, CB1 3HE.

Tel: Cambridge 45191.

7in 45rpm record. Side One: (mono) For the Love of Mike—information on use and installation of microphones. Side Two: (stereo) stereo tests. Sent free on request.

### ■ THE DECCA RECORD CO LTD

Decca House, 9 Albert Embankment,  
London, SE1 7SW. Tel: 01-735 8111.

#### How to give yourself a stereo check-out

Stereo SKL-4861. The record is designed to provide a means for the exacting listener to check the performance of his equipment without the need for expensive and complicated instruments. Side One starts with a short explanation of the purpose of the record and there is a detailed account of each band and how the information should be used on the sleeve. Side One: (1) Introduction, (2) left-right channel identification, speaker balance, channel phasing, (3) mono music, (4) tone controls, (5) sound colouration, (6) stereo music, (7) groove-jumping and dis-

ortion, (8) silent grooves. Side Two: (1) live versus recorded sound, (2) wow and flutter, (3) anti-skating band, (4) crosstalk, (5) musical show-piece. Price: approximately £2 (plus VAT).

### ■ TUTCHINGS ELECTRONICS LTD

14 Rook Hill Road, Friars Cliff, Christchurch,  
Hants. Tel: Highcliffe 2019.

#### Test Tape No. 1

Pure tones 40Hz-10kHz with voice identification of each band. Recorded to IEC 70 plus 3180 microsecond characteristic at  $7\frac{1}{2}$ i/s. Track 2 carries continuous 7.5kHz tone for azimuth alignment.

This tape is used to measure the playback frequency response of  $\frac{1}{4}$ -track and  $\frac{1}{2}$ -track recorders. 3in spool. Price: £1.50 (plus 5p packing and postage).

#### Test Tape No. 2

Pure tones 40Hz-7.5kHz with voice identification of each band. Recorded to NAB 90 plus 3180 microsecond characteristic at  $3\frac{3}{4}$ i/s. Track 2 carries continuous 5kHz tone for azimuth alignment.

This tape is used to measure the playback frequency response of  $\frac{1}{4}$ -track and  $\frac{1}{2}$ -track recorders. 3in spool. Price: £1.50 (plus 5p packing and postage).

#### Test Tape No. 3

One third octave bands of filtered white noise covering range 40Hz-10kHz with voice identification of each band. Recorded to IEC 70 plus 3180 microsecond characteristic at  $7\frac{1}{2}$ i/s.

This tape is used to measure acoustic responses of recorders, microphones and loudspeakers. On 3in spool. Price: £1.50 (plus 5p packing and postage).

#### Test Tape No. 4

One octave bands of filtered white noise with centre frequencies 100Hz-6.4kHz with voice identification of each band. Recorded to IEC 70 plus 3180 microsecond characteristic at  $7\frac{1}{2}$ i/s. Track 2 carries full range of unfiltered white noise.

This tape is used for reverberation and transmission tests of rooms, studios, etc. It can also be used for subjective testing of room acoustics and listening tests on loudspeakers and enclosures. On 3in spool. Price: £1.50 (plus 5p packing and postage).

#### Test Tape No. 5

Azimuth and vertical head alignment tape. Full track white noise with track 3 blank. Allows accurate setting of height and azimuth of  $\frac{1}{4}$ -track heads by ear, using no test equipment at all. On 3in spool. Price: £1.50 (plus 5p packing and postage).

# Directory of Constructional Kits

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ RICHARD ALLAN RADIO LTD

Bradford Road, Gomersal, Cleckheaton,  
Yorkshire, BD19 4AZ. Tel: Cleckheaton 2442/3.  
Cables: Acoustics, Bradford.

### Twin Assembly ★

Speaker kit comprising CBF8 bass/mid-range driver and CB4 treble unit, CN54 crossover, BAF wadding, Vynair fret material (with choice of three patterns), foam backing sheet, detailed assembly instructions, fixing screws, terminals, etc. FR: 40Hz-17kHz. HC: 12W RMS. Impedance: 8 or 15 ohms. Recommended cabinet size: 20 × 12 × 9in. Design based on Richard Allan Chaconne series II enclosure. Price: £9.50 (plus VAT).

### Triple-8 Assembly

Speaker kit comprising CF8L bass driver, CF5 mid-range unit, CB4 treble unit,  $\frac{1}{4}$ -section printed circuit crossover, BAF wadding, Vynair grille material (with choice of three patterns), foam backing sheet, detailed assembly instructions, fixing screws, terminals, etc. FR: 40Hz-17kHz. HC: 15W RMS. Impedance: 8 or 15 ohms. Recommended cabinet size: 20 $\frac{1}{2}$  × 13 × 8 $\frac{1}{2}$ in. Design based on Richard Allan Flamenco series II enclosure. Price: £14.50 (plus VAT).

### Triple-12 Assembly

Speaker kit comprising CG12 bass driver, CP8 mid-range unit, CB4 treble unit,  $\frac{1}{4}$ -section printed circuit crossover, BAF wadding, Vynair fret material (with choice of three patterns), foam backing sheet, detailed assembly instructions, fixing screws, terminals, etc. FR: 30Hz-17kHz. HC: 20W RMS. Impedance: 8 or 15 ohms. Recommended cabinet size: 25 × 15 $\frac{1}{2}$  × 12 $\frac{1}{2}$ in. Design based on Richard Allan Pavane series II enclosure. Price: £21 (plus VAT).

### Super-12 Assembly

Speaker kit comprising CG12 Super bass driver, CP8 mid-range unit, CB4 treble unit,  $\frac{1}{2}$ -section crossover network. FR: 30Hz-17kHz. HC: 25W RMS. Impedance: 8 or 15 ohms. Recommended cabinet size: 25 × 15 $\frac{1}{2}$  × 12 $\frac{1}{2}$ in. Design based on Richard Allan Sardana enclosure. Price: £25 (plus VAT).

## ■ AMTRON (UK) LTD

4-7 Castle Street, Hastings, Sussex, TN34 3DY.  
Tel: Hastings 2875.

### UK165

RIAA equalised stereo preamplifier. Input impedance: 47K. Output impedance: 100K. Crosstalk: -70dB at 1kHz. Gain: 40dB at 1kHz. Power supply: 12V DC at 2mA. Four BC108B transistors. Price: £5.71 (including VAT).

### UK167

Stereo preamplifier to RIAA or CCIR standards. Input impedance: 47K. Output impedance: >15K. Crosstalk: -70dB at 1kHz. Gain: 40dB at 1kHz. Power supply: 6-24V DC at less than 10mA. Three transistors. Price: £7.75 (including VAT).

### UK170

Mono preamplifier with tone controls. Inputs: crystal PU, high impedance, low impedance, aux, all at 100mV. Output: 1V. Tone controls: treble ±15dB at 10kHz, bass ±15dB at 50Hz. Power supply: 10-5V DC. Three BC108B transistors. Price: £19.01 (including VAT).

### UK175

Stereo preamplifier with tone controls. Inputs: crystal PU, high impedance, low impedance, aux, all at 100mV. Output: 1V per channel. Tone controls: treble ±15dB at 10kHz, bass ±15dB at 50Hz. Volume control for each channel. Slider controls. Power supply: 10-5V DC. Six BC108B transistors. Price: £25.13 (including VAT).



Richard Allan Twin Assembly

★ Indicates entry is illustrated

#### UK275

Microphone preamplifier. Input impedance: 10K. Output impedance: 1.5K. Gain: 30dB at 1kHz. Two transistors. Power supply: 9V DC. at 5mA. Very low noise level. Price: £6.42 (including VAT).

#### UK270

Integrated mono amplifier. Inputs: 200mV 150K, 230mV 220K. Output: 6W peak. Output impedance: 8 ohms. FR: 50Hz-15kHz. Power supply: 15V DC. Price: £6.92 (including VAT).

#### UK160

Integrated mono amplifier. Inputs: crystal PU 300mV, aux 80mV. Output: 8W peak. Output impedance: 5 ohms. One IC and two transistors. FR: 30Hz-25kHz. Power supply: 12-15V DC. Price: £9.46 (including VAT).

#### UK115

Mono power amplifier. Input: 2mV. Output: 8W peak. FR: 20Hz-20kHz. Output impedance: 8 ohms. Five transistors. Power supply: 18V DC. Price: £3.16 (including VAT).

#### UK120

Mono power amplifier. Input: 2mV. Output: 12W peak. FR: 20Hz-20kHz. Output impedance: 8 ohms. Five transistors. Power supply: 24V DC. Price: £4.27 (including VAT).

#### UK130

Mono control unit. Controls: volume, treble  $\pm 10$ dB at 10kHz, bass  $\pm 10$ dB at 100Hz. Passive system. Price: £3.88 (including VAT).

#### UK125

Stereo control unit. Designed for use with the UK115 and UK120 amplifiers. Controls: volume, balance, bass  $\pm 10$ dB at 100Hz, treble  $\pm 10$ dB at 10kHz. Passive system. Price: £4.62 (including VAT).

#### UK190

Mono power amplifier with slider volume control and on-off switch. Input: 1V at 1K. Output: (5% distortion) 50W peak, (1% distortion) 40W peak. FR: 10Hz-10kHz  $\pm 2$ dB. Output impedance: 4 ohms. Five transistors, four diodes. Power supply: 55V DC. Price: £25.06 (including VAT).

#### UK110/A

Integrated stereo amplifier. Input: 400mV. Output: 5W peak per channel. Output impedance: 4 ohms. Four transistors. Power supply: 12-15V DC. Price: £11.05 (including VAT).

#### UK535/C

Integrated stereo amplifier. Inputs: crystal PU 250mV 1M, aux 250mV 47K. Output: 7W peak per channel. Output impedance: 8 ohms. HD: 0.5%. FR: 20Hz-20kHz  $\pm 1$ dB. Tone controls: bass  $\pm 10$ dB, treble  $\pm 10$ dB. Mains: 110, 125, 140, 160, 220V AC. 10 transistors, two diodes. Price: £23.47 (including VAT).

#### UK185

Integrated stereo amplifier with slider controls. Inputs: crystal PU 250mV 1M, mag PU 4mV 47K, aux 250mV 47K. Output: 20W RMS per channel. HD: 0.5%. FR: 20Hz-20kHz  $\pm 1$ dB. Tone controls: bass  $\pm 20$ dB, treble  $\pm 20$ dB. Signal-to-noise: 70dB. Output impedance: 4 ohms. Mains: 110, 125, 220, 240V AC. 15 transistors, two diodes, three zeners, one bridge rectifier. Pushbutton input selector. Price: £54.91 (including VAT).

#### UK187

Integrated stereo amplifier with provision for two rear speakers. Inputs: mag PU 3mV 47K, aux 70mV 100K, line 70mV 100K. Output: 20W RMS per channel at 1% distortion. FR: 10Hz-30kHz +0dB -3dB. Output impedance: 4 ohms. Signal-to-noise: 80dB. Tone controls: bass  $\pm 15$ dB at 100Hz, treble  $\pm 15$ dB at 10kHz. Mains: 117, 125, 220, 240V AC 50Hz. 26 transistors, four zeners, two diodes, one bridge rectifier. Slider controls. Pushbutton input selectors. Price: £87.85 (including VAT).

#### UK192

Stereo power amplifier. Input: 1V at 1K. Output: (5% distortion) 50W per channel, (1% distortion) 40W per channel. FR: 10Hz-100kHz  $\pm 2$ dB. Output impedance: 4 ohms. Separate slider volume controls. Power supply: 55V +55V DC. 10 transistors, eight diodes. Price: £41.96 (including VAT).

#### UK180

Four channel decoder unit. Inputs: (2) 4-8 ohms at up to 12W. Outputs: (4) 4-8 ohms. Operating modes: normal stereo, four-channel stereo, four-channel reverse stereo. Independent level adjustment for front and rear speakers. Provides depth and reverberation effects. Price: £23.98 (including VAT).

#### UK805

Three-way crossover filter. 6dB/octave. HC: 25W nominal. Impedance: 8 ohms. Price: £4.36 (including VAT).

#### UK800

Three-way crossover filter. 12dB/octave. HC: 25W nominal. Impedance: 8 ohms. Price: £6.34 (including VAT).

#### UK765

Permits three pairs of stereo phones to be connected to the output of a stereo amplifier. Price: £3.14 (including VAT).

#### UK890

Two-channel mixer with slider controls. Inputs: 470K, 10K. Output impedance: approximately 2K. Price: £4.71 (including VAT).

#### UK710/C

Four-channel active mixer. Inputs: (2) 2mV at 200K, (2) 300mV at 1M. Individual gain con-

trols. Output impedance: 10K. Power supply: 9V DC at 4mA. Four transistors. Price: £9.42 (including VAT).

### ■ CLARK SPEAKERS

122 Hull Road, Anlaby, Hull, HU10 6UV.  
Tel: Hull (0482) 656706.

#### System A1/1

Transmission line enclosure with units and crossover. One Richard Allan CF8 8in bass/mid-range driver, one Peerless MT25 2½in tweeter. HC: 10W RMS. Impedance: 8 ohms. FR: 25Hz-20kHz. Crossover: 3kHz ¼-section two-element. Size: 30¾ × 18 × 15in. Finish: teak or mahogany. Also available with extension shelf unit to left or right to accommodate equipment, records, etc. Also available in kit form for home assembly. Full details and prices on request. Price: (kit) £26.50 (including VAT); (ready assembled) £32.32 (including VAT).

#### System A1/1 (KEF)

Similar to A1/1 above but fitted with KEF B200 bass driver. HC: 25W RMS. Price: (kit) £28 (including VAT); (ready assembled) £33.82 (including VAT).

#### System A1/2

Transmission line enclosure with units and crossover. One Richard Allan CF8 8in bass driver, one Fane 501 5in mid-range unit, one Peerless MT25 2½in tweeter. HC: 15W RMS. Impedance: 8 ohms. FR: 25Hz-20kHz. Crossover: 500Hz and 3.5kHz, ¼-section nine element crossover. Size: 35 × 18 × 15in. Finish: teak or mahogany. Also available with shelf unit to left or right to accommodate equipment, records, etc. Also available in kit form for home assembly. Full details and prices on request. Price: (kit) £39.94 (including VAT); (ready assembled) £46.76 (including VAT).

#### System A1/2 (KEF)

Similar to A1/2 above but fitted with KEF B200 bass driver. HC: 25W RMS. Price: (kit) £41.44 (including VAT); (ready assembled) £48.26 (including VAT).

### ■ CONNOISSEUR

A. R. Sugden & Co (Engineers) Ltd,  
Connoisseur Works, Atlas Mill Road,  
Brighouse, Yorks, HD6 1ES.  
Tel: Brighouse 2142. Cables: Connoisseur,  
Yorkshire.

#### BD1 Turntable kit

Description and specification as for BD1 motor unit. (See Motor Unit section.) Easy one-hour assembly. No soldering. Price: £11.50 (plus VAT).

### ■ EATON AUDIO FITMENTS

Leopold Street, Long Eaton, Nottingham,  
NG10 4QF. Tel: Long Eaton 2662/2818.

#### Wharfedale Unit 3 cabinet kit

Made to Wharfedale specification from ½in material accurately machined for simplicity of assembly, with the main parts veneered (unpolished) in teak, mahogany and walnut. All kits are complete with screws for fixing the back, bolts for fixing fret panel, and fret material. Baffle holes are cut and cabinets veneered all four sides. Size: 11½ × 21 × 9½in. Price: £6.20.

#### Wharfedale Unit 4 cabinet kit

Made to Wharfedale specification from 17mm material accurately machined for ease of assembly. Main parts veneered (unpolished). All kits complete with screws, bolts and fret material. Finish: teak veneer. Largest size recommended: 24 × 14 × 12in. Price: £8.65.

#### Wharfedale Unit 5 cabinet kit

Details as Unit 4 cabinet kit except size 29 × 17 × 11¼in. Finish: teak. Price: £10.50.

#### Wharfedale Pipe kits

Column cabinets using specially designed filter and absorbent pads of bonded acetate fibre. Designed for a single full range 8in speaker (rec. Super 8/RS/DD). FR: 40Hz-20kHz. Suitable for 8 or 15 ohm amplifiers; other impedances by matching transformer WMT1. Dimensions: 3ft high by 1in diameter. Power handling capacity: 6W RMS. Price on application.

#### Eaton Plain Chipboard kits

Designed for enthusiasts working on low budgets. Up to one cubic foot made from 12mm high-density chipboard, all other sizes made from 18mm high-density chipboard. Main joints fit together to form airtight joints without use of screws or nails. Building time under one hour. All kits based on designs by leading speaker manufacturers. Each kit comprises: top, bottom, two sides, baffle (with holes cut to suit speaker), back, battens for fixing back, screws/nails as necessary. No internal damping or fret material is provided. **U4/F2/E** large enclosure for Wharfedale Unit 4 (24¼ × 14½ × 11½in) £5.82; **U5/J2/E** large enclosure for Wharfedale Unit 5 (29 × 17 × 11½in) £7.24. **AXM/8/ES** small enclosure for Goodmans Twinaxiom 8 (19½ × 10½ × 9¼in); **AXM/8/EL** large enclosure for Goodmans Twinaxiom 8 (24½ × 13½ × 12½in); **AXM/10/ES** small enclosure for Goodmans Twinaxiom 10 (19½ × 12¼ × 9¼in); **AXM/10/EL** large enclosure for Goodmans Twinaxiom 10 (24 × 17 × 13in); **350/E** enclosure for EMI 13 × 8in unit (21½ × 15 × 9½in); **1/C/E** one cubic foot reflex enclosure for Wharfedale 8in (24 × 11 × 9in). All the enclosures (except 1/C/E) are infinite baffle. Material is plain unveneered chipboard as specified. Other prices: on application. Prices are all ex-works, tax paid. Add 85p carriage for one kit, £1.50 for two kits.



★ Indicates entry is illustrated

## ■ EMI SOUND & VISION

EMI Pathé Division,  
252 Blyth Road, Hayes, Middlesex, UB3 1HW.  
Tel: 01-573 3888. Telex: 22417.

### LEK 175/8

Speaker kit comprising 8 × 5in full range driver, teak cabinet, glue, full instructions and all accessories. Price: on application.

### LEK 275/8

Speaker kit comprising 8in bass/mid-range driver, 3½in tweeter, crossover network, teak cabinet, glue, full instructions and all accessories. Price: on application.

### LEK 575/8

Speaker kit comprising 13 × 8in bass driver, 8 × 5in mid-range/HF unit, crossover network, teak cabinet, glue, full instructions and all accessories. Price: on application.

## ■ FALCON ELECTRONICS

Components Division,  
33 Station Road, Bexhill-on-Sea, Sussex.  
Tel: Bexhill 1908.

Speaker crossover components, BAF wadding, acoustically transparent micro-porous foam, constant impedance 'L' pads, grille fabrics, etc. See Speaker Accessories Section for further details.

## ■ GOODMAN'S LOUDSPEAKERS LTD

Downley Road, Havant, Hampshire, PO9 2NL.  
Tel: Havant 6344. Telex: 86296.

### DIN 20 Kit ★

A complete kit of parts (except timber) for building a two-unit reflex speaker system. Comprehensive instructions including exploded diagrams. No soldering necessary. One 8in bass driver, one 1in dome tweeter. Crossover: 4kHz. Interior volume: 22 litres. FR: 45Hz-22kHz (DIN 45:500). HC: 20W (DIN). Impedance: 4 ohms. Connections: DIN plug and cable. Size: 19 × 10½ × 9½in. Price: £10.43 (plus VAT).

## ■ HEATHKIT

Heath (Gloucester) Ltd,  
Bristol Road, Gloucester, GL2 6EE.  
Tel: Gloucester 29451.

### AR-1500 ★

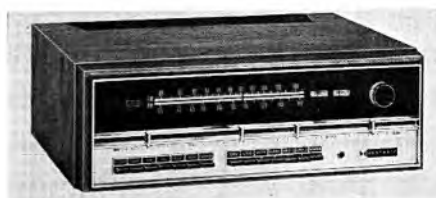
AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 185-560m. Sensitivity: FM 1.8µV, AM 50µV. Aerial input: 75 ohms coaxial and 300 ohms balanced. Built-in ferrite rod for MW Stereo decoder fitted. Tuning meter. Stereo beacon. Variable tuning. Pushbutton waveband selectors. Output: 60W sine wave into 8 ohms per channel. HD: <2% H and N: -40dB. Inputs: mag PU 1.8mV, tape 140mV, aux 140mV. Two AC outlet sockets. Size: 18½ ×



Goodmans DIN 20 Kit



Heathkit AR-1500



Heathkit AR-1302



Heathkit AR-1214



Heathkit AR-2000

5 $\frac{1}{8}$  × 13 $\frac{3}{8}$  in. Mains: 120 or 240V 50/60Hz. Price: (kit) £179.30. (cabinet) £13.20.

**AR-1302 ★**

AM/FM stereo tuner/amplifier. Range: FM 88-108MHz, MW 185-560m. Sensitivity: FM 1.9 $\mu$ V, MW 300 $\mu$ V. Aerial input: 75 ohms coaxial and 300 ohms balanced. Built-in ferrite rod for MW. Stereo decoder fitted. Stereo beacon. Tuning meter. Inputs: mag PU 2.4mV, tape and aux 180mV. Variable tuning. Slider controls for bass, treble, balance and volume. Pushbuttons for waveband selection, mode and speakers. Output: 20W per channel sine wave into 8 ohms. Two AC outlet sockets. Mains: 120 or 240V 50/60Hz. Size: 16 $\frac{3}{4}$  × 5 $\frac{1}{8}$  × 14 $\frac{1}{2}$  in. Price: (kit) £127.60.

**AR-1214 ★**

AM/FM stereo tuner/amplifier. Range: FM88-108MHz, MW 185-560m. Sensitivity: FM 2 $\mu$ V, AM 100 $\mu$ V. Aerial input: 75 ohms coaxial or 300 ohms balanced. Built-in ferrite rod for MW. Stereo decoder fitted. Stereo beacon. Variable tuning. Pushbutton waveband and mode selection. Output: 15W per channel sine wave into 8 ohms. Inputs: mag PU 2mV, tape 190mV. Two AC outlet sockets. Mains: 120 or 240V 50/60Hz. Size: 17 × 3 $\frac{7}{8}$  × 13 in. Price: (kit) £74.80.

**AR-2000 ★**

Multi-waveband AM/FM stereo tuner/amplifier. Range: 88-108MHz, MW 185-560m, LW 860-2000m, SW 26-52m. Variable tuning. Aerial input: 75 ohms coaxial and 300 ohms balanced. Sensitivity: FM 2 $\mu$ V, SW 15 $\mu$ V, MW 25 $\mu$ V, LW 50 $\mu$ V. Input: mag PU 2.8mV, crystal PU 200mV, tape 200mV. Output: 20W sine wave per channel into 8 ohms. HD: <0.25% at 20W. FR: 10Hz-30kHz ±1dB. Output impedance: 4-16 ohms. Tape outlet socket: 1V adjustable at 100K. Treble control: +14dB -16dB at 20kHz, bass control +16dB -20dB at 20Hz. Mains: 110, 130, 220-230, 240-250V AC. Size: 24 $\frac{3}{8}$  × 4 $\frac{1}{2}$  × 11 $\frac{1}{8}$  in. Finish: walnut or teak. Price: (kit) £96.80. (cabinet) £7.70.

**AR14**

FM stereo tuner/amplifier. Range: 88-108MHz. Variable tuning. Aerial input: 300 ohms balanced. Stereo decoder fitted. Output: 10W sine wave per channel. Output impedance: 4-16 ohms. 31 transistors, 10 diodes. FR: 12Hz-60kHz ±1dB. Inputs: mag PU 4.5mV, aux 300mV. HD: 0.5% or less at 1kHz. Controls: input selector, treble, bass, volume, phase, tuning. Mains: 120/240V AC. Size: 15 $\frac{1}{4}$  × 3 $\frac{7}{8}$  × 12 in. Finish: walnut or teak. Price: (kit) £49.94.

**AR-1214**

AM/FM stereo tuner/amplifier. Range: FM88-108MHz, MW 185-560m. Sensitivity: FM <2 $\mu$ V, AM <100 $\mu$ V. Variable tuning. Aerial input: 75 ohms coaxial, 300 ohms balanced.



Heathkit AA-1214



Heathkit AS-9560, AS-9520, AS-9515, AS-9530

Inputs: mag PU 2mV, tape 190mV. Output: 14W sine wave into 8 ohms per channel. HD: <0.5% at 15W. Output impedance: 4, 8 or 16 ohms. Two AC outlet sockets. Mains: 120-240V AC. Size: 17 × 3 $\frac{7}{8}$  × 13 in. Finish: teak or walnut end panels. Price: (kit) £74.80.

**AA-1214 ★**

Stereo integrated amplifier. Specification the same as amplifier section of AR-1214. Size: 12 $\frac{3}{4}$  × 3 $\frac{7}{8}$  × 12 in. Finish: teak or walnut end panels. Price: (kit) £39.60.

**AJ-1214**

AM/FM stereo tuner. Specification the same as tuner section of AR-1214. Output: AM 0.6V nominal, FM 1V nominal. Size: 12 $\frac{3}{4}$  × 3 $\frac{7}{8}$  × 13 in. Finish: teak or walnut end panels. Price: (kit) £44.

**AS-9560 ★**

Speaker system with units. HC: 60W RMS. FR: 25Hz-27kHz. Crossover: 650Hz and 5kHz. Infinite baffle. Impedance: 8 ohms. Finish: teak or walnut. Size: 32in high, 16in wide, 12in deep. Weight: 60lb. Price: (kit) £59.40.

**AS-9530 ★**

Infinite baffle enclosure with units. KEF B139 13 × 9 $\frac{1}{2}$  in bass driver, KEF B110 5 $\frac{1}{2}$  in mid-range unit, KEF T27 dome tweeter. Crossover: 600Hz and 3kHz. Impedance: 8 ohms. HC: 30W RMS. FR: 30Hz-27kHz. Size: 26in high, 16in wide, 12in deep. Weight: 32lb. Finish: teak or walnut. Price: (kit) £44.

**AS-9520 ★**

Infinite baffle enclosure with units. KEF B200 bass driver, KEF T15 mid-range and HF unit.

★ Indicates entry is illustrated

**HC:** 20W RMS. **FR:** 35Hz-20kHz. **Impedance:** 8 ohms. **Crossover:** 3kHz. **Size:** 20in high, 12in wide, 10in deep. **Weight:** 23lb. **Finish:** teak or walnut. **Price:** (kit) £29.70.

**AS-9515 ★**

Infinite baffle enclosure with units. One full-range Peerless E396M elliptical driver. **HC:** 15W RMS. **FR:** 50Hz-16kHz. **Impedance:** 8 ohms. **Size:** 7 × 12 × 6in. **Finish:** teak or walnut. **Weight:** 6lb. **Price:** (kit) £12.10.

**AV-3U**

Audio valve millivoltmeter. Measures voltages as low as 1mV to a maximum of 300V at high impedances in 10 ranges. Frequency range 10-400,000Hz. Uses a 4½in meter. Cathode follower output. **Price:** (kit) £21. Carriage extra.

**AW-1U**

Audio wattmeter. Uses external loads or the following internal loads: 3, 8, 15 and 600 ohms. 5 power ranges from 0-5mW to 50 watts. 4½in meter calibrated in watts and dB. **Price:** (kit) £25. Carriage extra.

**AO-1U**

Inexpensive audio generator covering 20Hz-150kHz sine wave, 20Hz-25kHz square wave. Output up to 10V RMS sine wave or 80V peak-to-peak square wave. **Size:** 9½ × 6½ × 5in. **Price:** (kit) £16.50. Carriage extra.

**IM-58U**

Low-priced audio distortion meter. Simple to use. Measures distortion at frequencies between 20Hz and 20kHz. **Size:** 13 × 7 × 8½ in. **Price:** (kit) £33.50. Carriage extra.

**AG-9U**

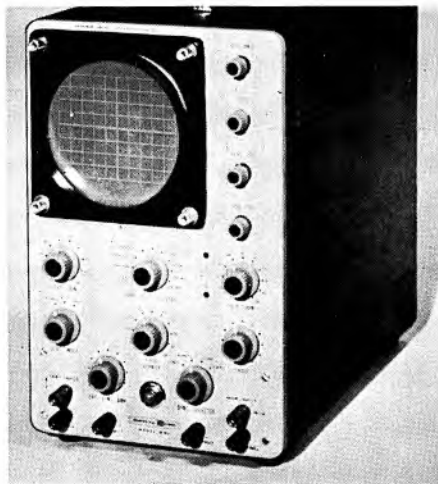
Audio signal generator. Range: 10Hz-100kHz. Distortion less than 0.1% from 20Hz-20kHz. Decade switching over 8 voltage ranges from 3mV-10V monitored. Uses 4½in meter. **Price:** (kit) £31. Carriage extra.

**IM-18E**

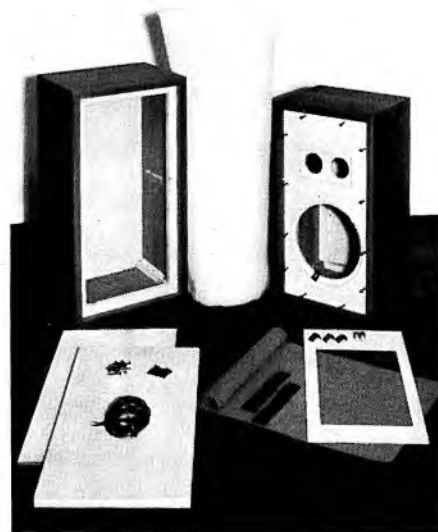
Valve voltmeter kit. Printed circuit. Measures AC volts (0.1-5, 5, 15, 50, 150, 500, 1500) RMS. AC volts (0.4, 14, 40, 140, 400, 1400, 4000) peak-to-peak, DC volts (0.1-5, 5, 15, 50, 150, 500, 1500). Ohms (with 10 ohms centre) × 1, 10, 100, 1000, 10K, 100K, 1M, 0.1ohms to 1000M with internal battery. Input resistance: 11M, 200µA meter movement. **Price:** (kit) £17.50. Carriage extra.

**IM-28U**

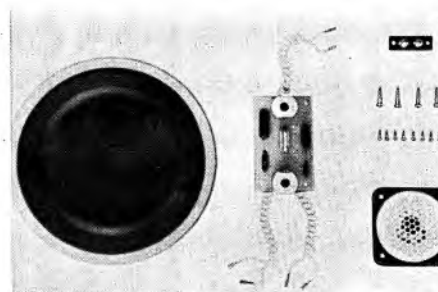
Laboratory valve-voltmeter kit. Printed circuit. Gimbal mounting, for viewing from any angle. Measures AC volts (0.1-5, 5, 15, 50, 150, 500, 1500 RMS); AC volts (0.4, 14, 140, 400, 1400, 4000 peak-to-peak). DC volts (0.1-5, 5, 15, 50, 150, 500, 1500). Ohms (with 10 ohms centre) × 1, × 10, × 100, × 1000, 10K, 100K, 1M, 0.1



Heathkit 10-18U oscilloscope



Helme Cabinet Kit (speakers)



Helme XLK-25

ohms to 1000M with internal battery. Input resistance: 11M. 200 $\mu$ A meter movement. Price (kit): £29.70. Carriage extra.

#### OS-2

Service oscilloscope. 2 $\frac{3}{4}$ in tube. Vertical bandwidth 2Hz-3MHz. Automatic lock-in sync. Mu-metal CRT shield. Printed circuit. Switched ext/int Y plate connections. Vertical amplifier: sensitivity 100mV/cm, input impedance: 3.3M shunted by 20pF, response 2Hz-3MHz  $\pm$  dB. Horizontal amplifier: sensitivity 100mV/cm, input impedance: 10M shunted by 20pF, response 2Hz-3MHz. Time base: 20Hz-200kHz in four steps. Size: 5  $\times$  7 $\frac{3}{8}$   $\times$  12in. Weight: 9 $\frac{3}{4}$ lb. Price (kit): £34.65. Carriage extra.

#### IO-18U $\star$

General purpose oscilloscope kit. 5in flat face CR tube. Printed circuits. Vertical band-width 3Hz-4.5MHz. Built-in 1V calibrator, Y-sensitivity 10mV RMS per cm at 1kHz. X-sensitivity 50mV RMS per cm at 1kHz. Price: (kit): £46.75. Carriage extra.

#### IG-18

Sine-square wave generator. Sine wave output: 1Hz-100kHz. Square wave output: 5Hz-100kHz. Frequency accuracy:  $\pm$  5%. Sine wave in eight ranges, square wave in three ranges. Output meter: two voltage scales and one dB scale. Distortion: <0.1% 10Hz-20kHz. Mains: 105-125V or 210-250V AC. Size: 13 $\frac{1}{2}$   $\times$  5 $\frac{1}{2}$   $\times$  7in. Weight: 7lb. Price: (kit) £46.75, (assembled) £64.45.

#### ■ HELME

P. F. and A. R. Helme Ltd, Summerbridge, Harrogate, HG3 4DR, Yorks. Tel: Darley 279.

#### Range of easy-to-assemble speaker enclosures for the home constructor $\star$

Each kit comprises fully finished and polished outer shell (veneered natural teak), set of terminals, wire, uncut baffle, brown Vynair covering. All nuts, bolts and screws are included, also BAF wadding for inside cabinet.

All cabinets are infinite baffle type. Speaker units are not specified but internal volume of cabinet will provide guide together with speaker unit literature and data.

Helme cabinet kits include:

#### RV10

Size: 14  $\times$  9  $\times$  7in. Volume: 10 litres. Price: from £9 (plus VAT).

#### RV16

Size: 18  $\times$  10  $\times$  9in. Volume: 16 litres. Price: from £10.30 (plus VAT).

#### RV20

Size: 20  $\times$  11  $\times$  9in. Volume: 20 litres. Price: from £13.60 (plus VAT).

#### RV30

Size: 22 $\frac{1}{2}$   $\times$  12 $\frac{1}{2}$   $\times$  10in. Volume: 30 litres. Price: from £14.20 (plus VAT).

#### RV50

Size: 26 $\frac{3}{8}$   $\times$  15  $\times$  10 $\frac{3}{8}$ in. Volume: 50 litres. Price: from £23 (plus VAT).

#### XLK-25 $\star$

Comprises low-resonance bass driver and 3in square tweeter with aluminium cone. Half-section crossover. Price: (per pair) £23.17 (including VAT).

#### XLK-50

Comprises 13  $\times$  8in bass driver with Bextrene cone and 3in square tweeter with aluminium cone. Half-section crossover. Price: (per pair) £42.18 (including VAT).

Ready-made versions of the XLK-25 and XLK-50, also matching cabinets, are available. Full details and prices on request.

#### ■ IMPEX

McArdle & Brainsby (Import & Export) Ltd, PO Box 2BB, Newcastle upon Tyne, NE99 2BB.

#### MS7

Stereo magnetic pickup preamplifier. Input: 3mV 47K. Output: 100mV 470 ohms at 1kHz. HD: <0.03% at 100mV output. Overload margin: >28dB. S/N ratio: >60dB. Power supply needed: 50V DC at 7mA. Price: (printed circuit boards) 43p; (complete set of transistors, resistors, capacitors and printed board—Part A) £2.85; (Case including spacers, screws, etc—Part B) £1.35; (phono sockets, DIN plugs and jack plugs with cable—Part C) £1.15. Posting and packing (UK): 13p per order. All prices exclude VAT.

#### 'Hi-Fi Sound' 10-20 amplifier

Integrated stereo amplifier design published by 'Hi-Fi Sound' magazine. Kit 1—printed circuit board £1.90; Kit 2—32 transistors and four zener diodes £11.10; Kit 3—52 capacitors (excluding main reservoirs) £5.95; Kit 4—87 fixed resistors and two RV6 £1.90; Kit 5—potentiometers for balance, tone, volume, tape, plus slide switches and input selector switch £3.75. Kit 6—Power supply components including mains transformer, rectifier, neon, main electrolytics, etc. £7.45; Kit 7—five control knobs £1.30; Kit 8—connectors £1.10; Kit 9—ready drilled case and panels £5.20. Post and packing 15p on every order. All prices exclude VAT.

#### ■ KEF ELECTRONICS LTD

Tovil, Maidstone, Kent.

Tel: Maidstone 57258. Cables: KEF, Maidstone.

#### Kefkit 2

B139 and T15 drive units supplied mounted on 22 $\frac{1}{2}$   $\times$  13 $\frac{1}{2}$   $\times$  4in baffle. Complete with grille

★ Indicates entry is illustrated



#### Peerless 20-3 Kit

fabric, mounting bolts, BAF padding, speaker terminals and full mounting instructions. HC: 25W. FR: 35Hz-35kHz. Impedance: 8 ohms. Price: £25 (plus VAT).

#### Kefkit 3

B139, B110 and T27 units supplied mounted on 28 × 14 × 10½in baffle. Complete with grille fabric, mounting bolts, BAF padding, speaker terminals and full mounting instructions. HC: 30W. FR: 30Hz-30kHz. Impedance: 8 ohms. Price: £36 (plus VAT).

#### KEF Components

BAF wadding (5yds 12 × 1in) £1.20; terminal panels (pair) 17p; 0.25mH inductor (per pair) 58p; 0.6mH inductor (per pair) 70p; 1mH inductor (per pair) 76p; 2mH inductor (per pair) 80p; 5mH inductor (per pair) £1.05; 4mfd 50V capacitor (per pair) 38p; 6mfd 50V capacitor (per pair) 38p; 8mfd 50V capacitor (per pair) 48p; 60mfd 50V capacitor (per pair) 68p; 80mfd 50V capacitor (per pair) 78p. All prices exclude VAT which must be added.

See Speaker Accessories Section for details of KEF crossover networks.

#### ■ MAC

Modular Audio Components Ltd,  
Canterbury Road, Nottingham, NG8 1PQ.  
Tel: Nottingham 79797.

#### AAU-K

Audio adaptor unit kit enables dealers and enthusiasts to build their own particular switching circuits. Complete chassis includes sub-panel with 20 wiring pins, rear panel with 4 phono sockets, or with 5-pin DIN socket (AAU-KD). 3-way switch position engraved on fascia. Price: £2.88 (plus VAT).

#### ■ PEERLESS

Distributor: P. F. & A. R. Helme Ltd,  
Summerbridge, Harrogate, HG3 4DR, Yorks.  
Tel: Darley 279.

Peerless speaker kits are of 8 ohms impedance (4 ohms to special order on most kits). A range

of crossover networks is available ready wired and assembled on printed circuit boards

All kits are complete with crossover network or components.

#### 2-8 kit

6½in bass and 2½in HF units. HC: 10W. FR: 50Hz-18kHz. Crossover: 4kHz. Price: £6.60 (plus VAT).

#### 10-2 kit

6½in bass driver with rubber roll surround, 2½in tweeter. Crossover: 2.5kHz. HC: 15W RMS. FR: 45Hz-18kHz. Price: £9.70 (plus VAT).

#### 3-15 kit

8in bass, 5in mid-range and 2in tweeter. HC: 15W. FR: 45Hz-18kHz. Crossover: 750Hz and 4kHz. Price: £12.20 (plus VAT).

#### 3-25 kit

12in bass, 5in mid-range and 2in tweeter. HC: 25W. FR: 40Hz-18kHz. Crossover: 750Hz and 4kHz. Price: £19.40 (plus VAT).

#### 4-30/12 kit (8 ohms only)

12in bass, 7 × 5in mid-range and two 2½in tweeters. HC: 40W. FR: 30Hz-18kHz. Crossover: 500Hz and 3.5kHz. Price: £30.80 (plus VAT).

#### 20-2 kit

8in bass driver, 2½in HF unit. HC: 40W. FR: 40Hz-20kHz. Crossover: 2.5kHz. Price: £12.10 (plus VAT).

#### 20-3 kit ★

8in bass driver, 5in mid-range unit, 2½in tweeter. HC: 40W. FR: 40Hz-20kHz. Crossover: 1.5kHz, 6kHz. Price: £18.20 (plus VAT).

#### 50-2

12in bass driver, 4in tweeter. HC: 15W RMS. FR: 45Hz-18kHz. Crossover: 4kHz. Price: £10.60 (plus VAT).

#### 50-4

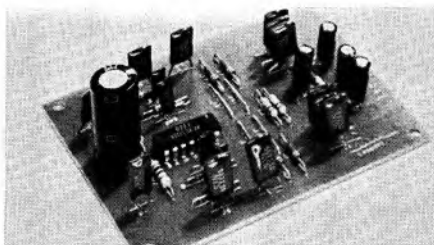
12in bass driver, 7 × 5in mid-range unit, two 2½in tweeters. HC: 40W. FR: 30Hz-18kHz. Crossover: 500Hz and 3.5kHz. Price: £27.10 (plus VAT).

#### ■ SINCLAIR RADIONICS LTD

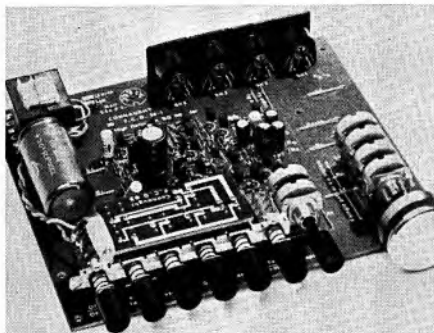
London Road, St Ives, Huntingdonshire,  
PE17 4HJ. Tel: St Ives (Hunts) 4311.

#### Sinclair Z-30

Transistorised mono amplifier module. Nine silicon transistors. Output: 15W RMS into 8 ohms (35V supply), 20W into 3 ohms (30V supply). FR: 30Hz-300kHz ± 1dB. HD: 0.02% at full output into 8 ohms and at all lower power levels. S/N: better than 70dB. Input: 250mV into 100K. Output impedance: 3-15 ohms. Full instruction manual and circuit diagram supplied with each module. Price: (ready built and tested) £4.48 (plus VAT).



Tate 1



Tate 4

**Sinclair Z-50**

Transistorised mono-amplifier module. 11 transistors. Incorporates transient overload protection. Otherwise similar specification to the Z-30. Output: 40W RMS into 3-4 ohms, 30W RMS into 8 ohms. Price: £5.48 (plus VAT).

**Power supply units**

(PZ-5) 30V unswitched. Suitable for two Z30 and Stereo 60. Price: £4.98 (plus VAT). (PZ-6) 35V stabilised. Suitable for two Z-30 and Stereo 60 when low efficiency speakers used. Price: £7.98 (plus VAT). (PZ-8) 45V for use with Z-50 amplifiers. Price: (less mains transformer) £7.98 (plus VAT); (PZ-8 mains transformer) £5.98 (plus VAT).

PZ-8 power supply unit features re-entrant current limiting and is completely short-circuit proof.

■ **SME LTD**

Steyping, Sussex BN4 3GY.  
Tel: Steyping (0903) 814321.

**Model 2000 Plinth System**

All component parts available separately at the following prices (plus VAT): Base in teak, rosewood or walnut £15.66; Motor board in teak, rosewood or walnut £5.01; Spring mounts with foam damping blocks (set of four) £4.02; Lid in heavy acrylic sheet with stainless steel trim (without hinges) £9.99; Hinges (per pair) £5.10. All prices excluding VAT.

**Mounting boards and accessories**

Suitable for Model 3009 Series II Improved and Series II arms.

TD124/3009 for Thorens TD124. Price: £2.88 (plus VAT).

TD125/3009 for Thorens TD125. Price: £2.88 (plus VAT).

TD150/3009 for Thorens TD150. Price: £2.88 (plus VAT).

TD160/3009 mounting kit for fitting Series II Improved arms only to Thorens TD160. Price: £2.88 (plus VAT).

PS2000/TD125 mounting brackets for fitting Thorens TD125 to motor board. Price: £1.26 (plus VAT).

PI spacer for use when turntable surface is more than 1 1/8 in (41mm) above the level on which pickup arm is mounted. Price: 84p (plus VAT).

■ **TATE**

Tate Audio Transmission Equipment Ltd,  
5-7 Covent Garden, Cambridge, CB1 2HS.  
Tel: Cambridge (0223) 67873.

Six SQ four-channel decoders in module form and with easy to assemble cabinet kit. Specification: (Models 1, 3 and 5) input impedance: 3M, output impedance: 5K, phase shift network 100 Hz-10kHz, unity gain, FR: 20Hz-20kHz, input level: 500mV, HD: 0.1%, clipping point 2V RMS, front separation better than 24dB, rear separation better than 14dB (without blend). Specification (Models 2, 4 and 6) input impedance: 40K, output impedance: 300 ohms, phase shift network 20Hz-18kHz, unity gain, FR: 5Hz-100kHz, input level 250mV, HD: 0.025%, clipping point 2.5V RMS, front separation better than 60dB, rear separation better than 20dB. Power supply: (Model 1) 24-30V DC at 16mA; (Model 2) 18-30V DC at 11mA; (other models) 220-240V AC at 3W.

**Tate 1 ★**

IC based SQ quadraphonic decoder module. Price: £8.95 (plus VAT).

**Tate 2**

High definition SQ quadraphonic decoder module. Price: £12.95 (plus VAT).

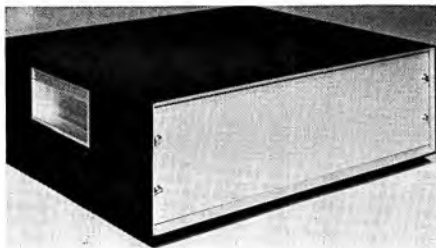
**Tate 3**

IC based SQ quadraphonic decoder module with integrated power supply, switching, master volume and blend control. Price: £16.95 (plus VAT).

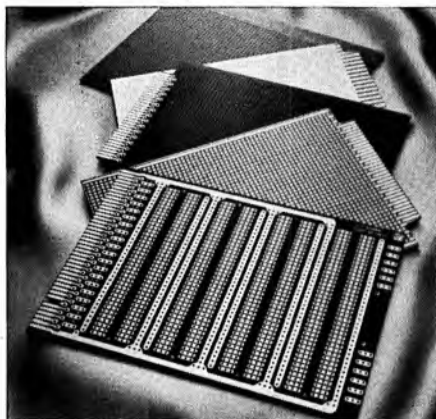
**Tate 4 ★**

High definition SQ quadraphonic decoder module featuring wide-band matrix decoding circuit with integrated power supply, switching, master gain and rear level control. Price: £21.95 (plus VAT).

★ Indicates entry is illustrated



Vero Type D case



Vero printed boards

#### Tate 5

IC based quadrasonic decoder module with easy-to-assemble cabinet kit. Includes integrated power supply, switching, master volume and blend control. Price: £24.95 (plus VAT).

#### Tate 6

High definition SQ quadrasonic decoder module with easy-to-assemble cabinet kit. Includes integrated power supply, switching, master gain and rear level control. Price: £29.95 (plus VAT).

#### VALEK LTD

Lark Street, Darwen, Lancs, BB3 2LT.  
Tel: Darwen 71881.

#### Turntable kits

Kits of parts for home assembly of record turntable units. Full details and prices on request.

#### VERO

Vero Electronics Ltd, Industrial Estate,  
Chandler's Ford, Eastleigh, Hants, SO5 3ZR.  
Tel: Chandler's Ford 2952. Telex: 47551.

#### Audio Equipment Cases ★

Wide range of equipment cases suitable for hi-fi units, tuners, power supplies and test gear. Available in various panel heights and with or

without anodised aluminium front handles. Made in light gauge steel finished in RAF blue/grey vinyl paint. Integral aluminium trim. Neat slim-line appearance. Ventilation slots incorporated. Full list of sizes, accessories and prices, available on request. Ask for Vero 'D' series cases.

#### Printed circuit boards ★

Vero circuit boards comprise resin-bonded paper laminate clad on one side with 1oz copper foil of nominal thickness 0.062in (1.5mm). Base material cut to width and punched with a matrix of holes. Copper foil is in parallel strips along the lines of holes. Enables small electronic assemblies to be built easily and quickly. Vero boards are produced in various sizes, also double-sided, in strips, with plug-in terminations, edge-connectors, breadboards and in plain non-coppered versions. Accessories include connector contacts, D-I-P sockets, terminal pins, pin insertion tool, spot face cutter and numerous design-aid sheets. Catalogue on request.

#### WHARFEDALE

Rank Radio International Ltd, PO Box 596,  
Power Road, Chiswick, London, W4 5PW.  
Tel: 01-994 6491.

#### Linton 2 Kit

Two-speaker kit comprising 8in bass driver and 2in mid-range/treble unit. Based on the Wharfedale Linton 2-speaker system. Impedance: 6 ohms nominal. Crossover: 1.2kHz. FR: 55Hz-18kHz or 70Hz-18kHz depending on enclosure size. HC: 20W DIN. Size of enclosure recommended: 21 × 11½ × 9½in or 14 × 9¼ × 8¼in. Enclosures not included. Full constructional details supplied. Price: (per pair) £23 (including VAT).

#### Glendale 3 Kit

Three-speaker kit comprising 10in bass driver, 4in mid-range unit and 1in tweeter. Impedance: 6 ohms nominal. Crossover: 800Hz and 5kHz. FR: 50Hz-22kHz or 45Hz-22kHz depending on enclosure size. HC: 30W DIN. Size of enclosure recommended: 24 × 14 × 12in or 22½ × 12 × 10½in. Enclosures not included. Full constructional details supplied. Price: (per pair) £42 (including VAT).

#### Dovedale 3 Kit

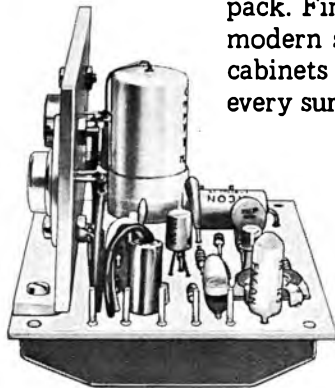
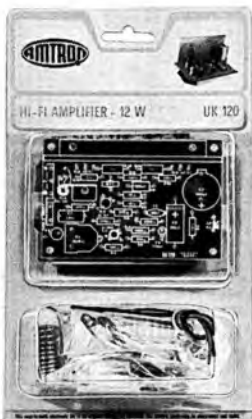
Three-speaker kit comprising 12in bass driver, 5in mid-range unit and 1in tweeter. Impedance: 6 ohms nominal. Crossover: 600Hz and 5kHz. FR: 40Hz-22kHz or 35Hz-22kHz depending on size of enclosure. HC: 50W DIN. Size of enclosure recommended: 29¼ × 16¾ × 11½in or 24 × 14 × 12in. Enclosures not included. Full constructional details supplied. Price: (per pair) £65 (including VAT).

# AMTRON

## the big name in audio kits



AMTRON Audio kits range from 1.5 watt to 50 watt mono; 5 watt, 20 watt and 50 watt stereo; 20 watts per channel "Quadrik". All solid state with glass fibre boards and quality new components. Concise instructions together with solder are included with every pack. Finished in modern styling, the cabinets blend with every surround.



*Illustrated top:*  
Hi-Fi Stereo Preamplifier  
with tone controls.  
*Lower right:*  
Hi-Fi Amplifier 12W.  
*Lower left:*  
Blister Pack for  
12W Amplifier.



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Telephone: 01-636 7349

GLOUCESTER (Factory & Showroom) Bristol Road, Gloucester

Telephone: 0452 29451

HEATH

Schlumberger

# Directory of Microphones

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ACOS

Cosmocord Ltd, Eleanor Cross Road, Waltham Cross, Herts, EN8 7NX. Tel: Waltham Cross 27331.

### Mic 70/12

Omni-directional moving coil. FR: 80Hz-12 kHz (10dB down at 50Hz and 15kHz). Impedance: 200 ohms. Rec. load: 200 ohms-10K. Sensitivity: -80dB re 1V/ $\mu$ b. Price: £3.04 (plus VAT).

### Mic 70/11

Omni-directional moving coil. FR: as for Mic 70/12. Impedance: 50K nominal. Sensitivity: -57dB re 1V/ $\mu$ b. Price: £3.90 (plus VAT).

## ■ ADASTRA ELECTRONICS LTD

Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU. Tel: 01-452 6288 (answering service 01-452 6289).

### Imp-Verta ★

Matches low impedance microphones, PU cartridges and tape heads into high impedance amplifier inputs. Solid state printed circuit device using silicon transistor. Automatically switched internal 9V battery. Negligible drain. Conversion factor approximately 20 (depending on load). Virtually no hum or signal loss. Metal case, black crackle finish. Size:  $5 \times 1\frac{1}{2} \times 1\frac{1}{2}$  in. Price: £3.90 (including VAT).

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR. Tel: 01-568 9222.

### ADM14

Dynamic microphone. Uni-directional. FR: 100Hz-10kHz  $\pm$ 5dB. Price: £6.49 (including VAT).

## ■ A.K.G.

Distributors: A.K.G. Equipment Ltd, 182/184 Campden Hill Road, Kensington, London, W8 7AS. Tel: 01-229 3695.

### C24

Stereo condenser. Sensitivity 1mV/ $\mu$ bar. Imp 200 or 500 ohms. Response 30Hz-20kHz. Omni-

directional cardioid; bi-directional, hyper-cardioid. Plus 5 intermediate patterns. Sensitivity approx 1mV per microbar (at 200 ohms output terminals) -33dB re 1 milliwatt at a sound pressure of 10 dynes/cm<sup>2</sup>. Crosstalk between channels <40dB throughout entire range. Imp <200 ohms when delivered. 50 ohms by changing solder connections. N.24 power supply unit. Remote control unit. Twin remote control cable. Price: £399 (plus VAT).

### C414 ★

FET studio microphone with large capsule and pattern selector for cardioid, omni-directional, figure-of-eight and hyper-cardioid. Capacitor unit. Switchable -10dB attenuator. FR: 20Hz-20kHz. Sensitivity: 0.6mV/bar. Price: £123 (plus VAT).

### C451-FET ★

FET condenser microphone with cardioid, sharp cardioid or omni-directional capsule. FR: 20Hz-20kHz. Prices: microphone, preamplifier and one capsule £50.50 (plus VAT).

### D11D-HL

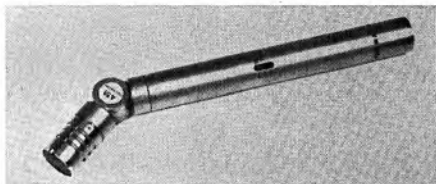
Moving coil cardioid microphone. Incorporates



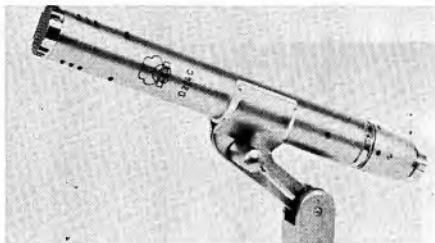
Adastra IMP-VERTA



AKG C414



AKG C451-FET



AKG D224



AKG D190



Altec Lansing B 650

adaptor to change polar response from cardioid to super- and hyper-cardioid. FR: 80Hz-15kHz. Front-to-back ratio: 16dB. Impedance: 500 ohms or 50K. Sensitivity: 72.5dB at 500 ohms, 54dB at 50K. Price: £11 (plus VAT).

#### D12

Moving coil with cardioid directional pattern. Response 40Hz-12kHz  $\pm 4$ dB. Front to back ratio 15dB. Sensitivity:  $-77$ dB. Imp 60 ohms, or to order. Price: £39 (plus VAT).

#### D14S

Dynamic cardioid microphone. Imp 60-40,000 ohms. Response 50Hz-15kHz. On/off switch. Swivel joint fits all stand threads. Supplied with 5½yds two-core screened lead. Weight: 8oz. Price: £14 (plus VA1).

#### D58C

Moving coil, close-talk microphone. Response 50Hz-12kHz. Sensitivity: 0.1mV/ $\mu$ bar. Imp 60 or 200 ohms. Price: £15 (plus VA1).

#### D109

Omni-directional moving coil. FR: 50Hz-15kHz  $\pm 3.5$ dB. Sensitivity:  $-98$ dB. Impedance: 60 and 200 ohms. Rec load  $\geq 400$  ohms. Hand and lavalier type. Supplied with lavalier cord. Higher frequencies boosted when lavalier attached. Metal case nickel plated. Price: £15 (plus VA1).

#### D190 ★

Uni-directional moving coil microphone. Robust construction. FR: 30Hz-16kHz. Ideal for sound recording and public address systems. Complete with Cannon XLR 3-11C connector.

Prices: low impedance (60 or 200 ohms) £25 (plus VAT); high impedance £26 (plus VAT).

#### D200C

Two-system cardioid microphone. Incorporates two moving coils, one covering the low and the other the high frequencies. FR: 40Hz-16kHz. Sensitivity: 0.16mV/microbar. Imp 200 ohms. Price: £33 (plus VAT).

#### D.202E1

Similar specification to D202ES except it is supplied without on/off switch and has three-position bass attenuation step switch (0,  $-7$ dB and  $-20$ dB) instead of potentiometer. Individually calibrated frequency response curve supplied with each microphone. Price: £48 (plus VAT).

#### D202ES

Moving coil microphone with marked cardioid response ( $-20$ dB minimum). FR: 30Hz-15kHz  $\pm 2$ dB. Sensitivity:  $-53$ dB. Impedance: 200 ohms. Rec load  $\geq 400$  ohms. Stand fitting swivel adapter.  $\frac{3}{8}$ in Whit,  $\frac{1}{2}$ in 26tpi,  $\frac{3}{8}$ in 27tpi. On/off switch and variable bass control providing 0 to  $-20$ dB at 50Hz. Strong black metal case with sintered bronze grille. Price: £42 (plus VAT).

#### D224 ★

Mcno moving coil. Sensitivity:  $-78$ dB re 1V/ $\mu$ b. Cardioid response. FR: 20Hz-20kHz  $\pm 2$ dB. Impedance: 200 ohms. Rec load: 500 ohms or more. Fitting:  $\frac{3}{8}$ in Whit,  $\frac{1}{2}$ in 26tpi,  $\frac{3}{8}$ in 27tpi. Features bass cut switch. Finish: metal satin silver. Price: £60 (plus VAT) (DIN connector); £60 (plus VAT) (Cannon).

**D501**

Moving coil cardioid and omni-directional model. FR: 50Hz-15kHz  $\pm$  3.5dB. Sensitivity: -73dB. Impedance: 60 or 200 ohms. Rec load:  $\geq$  400 ohms. Hand or stand type. Fitting:  $\frac{3}{8}$ in Whit,  $\frac{1}{2}$ in 26tpi,  $\frac{5}{8}$ in 27tpi. Omni/cardioid switch. Remote control switch. Built-in windshield. Quick release adaptor. Leatherette carrying bag. Moulded case with metal grille. Price: £17 (plus VAT).

**D707**

Mono moving coil. Sensitivity: -74dB re 1V/ $\mu$ b. Cardioid response. FR: 80Hz-16kHz  $\pm$  3.5dB. Impedance: 200 ohms. Rec load: 400 ohms or more. Fitting:  $\frac{3}{8}$ in Whit,  $\frac{1}{2}$ in 26tpi,  $\frac{5}{8}$ in 27tpi. Finish: metal satin silver. Price: £17.50 (plus VAT) (DIN connector); £19 (plus VAT) (Cannon).

**ST200**

Microphone floor stand. Telescopic. Height: 42 to 77in. Three collapsible feet with main support locking device. Anti-vibration characteristics. Microphone may be clamped to face any direction. Price: £25 (plus VAT).

■ **ALTEC LANSING (professional)**

Distributors: Ling Dynamic Systems Ltd, Baldock Road, Royston, Herts, SG8 5BQ. Tel: Royston 42424. Telex: 81174.

**B650 ★**

Hand or stand moving coil microphone. Cardioid response. FR: 50Hz-15kHz. Impedance: 150/200 ohms. Sensitivity: -56dBm/10 dynes/cm<sup>2</sup>. 20dB front-to-back discrimination. Mylar diaphragm. Two-position locking type on/off switch. Two-position slide switch provides bass roll-off from 400Hz down. Size: 7 $\frac{1}{4}$ in long, 1 $\frac{3}{4}$ in diameter. Finish: satin chrome. Various accessories and mounting attachments available. Model 650BH includes 25ft screened lead with XLR connector and transformer giving output impedance of 20K. Model 650BL includes 25ft screened lead and XLR connector only. Prices: on application.

■ **BEYER**

Beyer Dynamic (GB) Ltd, 1 Clair Road, Haywards Heath, Sussex. Tel: Haywards Heath 51003.

**M55HL**

Mono moving coil omni-directional. FR: 70Hz-16kHz  $\pm$  4dB. Sensitivity: (low Z) 0.17mV; (high Z) 1.5mV. Impedance: (low Z) 500 ohms; (high Z) 50K. Rec load: (low Z) 2K; (high Z) 200K. Hand mic with plastic table stand and clamp. Polished metal finish. Price: £10.35 (plus VAT).

**M57**

Mono moving coil omni-directional. FR: 300



Beyer M69

Beyer M260

Beyer M500

Hz-14kHz  $\pm$  3dB. Sensitivity: 0.2mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: 1K. Hand mic with cable. Steel case. Price: £13.65 (plus VAT).

**M64**

Mono moving coil cardioid. FR: 100Hz-10kHz  $\pm$  3dB. Sensitivity: 0.2mV/ $\mu$ bar. Impedance: 200 or 37.5 ohms. Rec load: 1K. Stand mic with gooseneck and baseplate. Grey plastic case. Price: £11.60 (plus VAT).

**M64SH**

As M64 but with gooseneck and base plate. Price: £16 (plus VAT).

**M67N**

Mono moving coil cardioid. FR: 40Hz-18kHz  $\pm$  2.5dB. Sensitivity: 0.25mV/ $\mu$ bar. Impedance: 37.5 or 500 ohms. Rec load: 1K. Rubber suspended hand mic. Brushed aluminium finish. Suitable for any climatic conditions. Built-in speech/music switch. Price: (M67N) £32.65; (M67N-C) £34.05. All plus VAT.

**M68**

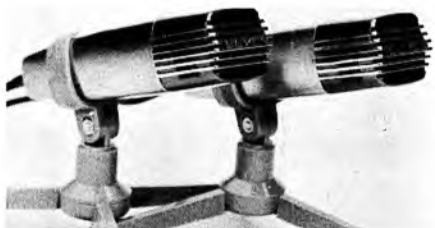
Mono moving coil cardioid. FR: 100Hz-10kHz  $\pm$  3dB. Sensitivity: 0.2mV/ $\mu$ bar. Impedance: 37.5 or 200 ohms. Rec load: 1K. Fitted with gooseneck and built-in switch. Grey plastic finish. Price: £17.80 (plus VAT).

**M69 ★**

Mono moving coil uni-directional cardioid. FR: 50Hz-16kHz  $\pm$  3dB. Sensitivity: 0.24mV/ $\mu$ bar. Impedance: 37.5 or 200 ohms. Rec load: 1K. Hand mic with optional speech-off-music switch. Steel case finished blue stove enamel. Price: (M69) £26.35; (M69SM) £29.30. All plus VAT.



Beyer M818HL



Beyer M818HL

**M81HL ★**

Mono moving coil cardioid. FR: 50Hz-16kHz  $\pm$  3dB. Sensitivity: (low Z) 0.23mV/ $\mu$ bar; (high Z) 1.7mV/ $\mu$ bar. Impedance: (low Z) 500 ohms; (high Z) 25K. Rec load: (low Z) 2K; (high Z) 100K. Hand mic supplied complete with plated table stand and clamp. Polished metal finish. Price: £13.35 (plus VAT).

**M88**

Mono moving coil hypercardioid. FR: 30Hz-20kHz  $\pm$  2.5dB. Sensitivity: 0.25mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: 1K. Hand mic available with cannon plug. Satin chrome case. Price: (M88) £69.95; (M88-C) £65.70. All plus VAT.

**M101**

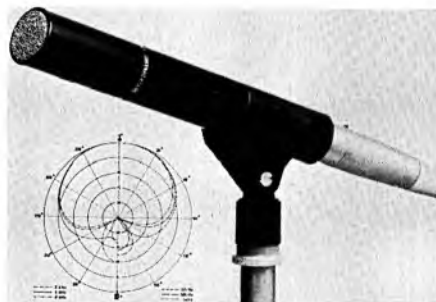
Mono moving coil omni-directional. FR: 40Hz-20kHz  $\pm$  2.5dB. Sensitivity: 0.13mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: 1K. Hand mic with windshield. Anodised aluminium case. Price: (M101) £31.65; (M101-C) £32.50. All plus VAT.

**M111N ★**

Mono moving coil omni-directional. FR: 60Hz-15kHz. Sensitivity: 0.08mV/ $\mu$ bar. Impedance:



Beyer M111N



Beyer M201N

200 ohms. Rec load: 1K. Lavalier mic. Anodised aluminium case. Price: £41.15 (plus VAT).

**M160**

Mono double-ribbon super cardioid. FR: 40Hz-18kHz  $\pm$  2.5dB. Sensitivity: 0.1mV/ $\mu$ bar. Impedance: 37.5 or 200 ohms. Rec load: 1K. Hand mic. Satin chrome steel case. Price: £69.95 (plus VAT).

**M260 ★**

Mono ribbon super cardioid. FR: 50Hz-18kHz  $\pm$  3dB. Sensitivity: 0.09mV/ $\mu$ bar. Impedance: 37.5 or 200 ohms. Hand mic. Steel case stove enamelled blue. Price: £27.95 (plus VAT).

**M320**

Mono ribbon super cardioid. FR: 30Hz-18kHz  $\pm$  3dB. Sensitivity: 0.1mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: 1K. Stand mic with three-position music-off-speech switch. Grey plastic case. Price: £33.45 (plus VAT).

**M360**

Mono ribbon cardioid. FR: 30Hz-20kHz  $\pm$  2.5 dB. Sensitivity: 0.14mV/ $\mu$ bar. Impedance: 200 ohms switchable to 50 ohms. Rec load: 1K. Stand microphone for studio use. Completely hand made. Supplied with lead. Metal case stove

enamelled grey. Price: £91.45 (plus VAT).

**M410**

Mono moving coil cardioid. FR: 300Hz-12kHz  $\pm 3$ dB. Sensitivity: 0.25mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: 1K. Hand mic designed for heavy duty use. Black plasticised steel case. Price: £20.95 (plus VAT).

**M411N**

Mono moving coil uni-directional cardioid. FR: 200Hz-12kHz. Sensitivity: 0.14mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: 1K. Hand mic with built-in switch. Designed for close-talking applications. Anodised aluminium finish. Price: (M411) £22.60; (M411N-T) £26.65; (M411N-C) £23.50. All plus VAT.

**M500 ★**

Mono ribbon hypercardioid. FR: 40Hz-18kHz. Sensitivity: 0.13mV/ $\mu$ bar. Impedance: 500 ohms. Rec load: 1K. Hand mic. Anodised aluminium finish. Price: (M500) £37.75; (M500N-T) and (M500N-C) £38.75. All plus VAT.

**M610**

Mono moving coil uni-directional. FR: 50Hz-16kHz  $\pm 3$ dB. Sensitivity: 0.2mV/ $\mu$ bar. Impedance: 37.5 or 200 ohms. Rec load: 1K. Hand mic with optional speech-off-music switch (SM version). Steel case blue stove-enamelled. Price: (M610N) £23.25; (M610SM) £25.60. All plus VAT.

**M818HL ★**

Stereo moving coil cardioid. Comprises pair of matched M81HL. FR: 50Hz-16kHz  $\pm 3$ dB. Sensitivity: (low Z) 0.17mV/ $\mu$ bar; (high Z) 1.5mV/ $\mu$ bar. Impedance: (low Z) 500 ohms; (high Z) 25K. Rec load: (low Z) 2K; (high Z) 25K. Polished metal case. Price: £28.85 (plus VAT).

**Soundstar XI**

Mono moving coil cardioid. FR: 30Hz-18kHz  $\pm 2.5$ dB. Sensitivity: 0.2mV/ $\mu$ bar. Impedance: (XIN) 200 ohms; (XIHL) 200, 500 or 25K switchable. Rec load: (XIN) 1K; (XIHL) 1K, 2K, 100K. Stand mic with built-in pop filter and hum compensation. Cannon plug. Moulded case. Price: (XIN-T) £23.65; (XIN-C) £23.65; (XIHL) £27.30; (XIHL-C) £27.85; (XIN) £22.80. All plus VAT.

**M550LM**

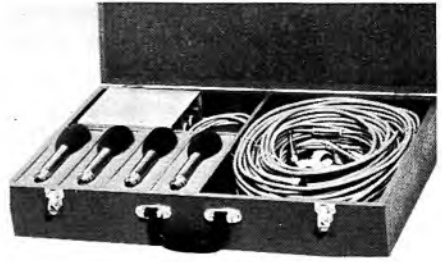
Omni-directional moving coil. FR: 70Hz-18kHz. Sensitivity: 0.17mV/ $\mu$ bar. (-75dB). Impedance: 500 ohms. Price: £9.85 (plus VAT).

**M810N**

Cardioid moving coil. FR: 50Hz-16kHz. Sensitivity: 0.23mV/ $\mu$ bar (-73dB). Impedance: 500 ohms. Price: £19.20 (plus VAT).

**M201N ★**

Hypercardioid moving coil. FR: 40Hz-18kHz.



Calrec 600 Series capacitor microphones

Output level: 0.14mV/ $\mu$ bar. Impedance: 200 ohms. Rec load: >1000 ohms. Hand-held or stand-mounted type. Size: 6in long 0.95in diameter. Weight: 8½oz. Price on application.

**■ CALREC**

Calrec Audio Ltd, Haningroyd Lane, Hebden Bridge, Yorks, HX7 7DD. Tel: Hebden Bridge 2159.

Distributors for South of England, Scotland and overseas: Beyer Dynamic (GB) Ltd, 1 Clair Road, Haywards Heath, Sussex.

**CM600 ★**

General purpose condenser microphone. Omni-directional. FR: 20Hz-20kHz  $\pm 2$ dB. Output: 1.5mV/microbar. Impedance: 50 ohms (unbalanced). Rec load: 30-50K ohms (adjustment on mic). Slim hand or stand mic. Robust encapsulated FET amplifier. Optional windshield. Three-pin DIN lock-ring connectors. Two-year guarantee. Price: approximately £30 (plus VAT).

**CM652**

Mono condenser microphone. Cardioid response. FR: 40Hz-20kHz  $\pm 2$ dB (related to standard curve). Sensitivity: -56.5dB. Source impedance: 100 ohms. Rec load: adjustable 30 ohms to 50K. Hand type. ¾in whit clip supplied. Satin chrome finish. Price: approximately £35 (plus VAT).

**CM654**

Condenser microphone with cardioid pattern and reduced bass response for close-talking applications. Other details as for CM600. Price: approximately £35 (plus VAT).

**CM655**

Cardioid condenser microphone with spherical mesh head, specially designed for outdoor PA and pop group work. Price: approximately £40 (plus VAT).

**CM1001**

Studio condenser microphone. Omni-directional. Specially designed for in-shot hand-held TV vocals. FR: 20Hz-20kHz  $\pm 2$ dB. Output: 0.3

★ Indicates entry is illustrated

mV/microbar. Impedance: 50 ohms. Rec load: 200 ohms (30 ohms when used with lead CL1081.) Slim hand or stand mic. Cannon XLR connectors. Robust encapsulated FET amplifier. Two year guarantee. Windshield enclosed in body tube: Price: approximately £52 (plus VAT).

#### CM1050

Studio cardioid microphone with accurate directional pattern. Other details as for CM1001, except needs external windshield. Price: approximately £53 (plus VAT).

#### CM1051

Specification as for the CM1050 except incorporates bass roll-off for close vocal work. Price: approximately £53 (plus VAT).

#### CB1000

Pre-amplifier for condenser microphones CM1001, CM1050 and CM1051. Model numbers CC1001, CC1050 and CC1051 respectively. Capsule is adaptor for insertion of extension tubes etc. Price: (pre-amplifier plus capsule) approximately £64.

Wide range of accessories including battery power units, mains power units, connecting leads, windshields, jacks, plugs, adaptors, presentation boxes, twin screened cables, etc. Full details and price list on request.

### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU.

Tel: 01-903 0144.

#### DM18HL

Mono moving coil. Omni-directional. FR: 60 Hz-12kHz  $\pm$  3dB. Sensitivity: -57dB. Impedance: 600 ohms and 50K. Built-in impedance switch. Rec load: 600 ohms and 50K. Stick mic for hand or stand. Fitting: 15.5 x 1mm thread. Complete with desk stand. Finish: black anodised aluminium. Price: £9.87 (plus VAT).

#### UD50HL

Mono moving coil. Cardioid. FR: 40Hz-14kHz  $\pm$  3dB. Sensitivity: -62dB. Impedance: 600 ohms and 50K. Hand and stand mic. Fitting: 15.5 x 1mm thread. Built-in on/off switch. Finish: satinised stainless steel. Price: £10.30 (plus VAT).

#### CO92

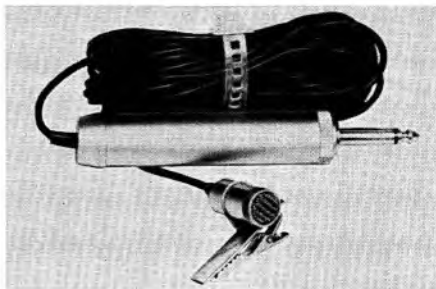
Mono omni-directional condenser. FR: 30Hz-16kHz. Impedance: 600 ohms. Sensitivity: 75dB. Powered by single cell and incorporating built-in low-noise preamplifier. Supplied with 6 metres of screened cable and detachable windshield. Price: £14.08 (plus VAT).

#### CO96

Mono condenser. Similar specification to CO92 but with better than 20dB cardioid response. Impedance: 600 ohms. FR: 30Hz-16kHz. Sensitivity: 70dB. Price: £17.65 (plus VAT).



Eagle DD6



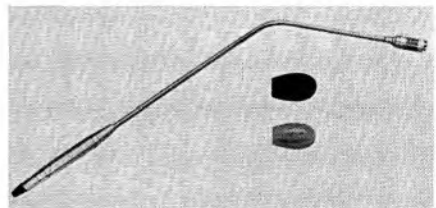
Eagle PRO-M5



Eagle PRO-M10



Eagle PRO-M20



Eagle PRO-M25

**UD76HL**

Dual impedance dynamic microphone. Cardioid response. FR: 25Hz-20kHz. Impedance: 600 ohms and 50K. Sensitivity: 56dB at 50K, 76dB at 600 ohms. Fitted with music/speech contour control and switched transformer. Cord length: 9 metres. Supplied with carrying case. Price: £25.20 (plus VAT).

**DD5**

Electret paging microphone. Omni-directional. FR: 600Hz-9kHz for optimum speech clarity. Sensitivity: -70dB (ref 1V/dyne/cm<sup>2</sup>). Impedance: 600 ohms. Rec load: 600 ohms or greater. Contacts for paging over-ride circuit. Finish: chrome and matt black. Price: £12.60 (plus VAT).

**DD6 ★**

Dual-impedance moving coil lavalier microphone. Omni-directional. FR: 60Hz-12kHz. Sensitivity: -54dB. Impedance: 600 ohms/50K. Lavalier type with stand: Windshield included. Finish: brushed silver. Price: £10.08 (plus VAT).

**PRO-M5 ★**

Mono omni-directional capacitor microphone. FR: 50Hz-13kHz. Sensitivity: -65dB. Impedance: 600 ohms. Lapel type. Sub-miniature FET circuitry built into mic capsule. Price: £14.70 (plus VAT).

**PRO-M10 ★**

Mono omni-directional capacitor microphone. FR: 30Hz-17kHz. Sensitivity: -70dB. Impedance: 600 ohms balanced (floating). Hand or stand type. Supplied with stand adaptor. Built-in switch, windshield. Price: £29.40 (plus VAT).

**PRO-M20 ★**

Mono uni-directional capacitor microphone. FR: 30Hz-17kHz. Sensitivity: -60dB. Impedance: 600 ohms balanced (floating). Hand or stand type. Supplied with stand adaptor. Built-in switch, windshield. Price: £29.40 (plus VAT).

**PRO-M25 ★**

Mono cardioid capacitor boom-arm microphone. FR: 20Hz-18kHz. Sensitivity: -70dB. Impedance: 600 ohms balanced (floating). Stand type adaptor supplied. Built-in switch. 23 $\frac{3}{4}$ in boom arm. Price: £29.40 (plus VAT).

**■ ELECTRO-VOICE**

Gulton Europe Ltd, Special Products Division, The Hyde, Brighton, BN2 4JU. Tel: 0273 66271.

**635A**

Moving coil omni-directional hand/stand microphone. FR: 80Hz-13kHz. Sensitivity: -149dB EIA rated. Output: -55dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms. Supplied with 312A stand adaptor. Built-in pop filter. Fitted with Switchcraft connector and cable. Finish:

non-reflecting steel case. Price: £32.50 (plus VAT).

**RE10**

Moving coil super cardioid hand or boom microphone. FR: 90Hz-13kHz. Sensitivity: -150dB EIA rated. Output: -56dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms. Supplied with 312A stand adaptor, or 307 boom mounting. Fitted with Switchcraft connector and cable. Finish: non-reflecting Micomatte steel case. Price: £58 (plus VAT).

**RE11**

Moving coil super cardioid hand or boom microphone. FR: 90Hz-13kHz. Sensitivity: -150dB EIA rated. Output: -56dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms. Supplied with 312A stand adaptor, or 307 boom mounting. Built-in pop filter. Fitted with Switchcraft connector and cable. Finish: non-reflecting Micomatte finished steel case. Price: £62 (plus VAT).

**RE15**

Moving coil super cardioid hand or boom microphone. FR: 80Hz-15kHz. Sensitivity: -150dB EIA rated. Output: -56dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms. Supplied with 312A stand adaptor, or 307 boom mounting. Fitted with Switchcraft connector and cable. Bass tilt switch incorporated. Finish: fawn beige with Micomatte non-reflect finish. Price: £99.50 (plus VAT).

**RE16**

Moving coil super cardioid hand or boom microphone. FR: 80Hz-15kHz. Sensitivity: -150dB EIA rated. Output: -56dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms. Supplied with 310A stand adaptor, or 307 boom mounting. Fitted with Switchcraft connector and cable. Built-in pop filter. Bass tilt switch incorporated. Finish: non-reflecting Micomatte finished steel case. Price: £103 (plus VAT).

**RE20**

Moving coil wide range cardioid stand or boom microphone. FR: 45Hz-18kHz. Sensitivity: -150dB EIA rating. Output: -57dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 50, 150 and 250 ohms selectable. Supplied with 302 stand adaptor, or 309 boom mounting. Fitted with Switchcraft connector and cable. Built-in pop filter. Finish: non-reflecting satin nickel steel case. Price: £160 (plus VAT).

**RE55**

Moving coil omni-directional hand, stand or boom microphone. FR: 40Hz-20kHz. Sensitivity: -149dB EIA rated. Output: -55dB (ref 1mW/10 dynes/cm<sup>2</sup>). Supplied with 310A stand adaptor and metal carrying case. Fitted with Switchcraft connector and cable. Finish: non-reflecting satin nickel steel case. Price: £82 (plus VAT).



★ Indicates entry is illustrated

### 670, 670V Top Brass

Moving coil cardioid hand or stand microphone. FR: 60Hz-14kHz. Sensitivity: -150dB EIA rated. Output: -58dB (ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms or high Z selectable. Model 670 has built-in switch and pop filter. Model 670V has built-in volume control and pop filter. Fitted with Switchcraft connector. Finish: anodised aluminium. Price: (670) £37.50 (plus VAT); (670V) £40.50 (plus VAT).

### 1710, 1711, 1750, 1751

Electret hand or stand microphones. 1710 and 1711 omni-directional, 1750 and 1751 cardioid. FR: (1710 and 1750) 80Hz-13kHz; (1711 and 1751) 60Hz-15kHz. Sensitivity: (1710 and 1711) -50dB; (1750 and 1751) -43dB (all ref 1mW/10 dynes/cm<sup>2</sup>). Impedance: 150 ohms. Stand adaptor supplied. All fitted with built-in switch, pop filter, Switchcraft connector and cable. Finish: anodised aluminium. Price: (1710) £27; (1711) £34; (1750) £27.50; (1751) £35. All prices are plus VAT.

### FILM INDUSTRIES LTD

Station Avenue, Kew Gardens, Surrey.  
Tel: 01-940 8078.

Manufacturers of a range of hi-fi and professional microphones, stands and accessories. No product information or prices obtainable as this edition of the Year Book closed for press.

### FOSTER

Joint distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288.

E.R. (Factors) Ltd, 374-378 Harrow Road,  
Paddington, London, W9. Tel: 01-286 0361.

### DF72BC

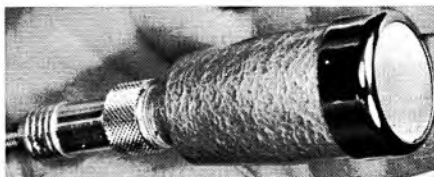
Mono moving coil omni-directional stick microphone. FR: 80Hz-12kHz  $\pm$  8dB. Sensitivity: -76dB  $\pm$  3dB (600 ohms), -59dB  $\pm$  3dB (50 kHz). Impedance: 600 ohms and 50K. Adjustable cradle fitting. Built-in switch. Removable windshield. Metal case with matt black and silver finish. Price: £8.30 (including VAT).

### MDF623C

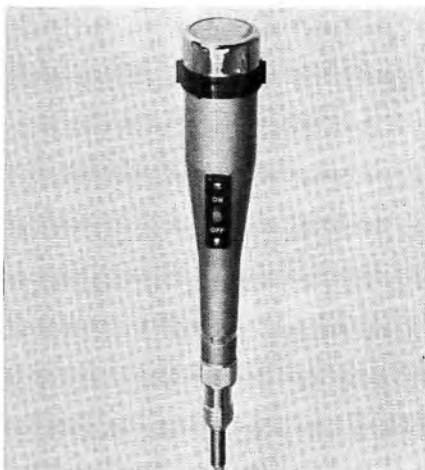
Mono moving coil cardioid stick microphone. FR: 200Hz-10kHz. Impedance: 600 ohms and 50K. Sensitivity: (600 ohms) -82dB, (50K) -63dB. Adjustable cradle fitting. Microphone holder and neck cord. Satin metal case. Price: £14.08 (including VAT).

### MDF619BC

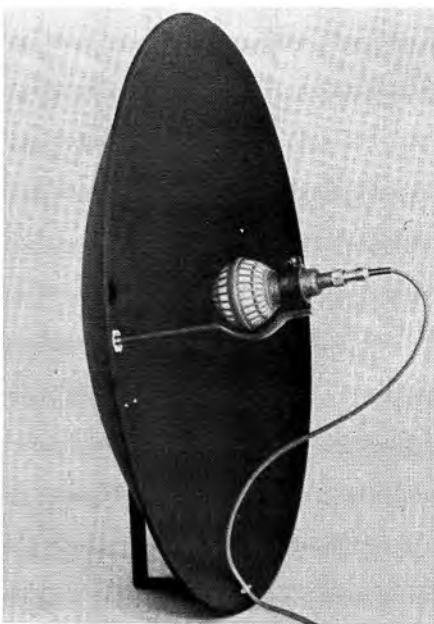
Mono moving coil cardioid stick microphone. FR: 200Hz-10kHz  $\pm$  6dB. Impedance: 600 ohms and 50K. Sensitivity: (600 ohms) -76dB  $\pm$  3dB, (50K) -58dB  $\pm$  3dB. Adjustable cradle



Grampian DP6



Grampian DP8



Grampian Parabolic Reflector

fitting. Built-in switch. Windshield. 16ft cord. Satin gold finish with chrome trim. Price: £15.84 (including VAT).

#### **MDF611BC**

Mono moving coil cardioid stand microphone. FR: 100Hz-10kHz  $\pm$  6dB. Impedance: 600 ohms and 50K. Sensitivity: (600 ohms) -76dB  $\pm$  3dB. (50K) -58dB  $\pm$  3dB. Adjustable fitting. Built-in switch. 16ft lead. Moulded housing wiremesh surround. Price: £16.94 (including VAT).

#### **DF104BC**

Mono moving coil omni-directional stick microphone. FR: 80Hz-12kHz. Impedance: 600 ohms and 50K. Sensitivity: (600 ohms) -76dB  $\pm$  3dB. (50K) -58dB  $\pm$  3dB. Adjustable cradle fitting. Built-in switch. Removable windshield. 9ft lead. Satin finish sprayed case. Price: £17.60 (including VAT).

#### **DF106BC**

Mono moving coil omni-directional stick microphone. FR: 60Hz-13kHz +2dB -6dB. Impedance: 600 ohms. Sensitivity: -74dB  $\pm$  3dB. Adjustable cradle fitting. Slip-on windshield. Wood presentation cabinet. 16ft heavy duty lead. Heavy duty satin finished turned metal case. Price: £51.60 (including VAT).

#### **GRAMPIAN REPRODUCERS LTD**

Hanworth Trading Estate, Feltham, Middx.  
Tel: 01-894 9141. Cables: Reamp, Feltham.

#### **DP4/H**

Moving coil. FR: 50-15,000Hz. Sensitivity: -52dB, -70dB, -86dB, for high, medium and low impedance. 50,000, 600 and 25 ohms. Tubular case. Price including lead: high or medium impedance: £12.76 (plus VAT); low impedance £10.77 (plus VAT).

#### **DP6 ★**

Moving coil. Omni-directional. FR: 200Hz-15 kHz. Sensitivity: -87dB (25 ohms), -75dB (200 ohms), -50dB (600 ohms), -52dB (50K). Built-in transformer fitted to all but low impedance model. Price: (low impedance) £10.77 (plus VAT); (other three models) £12.76 (plus VAT).

#### **GC2 and GC3**

Mono moving coil microphone for hand (GC2) or desk mounting (GC3). Uni-directional response. FR: 70Hz-14kHz. Impedance: (L) 25 ohms; (X) 200 ohms; (M) 600 ohms; (H) 50K. Sensitivity: (L) -86dB 50 $\mu$ V, (X) -75dB 180  $\mu$ V, (M) -70dB 300 $\mu$ V, (H) -52dB 2.5mV. All sensitivity figures per microbar. Easily replaceable diaphragm and coil assembly. GC2 has on/off switch and is supplied with swivel holder for fitting to floor or table stand. Prices: (GC2/L) £19.43 (plus VAT); (GC2/X, GC2/M, GC2/H) £21.43 (plus VAT); (GC3/L) £16.54 (plus VAT); (GC3/X, GC3/M, GC3/H) £18.54 (plus VAT).



Grundig GDM317

#### **GR1**

Ribbon. Unequal figure-of-eight. Response: 40 Hz-15kHz. Sensitivity: -90dB (25 ohms), -81 dB (200 ohms), -76dB (600 ohms), -58dB (50K). Imp: 25, 200, 600 ohms, 50K. Built-in transformer. Easily replaceable ribbon. Price: £13.92 (plus VAT); (in padded instrument case) £16.54 (plus VAT).

#### **GR2**

Details as for GR1, but equal figure-of-eight response.

#### **DP8 series ★**

Moving coil omni-directional microphones. FR: 50Hz-15kHz  $\pm$  5dB. Built-in on/off switch. Interchangeable leads. Hand type with swivel holder for stand use. Sensitivities, impedances and rec loads as for DP4 series. Prices: DP8/L £12.76 (plus VAT); DP8/X, DP8/M, DP8/H £14.76 (plus VAT).

#### **Boom arm**

Suitable for use with various types of mics and stands. The clamp, locked by a single lever, allows the reach and angle to be readily adjusted as required. Length: 34in. Weight: 1  $\frac{3}{4}$ lb. Thread termination for mic  $\frac{5}{16}$ in BSF male, thread termination for stand  $\frac{5}{16}$ in  $\times$  27tpi female. Supplied with adaptor to  $\frac{5}{16}$ in BSF female. Adaptors for other sizes available. Price: £7.09 (plus VAT).

#### **Windshields**

For use with DP4, DP6 and DP8 mics. Pressure moulded cage with an inner lining and acoustic resistance network to reduce air turbulence to a low value. Size: 2  $\frac{3}{4}$ in diameter. Weight:  $\frac{3}{4}$ oz. Price: £1.11 (plus VAT).

#### **Grampian Parabolic Reflector ★**

Diameter 24in, depth 5in. Gain 14dB 500Hz-5kHz. Takes Grampian DP4 and DP6 microphones. Weight: 4  $\frac{3}{4}$ lb. Prices: £10.29 (plus VAT).

#### **GRUNDIG (Great Britain) LTD**

Newlands Park, Sydenham, London, SE26 5NQ.  
Tel: 01-778 2211.

#### **GDM317 ★**

High quality directional moving coil micro-



ITT 4136

phone with cardioid response. Recommended for acoustically unfavourable conditions. Output impedance: 200 ohms and 22K (dual). FR: 50Hz-12.5kHz. Supplied with tripod table stand. Price: £12.53 (including VAT).

#### **GDM305C**

Mono moving coil hand microphone. Omni-directional. FR: 80Hz-12.5kHz. Sensitivity: -74dB (ref  $iV/dyne/cm^2$ ). Impedance: 500-700 ohms. On-off switch. Table stand supplied. 7-pin DIN plug. Finish: moulded black and silver trim. Price: £7.51 (including VAT).

#### **GDM312**

Mono moving coil hand microphone. Omni-directional. FR: 150Hz-15kHz. Impedance: 200 ohms and 100K. Wire table stand supplied. Finish: moulded black and grey body. Price: £8.58 (including VAT).

#### **GDM314**

Mono moving coil hand microphone. Omni-directional. FR: 80Hz-15kHz. Impedance: 200 ohms and 10K. Table stand supplied. 3-pin DIN plug. Extension cable (MEC 10) available at £2.86 including VAT. Finish: black and metallic. Price: £9.37 (including VAT).

#### **GDM318SC**

Mono moving coil hand microphone. Cardioid response ( $<15dB$  at  $180^\circ$ ). FR: 100Hz-15kHz. Sensitivity: -72dB (ref  $iV/dyne/cm^2$ ). Impedance: 700 ohms. Table stand supplied. Fitted 7-pin DIN plug. On-off switch fitted. Finish: moulded black and silver trim. Price: £18.73 (including VA1).

#### ■ **ITT-STC**

ITT Components Group Europe,  
Standard Telephones & Cables Ltd,  
Electro-Mechanical Product Division,  
West Road, Harlow, Essex.

Distributors: Hampstead High Fidelity,  
91 Heath Street, Hampstead, London, NW3  
(01-435 0999); Horns Ltd, 6 South Parade,  
Oxford (Oxford 55360).

#### **4037**

Omni-directional moving coil stick microphone

for field work and P.A. Extremely rugged in construction. FR: 80Hz-10kHz. Impedance: 30 ohms or 300 ohms. Sensitivity: -76dB. Long (A) or short (C) models available. Available in colours for use in discos and on colour television. Price: approximately £39 retail (plus VAT).

#### **4038**

Studio ribbon microphone. Accurate figure-of-eight response. Flat frequency response 30Hz-15kHz. Impedance: 30 ohms or 300 ohms. Sensitivity: -85dB. Non-linear distortion 0.1%. Controlled transient response. Price: approximately £92 retail (plus VAT).

#### **4104**

Broadcast quality commentator's noise-cancelling ribbon lip microphone. Output: -82dB. Impedance: 30 or 300 ohms. Price: approximately £64 retail (plus VAT).

#### **4105A**

Cardioid moving coil microphone specially designed for speech. Flat response 60-10,000Hz. Impedance: 30 ohms. Sensitivity: -82dB. Front to back ratio 15-20dB. Price: approximately £39 retail (plus VAT).

#### **4136 ★**

Condenser cardioid microphone, uniform polar frequency response. Front/back ratio better than 20dB. FR: 40Hz-18kHz. Impedance: 30 or 300 ohms. Sensitivity: -50dB at 300 ohms. FET head amplifier. Phantom power supply for combined mains and battery supply unit. Complete system with windshield and connecting cable. Price: approximately £140 retail (plus VAT).

#### ■ **LEM**

Distributors: Douglas A. Lyons and Associates Ltd, 199 Larkhall Lane, London, SW4. Tel. 01-622 0287.  
Cables: Daliona, London SW4.

#### **DH80**

Miniature moving coil. Omni-directional. FR: 70Hz-14kHz  $\pm 4dB$ . Impedance: 50 ohms or 80K. Sensitivity: (low imp) -82dB, (high imp) -52dB. May be used as hand microphone, desk stand, or attached to floor stand. Price: from about £7 (plus VA1).

#### **DO35**

Miniature lavalier moving coil microphone. Omni-directional. FR: 80Hz-12kHz.  $\pm 3dB$ . Sensitivity: -80dB. Impedance: 200 ohms. Can also be used as hand or stand microphone. Size:  $2\frac{1}{2}$  in long,  $\frac{7}{8}$  in diameter. Weight:  $1\frac{1}{4}$  oz. Price: approximately £20.

#### **DO21B**

Studio-quality omni-directional moving coil microphone. FR: 30Hz-16kHz  $\pm 3dB$ . Impedance: 50 ohms or 200 ohms. Sensitivity: (200

TAPE RECORDING ENTHUSIASTS.  
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Beyerdynamic have a microphone to fully satisfy most customer requirements. Their vast range has been built up over the years, from the days when the company catered for the needs of a few specialised customers, to a great enterprise now serving a world market with products of quality that are universally recognised.



Beyerdynamic also manufacture headsets. Ideal for Industrial Teaching, Schools, Film Studios, Broadcast Studios, and home use.

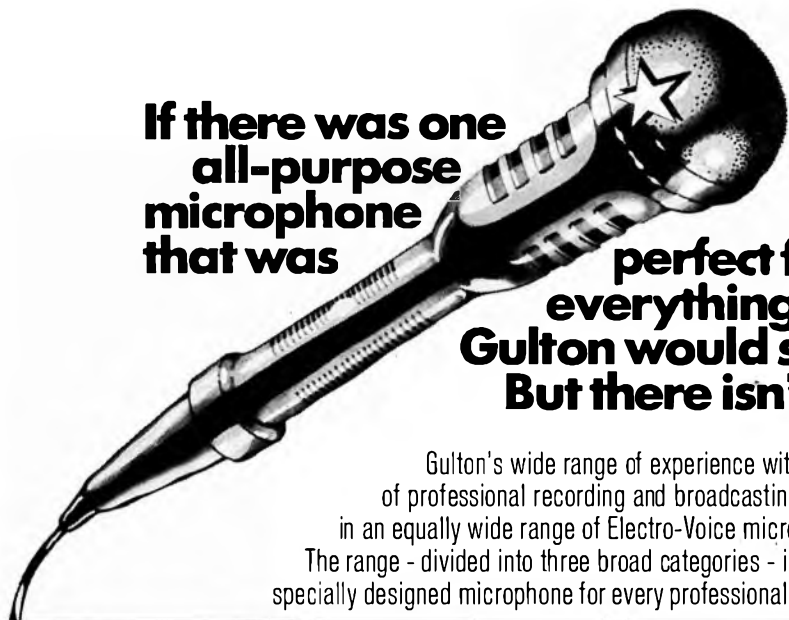
For further information and illustrated brochure of BEYER DYNAMIC microphones, headsets and full range of accessories, please write to:

**BEYER  
DYNAMIC**

[ G B ] L I M I T E D  
 1, CLAIR ROAD, HAYWARDS HEATH, SUSSEX.  
 TELEPHONE: HAYWARDS HEATH 51003.

**If there was one  
all-purpose  
microphone  
that was**

**perfect for  
everything,  
Gulton would sell it.  
But there isn't.**



Gulton's wide range of experience with all aspects of professional recording and broadcasting is reflected in an equally wide range of Electro-Voice microphones. The range - divided into three broad categories - includes a specially designed microphone for every professional requirement.

### **Model 635A**

OMNI DIRECTIONAL SERIES

A really rugged microphone with a steel case. For extra-close work where feedback is no problem. An omni-directional mike gives minimum pick-up of breath noise at lowest cost. The Model 635A typifies the microphones in this section. Professional quality, hand-held or stand use ... for film, recording, broadcasting and public address.

Fitted with Switchcraft broadcast type connector.



Response  
80-13,000 Hz  
Impedance  
Low  
(250 ohms)  
Output -55 db

### **Model 670**

SINGLE-D CARDIOM DYNAMIC SERIES

This series rejects unwanted sounds, thus helping to control feedback - and gives an increase in bass response for extra close work. The Model 670 is lightweight but rugged, and gives an extremely smooth and flat response. Built-in professional type Switchcraft A3M connector. With on/off switch. User replaceable head. Response: 60-14,000 Hz. Output: 58 db. Hi-Z or Lo-Z selectable.



### **Model RE16**

VARIABLE-D CARDIOM DYNAMIC SERIES

This series gives top quality reproduction no matter how close you move to the microphone - and unprecedented control of feedback and unwanted sound. This Model RE 16 is an expensive instrument that's designed for people who require the very best in microphone performance. Response: 80-15,000 Hz. Impedance: Lo-Z. Output: -56 db. 18' 2-conductor shielded broadcast cable with Switchcraft A3F connector.



For full details on the Electro-Voice range and your free copy of 'The Microphone Primer' get in touch with Bruce Buck at Gulton.

**Electro-Voice®**  
DIVISION OF

**Gulton Europe Limited**

The Hyde, Brighton BN2 4JU  
Telephone: 0273 66271 Telex: 87172



Melodium 76A

ohms) — 77dB. Individually calibrated response curves. Suitable for hand or stand use. Price: approximately £20 (plus VAT).

**DO20**

Hand or stand type coil microphone. Omni-directional. FR: 40Hz-15kHz. Impedance: 50 ohms, 200 ohms or 80K. Sensitivity: 50 ohms — 82dB, 200ohms — 76dB, 80K — 50dB. Internal element resiliently mounted to avoid mechanical shock. Price: approximately £14 (plus VAT).

**DO42**

Miniature lavalier. Similar specification to type DO35 but incorporates special features to avoid rubbing noises. Price: approximately £22 (plus VAT).

**■ LUSTRAPHONE LTD**

St George's Works, Regent's Park Road, London, NW1 8XG. Tel: 01-722 8844.

**4-20**

Mono, moving coil, omni-directional stick type with clip for stand mounting. FR: 50Hz-15kHz  $\pm$  5dB. Sensitivity: — 80dB ref 1V/ $\mu$ b. Impedance: multiple, 30 ohms, 200 ohms, 600 ohms or higher. Built-in windshield and anti-noise protection. Finish: black and silver anodised aluminium. Price: £15.75 (plus VAT).

**4-30**

Mono, moving coil cardioid stick type with clip for stand mounting. Sensitivity: — 78dB ref 1V/ $\mu$ b. Impedance: multiple, 30 ohms, 200 ohms, 600 ohms or higher. FR: 50Hz-15kHz  $\pm$  3dB. Built-in windshield and anti-noise protection. Finish: black and silver anodised aluminium. Price: £20.25 (plus VAT).

**■ MELODIUM**

Distributor: Keith Monks (Audio) Ltd, 26-30 Reading Road South, Fleet, near Aldershot, Hants. Tel: Fleet (02514) 7316 and 3566.



Melodium 77A

**76A ★**

Moving coil, cardioid. FR: 100Hz-15kHz (3dB). Sensitivity: — 63dB (0dB = 1mW/10 microbars) 30 ohms or 200 ohms impedance. Windshields available. Price: (head) £17.79 (including VAT).

**77A ★**

Moving coil omni-directional. FR: 40Hz-17kHz  $\pm$  3dB. Sensitivity: — 72dB = 0.25mV. 200 ohms impedance. Hand stick. Clamp fitting with  $\frac{1}{2}$ in Whit. Windshields available. Black plastic. Price: £42.96 (including VAT).

**78A or 78A/108**

Moving coil cardioid. FR: 50Hz-15kHz  $\pm$  3dB. Sensitivity: — 67dB (0dB = 1mW/10 microbars, 0.042mV/microbar). 30 ohms or 600 ohms impedance. Stick, head removable for fitting to swan neck. Clamp or swan neck fitting.  $\frac{1}{2}$ in Whit. Switch available on microphone or swan neck. Windshields available. Steel. Price: (head) £20.09 (including VAT).

**RM6**

Ribbon bi-directional. FR: 30Hz-18kHz  $\pm$  2dB. Sensitivity: (200 ohms) — 56dB 0.16mV/microbar, (50 ohms) — 61dB 0.09mV/microbar (0dB = 1mW/10 microbar), 50 ohms or 200 ohms impedance. Stick. Clamp fitting. Four position sensitivity and on/off switch. Steel. Price: £57.48 (including VAT).

**C121**

Moving coil. Cardioid. Noise-cancelling miniature. FR: 150Hz-14kHz  $\pm$  3dB. Sensitivity: — 89dB (0.036mV). Removable head for fitting to swan neck or for use as stick mic. With 3-pin DIN connector. Price: £16.46 (including VAT).

**C133 ★**

Moving coil. Cardioid. Stick type mic. FR: 50Hz-15kHz  $\pm$  3dB. Sensitivity: — 83dB (0.072mV) at 30 ohms, — 71dB (0.28mV) at 600 ohms. Built-in pop shield. With or without on/off switch. Melodium or three-pin DIN screened



Melodium C133 with 326 gooseneck

plug. Price: (less on/off switch) £22.09 (including VAT); (with on/off switch) £24.08 (including VAT). Lead, plug and clamp extra.

#### Optional accessories

Wide range of plugs, sockets, adaptors, clamps, goosenecks, stands, stereo bars, mounting blocks, windshields, lavalier cords, transformers and adaptors. Full details and prices on request.

#### ■ KEITH MONKS (Audio) LTD

26-30 Reading Road South, Fleet,  
near Aldershot, Hants.  
Tel: Fleet (02514) 7316 and 3566.

#### Microphone stands

High quality chrome finish. Detachable legs with rubber feet. Nylon bushes. Model MS/S floor stand with three screw-in legs. Price: £8.03 (including VAT). Model MS/M floor stand with three screw-in legs. Price: £10.78 (including VAT). Model MS/PA floor stand with four screw-in legs and toggle. Aluminium stem and anti-shine legs. Price: £12.65 (including VAT). Model MS/PA/B floor stand with four screw-in legs and toggle. Black anti-shine finish. Price: £13.75 (including VAT). Model MS/L studio floor stand with four screw-in legs. Price: £16.28 (including VAT). Model MS/CT/2 floor stand with 11lb cast base. Price: £11 (including VAT). Model BS/1/B banqueting stand with two-angle operation and cast base. Finished in black.

Price: £6.60 (including VAT). Model BS/2/B banqueting stand with two-angle operation and cast base. Finished in black. Price: £8.53 (including VAT). Model BS/2/S banqueting stand with slope stem and on/off switch. Price: £10.45 (including VAT). Model MS/CT/3 cast base floor stand. Price: £9.85 (including VAT). Model MS/CT/2/B heavy duty cast base floor stand with black anti-shine stem. Price: £12.10 (including VAT). MS/L/2 studio four-legged stand with 22in legs. Price: £18.61 (including VAT).

#### Studio stands

Studio 1 (MS/L1 and BA/L1). Price: £27.06; Studio 2 (MS/L2 and BA/L3). Price: £30.14; Studio 3 (MS/L2/ and BA/L4). Price: £26.75; Studio 4 (as Studio 2 but with 36in extension). Price: £34.10; Studio 5 (as Studio 3 but with 36in extension). Price: £30.71. All prices include VAT.

#### Studio boom arms

BA/L1 (64in long with 2lb weight). Price: £10.78; BA/L2 (42in long with 2lb weight). Price: £7.39; BA/L3 (64in long with 4lb weight) Price: £13.11; BA/L4 (42in long with 4lb weight) £9.72. All prices include VAT.

#### Boom arms and accessories

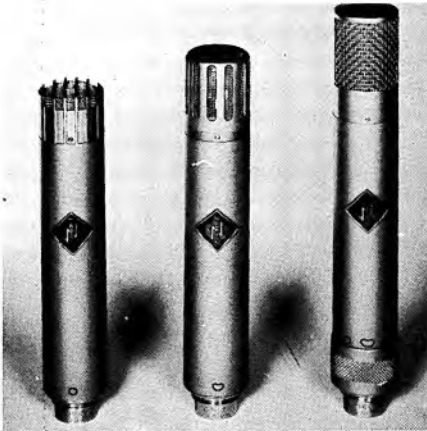
Model BA/S boom arm with single action. Price: £6.05. Model BA/M boom arm with two actions. Price: £6.49. Model BA/L studio boom arm, suitable for MS/L. Price: £10.78. Model SB/1 stereo bar for fitting two microphones to one stand. Price: £2.20. Model SC/1 adjustable bar for fitting microphone to side of stand. Price: £2.20. Model CCI plastic clips (three pairs of different sizes). Price: 22p. Model HTI speaker tripod for outside use. Price: £13.20 (net). Comprehensive range of thread adaptors to suit most Whitworth, continental and British threads, internal and external. Full details on request. Prices: (STA range) from 25-50p. EXT/1 extension tube (36in adjustable). Price: £3.96; DB/1 drum boom extension. Price: £6.60; SC/1 side clamp. Price: 22p; CD/1 cable drum. Price: £15.40. All prices include VAT.

#### ■ NEUMANN GMBH

Sole UK Agents: F. W. O. Rauch Ltd,  
49 Theobald Street, Boreham Wood, Herts.  
Tel: 01-953 0091.

#### U67

Condenser. Switchable: omni-directional, cardioid, figure-of-eight FR: 30Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 2mV/dyne/cm<sup>2</sup> in cardioid, 1.1mV/dyne/cm<sup>2</sup> in omni-directional, 1.4mV/dyne/cm<sup>2</sup> in figure-of-eight Impedance: 50 or 200ohms. Built-in transformer. Special sensitivity and bass cut switches. Printed circuit. Pressure gradient mic. Price on application.



Neumann KM53C, KM54C, KM56C

#### M269c

Condenser. Remote controlled. omni-directional, cardioid, figure-of-eight (continuously variable). FR: 30Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 0.9mV/dyne/cm<sup>2</sup> in omni-directional, 1.0 (1.55) mV/dyne/cm<sup>2</sup> in cardioid, 1.1 mV/dyne/cm<sup>2</sup> in figure-of-eight. Impedance: 50 or 200 ohms. Built-in transformer. Special sensitivity and bass cut switches. Printed circuit. Remote controlled pressure-gradient mic. Price on application.

#### M49c

Condenser. Remote controlled: omni-directional, cardioid, figure-of-eight (continuously variable). FR: 35Hz-15kHz  $\pm$  2dB. Sensitivity across 1K: 0.7mV/dyne/cm<sup>2</sup>. Imp 50 or 200 ohms. Built-in transformer. Remote controlled pressure-gradient mic. Price on application.

#### M50c

Condenser. Omni-directional. FR: 40Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 1.5mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Pressure mic. Price on application.

#### KM53c ★

Condenser. Omni-directional. FR: 40Hz-15kHz  $\pm$  2dB. Sensitivity across 1K: 1.5mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Printed circuit. Miniature pressure mic. Prices on application.

#### KM54c ★

Condenser. Cardioid. FR: 40Hz-15kHz  $\pm$  2dB. Sensitivity across 1K: 1.2mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Printed circuit. Miniature pressure-gradient type mic. Price on application.

#### KM56c ★

Condenser. Switchable: omni-directional, car-

dioid, figure-of-eight. FR: 40Hz-15kHz  $\pm$  2dB. Sensitivity across 1K: 0.8mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Printed circuit. Miniature pressure-gradient mic. Price on application.

#### KM253, KM254, KM256

Condenser mics. RF-proof miniature microphones, otherwise specification as for KM53, KM54, KM56c.

#### KM63

Condenser. Omni-directional. FR: 40Hz-18kHz  $\pm$  2dB. Sensitivity across 1K: 0.9mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Special sensitivity switch (-10dB). Printed circuit. Miniature pressure mic. Price on application.

#### KM64

Condenser. Cardioid. FR: 40Hz-18kHz  $\pm$  2dB. Sensitivity across 1K: 0.9mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Special sensitivity switch (-10dB). Printed circuit. Miniature pressure-gradient mic. Price on application.

#### KM64P ★

Announcer desk condenser microphone. Cardioid. Response up to 18kHz with bass cut for better intelligibility. Sensitivity across 1K: 0.9mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Special sensitivity switch (-10dB). Printed circuit. Pressure-gradient mic. Price on application.

#### SRM64

Condenser. Cardioid. FR: 40Hz-18kHz  $\pm$  2dB. Sensitivity across 1K: 0.8mV/dyne/cm<sup>2</sup>. Impedance 50 or 200 ohms. Built-in transformer. Special sensitivity switch (-10dB). Printed circuit. Miniature pressure-gradient mic. Adjustable-height stand. Price on application.

#### KM66

Condenser. Switchable: omni-directional, cardioid, figure-of-eight. FR: 40Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 2.6mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Printed circuit. Miniature pressure-gradient mic. Price on application.

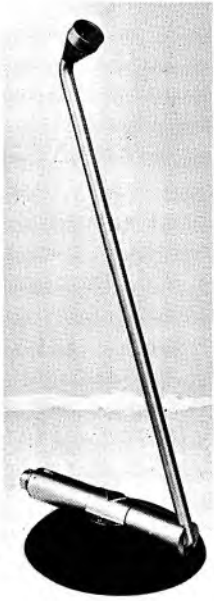
#### U64

Condenser. Cardioid. FR: 40Hz-18kHz  $\pm$  2dB. Sensitivity across 1K: 1.1mV/dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Special sensitivity switch (-10dB). Printed circuit. Miniature pressure-gradient mic. Available with combined power units for two or six microphones. Price on application.

#### SM69 ★

Double or stereo condenser. Both systems separately remote controlled: omni-directional, cardioid, figure-of-eight. FR: 30Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 1.5mV/dyne/cm<sup>2</sup>.

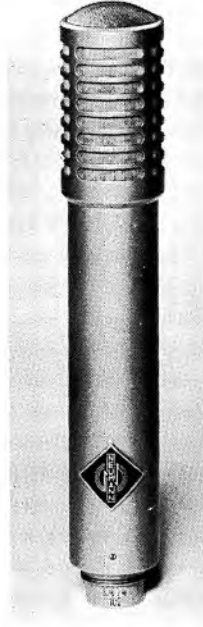




Neumann KM64P



Neumann SM69



Neumann KM74



Neumann KM76

Impedance: 50 or 200 ohms. Built-in transformers. Printed circuit. Pressure-gradient mics. Price on application.

**KM73**

Transistor (FET) condenser. Omni-directional. FR: 40Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 2.5mV/dyne/cm<sup>2</sup>. Impedance: 200 ohms without transformer. Printed circuit. Miniature pressure mic. Price on application.

**KM74 ★**

Transistor (FET) condenser. Cardioid. FR: 40Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 2.5 mV/dyne/cm<sup>2</sup>. Impedance: 200 ohms without transformer. Printed circuit. Miniature pressure-gradient mic. Price on application.

**KM76 ★**

Transistor (FET) condenser. Switchable: omni-directional, cardioid, figure-of-eight. FR: 40Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 2.6mV/dyne/cm<sup>2</sup>. Impedance: 200 ohms without transformer. Printed circuit. Miniature pressure-gradient mic. Price on application.

**KML**

Lavalier transistor (FET) condenser. Cardioid. FR: 40Hz-16kHz  $\pm$  2dB. Sensitivity across 1K: 0.5mV (18V) or 1.8mV (45V) per dyne/cm<sup>2</sup>. Impedance: 50 or 200 ohms. Built-in transformer. Printed circuit. Battery driven (18V or 45V). Miniature pressure-gradient mic. Price on application.

**U77**

Condenser FET. Switchable omni-directional or cardioid or figure-of-eight. FR: 40Hz-16kHz. Sensitivity across 1K: 2.6mV/microbar (omni), 5mV/microbar (figure-of-eight), 3mV/microbar (cardioid). Impedance: 200 ohms. Pressure-gradient mic. Bass cut and sensitivity switch of -10dB. Price on application.

**KM83**

FET condenser. Omni-directional. FR: 40Hz-16kHz. Sensitivity: 0.5mV/microbar. Impedance: 50 or 200 ohms. Built-in transformer. Sensitivity switch: -10dB. Price on application.

**KM84**

FET condenser. Cardioid. FR: 40Hz-16kHz. Sensitivity: 0.5mV/microbar. Impedance: 50 or 200 ohms. Built-in transformer. Sensitivity switch: -10dB. Price on application.

**KM86**

FET condenser. Cardioid. FR: 40Hz-16kHz. Sensitivity: 0.5mV/microbar. Impedance: 50 or 200 ohms. Built-in transformer. Sensitivity switch: -10dB. Price on application.

**U87**

FET condenser. Switchable to omni-directional, cardioid or figure-of-eight. FR: 40Hz-16kHz. Impedance: 50 or 200 ohms. Built-in transformer. Bass cut and sensitivity switch of -10dB. Price on application.

**KM88**

FET condenser. Switchable to omni-directional or cardioid. FR: 40Hz-16kHz. Impedance: 50 or 200 ohms. Sensitivity across 1K: approx 0.7 mV/microbar. Built-in transformer. Sensitivity switch -10dB. Price on application.

**SM69 FET**

Stereo transistor condenser. Both systems separately remote controlled: omni-directional, cardioid or figure-eight. FR: 40Hz-16kHz. Sensitivity across 1K: 2mV/microbar. Impedance: 50 or 200 ohms. Built-in transformers. Pressure-gradient. Price on application.

**U47 FET ★**

Mono condenser. Cardioid. FR: 40 Hz-16kHz. Sensitivity: 0.8mV/ $\mu$ bar. Impedance: 150 ohms balanced. Recommended load:  $\geq$ 750 ohms. Stand swivel with thread adaptor. Continues the tradition of the U47 produced from 1947-1950. Elastically mounted capsule and various switches. Finish: matt nickel plated. Price on application.

**KMS 85 ★**

Mono condenser. Cardioid. FR: 40Hz-16kHz. Sensitivity: 0.6mV/ $\mu$ bar. Impedance: 150 ohms balanced. Recommended load:  $\geq$ 750 ohms. Hand type. Multistage mechanical filter in front of condenser capsule provides protection against close-talking popping noises and other explosive sounds. Finish: matt nickel plated. Price on application.

**KMA**

Mono condenser. Cardioid. FR: 40Hz-16kHz. Sensitivity: 0.5mV open circuit voltage. Impedance: 800 ohms balanced. Recommended load:  $\geq$ 2.7K. Lavalier type. Tie-clip fitting. Low sensitivity to noise of clothing etc. Finish: dark satin nickel plate. Price on application.

**PEARL**

Allotrope Ltd,  
90 Wardour Street, London, W1V 3LE  
Tel: 01-437 1892.

**M-68**

Mono ceramic microphone. Noise-cancelling type. FR: 500Hz-5kHz -6dB. Sensitivity: 0dBm for normal voice  $\frac{1}{2}$ in from microphone. Impedance: 600 ohms. Hand type. Military specification with built-in on/off switch and four transistor pre-amplifier. External metal parts non-ferrous and black anodised. Price: to be announced.

**CL-3**

Sub-miniature omni-directional tie-pin capacitor microphone. FR: 80Hz-17kHz -3dB. Sensitivity: 32mV/Pascal. Impedance: 200 ohms. Recommended load:  $\geq$ 200 ohms. Size:  $1\frac{1}{2} \times \frac{7}{16} \times \frac{1}{4}$ in. Finish: brass and satin chrome. Price: to be announced.



Neumann U47 FET

Neumann KMS 85

**F74**

Moving coil cardioid stand microphone. FR: 40Hz-15kHz -6dB. Sensitivity: -70dB. Impedance: 200 ohms. Rec load:  $\geq$ 200 ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi adaptor. Finish: alloy and brass, anodised and satin chrome. Price: £44.50 (plus VAT).

**F69**

Moving coil cardioid stand microphone. FR: 40Hz-15kHz -6dB. Sensitivity: -70dB. Impedance: 200 ohms. Rec load:  $\geq$ 200 ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi adaptor. Finish: alloy and brass, silver grey and satin chrome. Price: £42 (plus VAT).

**F67**

Moving coil cardioid stand microphone. FR: 40Hz-16kHz -6dB. Sensitivity: -74dB. Impedance: (F67LS) 200 ohms; (F67BS) 200 ohms and high Z. Rec load:  $\geq$ 200 ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Built-in on/off switch. Finish: silver grey alloy. Price: (F67LS) £19.60 (plus VAT); (F67BS) £24.80 (plus VAT).

**HM49**

Moving coil omni-directional stand microphone. FR: 50Hz-18kHz -6dB. Sensitivity: -74dB. Impedance: 200 ohms. Rec load:  $\geq$ 200 ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Finish: black anodised alloy. Price: £44.60.

**HM47**

Moving coil omni-directional lavalier microphone. FR: 100Hz-10kHz -6dB. Sensitivity:



Pearl DC73

– 76dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting: lavalier neck cord. Polyester diaphragm. Finish: brass, satin chrome. Price: £23.50 (plus VAT).

#### RD34/36

Moving coil cardioid stand microphone. FR: 40Hz-16kHz – 6dB. Sensitivity: – 74dB. Impedance: (RD34) 200 ohms; (RD36) 200 ohms and high Z. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi adaptor. Polyester diaphragm. Finish: black anodised alloy. Price: (RD/34) £16.50 (plus VAT); (RD36) £22.20 (plus VAT).

#### RD16

Moving coil cardioid lavalier or stand microphone. FR: 80Hz-12kHz – 6dB. Sensitivity: – 70dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi adaptor. Polyester diaphragm. Finish: black anodised alloy. Price: £16 (plus VAT).

#### LD18/19

Moving coil omni-directional stand microphone. FR: 80Hz-16kHz – 6dB. Sensitivity: – 74dB. Impedance: (LD18) 200 ohms; (LD19) 200 ohms and high Z. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Polyester diaphragm. Finish: black anodised alloy. Price: (LD18) £15 (plus VAT); (LD19) £18.40 (plus VAT).

#### D44LS/BS

Moving coil cardioid lavalier or stand microphone. FR: 100Hz-13kHz – 6dB. Sensitivity: – 71dB. Impedance: (D44LS) 200 ohms; (D44BS) 200 ohms and high Z. Fittings:  $\frac{5}{8}$ in  $\times$  27tpi. Built-in on/off switch and windshield. Finish: anodised black alloy. Price: (D44LS) £7.90 (plus VAT); (D44BS) £8.25 (plus VAT).

#### ST8

Capacitor stereo microphone with variable response pattern. FR: 30Hz-18kHz. Sensitivity: – 61dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Stand fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Variable pat-

tern with remote control, one capsule may be rotated through 180 deg. Finish: brass, satin chrome. Price: £176 (plus VAT).

#### FP92C/FP92K

Capacitor mono stand microphone. Response: (FP92C) cardioid; (FP92K) omni-directional. FR: 30Hz-16kHz – 3dB. Sensitivity: – 66dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Permanent pre-polarisation. Built-in 6V battery supply. Weight: 6oz. Finish: brass, satin chrome. Price: £63 (plus VAT).

#### TCV4V

Capacitor stand microphone with variable remote-controlled response pattern. FR: 40Hz-18kHz – 3dB. Sensitivity: – 56dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Finish: brass, satin chrome. Price: £100 (plus VAT).

#### DC96

Capacitor stand microphone with cardioid response. FR: 30Hz-18kHz – 3dB. Sensitivity: – 61dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Finish: brass, satin chrome. Price: £86.50 (plus VAT).

#### DC73 ★

Capacitor hand or stand cardioid microphone. FR: 40Hz-17kHz – 3dB. Sensitivity: – 60dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Switchable pop filter. Shockproof elastic suspension. Finish: brass, satin chrome. Price: £57 (plus VAT).

#### DC63

Capacitor stand microphone with variable response pattern. FR: 30Hz-18kHz – 3dB. Sensitivity: – 60dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Variable response pattern gives 44 combinations. Switchable bass cut. Switched attenuator. Finish: polished alloy and brass, satin chrome. Price: £147 (plus VAT).

#### DC20/DC21

Capacitor stand microphone. Response: (DC20) omni-directional; (DC21) cardioid. FR: 30Hz-18kHz – 3dB. Sensitivity: – 56dB. Impedance: 200 ohms. Rec load:  $\geq 200$  ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi. Miniature microphone measuring  $2\frac{3}{4}$ in long and  $\frac{3}{4}$ in diameter. Finish: polished alloy or brass, satin chrome. Price: £43.50 (plus VAT).

#### ■ PHILIPS

Pye Business Communications Ltd,  
Cromwell Road, Cambridge, CB1 3EL.  
Tel: Cambridge 45191.

#### Philips LBB9005/05 ★

Moving coil cardioid microphone. FR: 40Hz-18kHz. Impedance: 500 ohms. Sensitivity: – 71dB. On/off switch. Quick-release holder for



Philips LBB9005



Philips EL6042



Philips LBB9003

stands with  $\frac{3}{8}$ ,  $\frac{1}{2}$  or  $\frac{5}{8}$ in Whit threads. 10ft twin screened lead. Price: £20 (plus VAT).

#### Philips LBB9007/05

Moving coil cardioid microphone. FR: 40Hz-18kHz. Impedance: 500 ohms and 25K. Sensitivity: 500 ohms 71dB, 25K 4dB. Combined on/off and impedance selector switch. Fitted flexible shaft and 10ft twin screened lead. Finish: brushed satin stainless steel head and chromium plated shaft. Fits stand with  $\frac{3}{8}$ ,  $\frac{1}{2}$  or  $\frac{5}{8}$ in Whit threads. Price: £26 (plus VAT).

#### Philips LBB9008/05

Moving coil cardioid microphone. Similar specification to LBB9007 except for panel mounting (or stand mounting with LBC.1201 adaptor) and single impedance (200 ohms). No on/off switch. Capsule with hum-compensating coil. Price: £21 (plus VAT).

#### Philips EL.6033/10

Moving coil. Studio quality. Switchable cardioid or omni-directional. FR: 40Hz-18kHz. Sensitivity: -72dB. Source impedance: 500 ohms (EL.6033/00 50 ohms). Special vibration damper optional extra. Supplied with cable and stand adaptor. Price: £36 (plus VAT); EL.6207 vibration damper £4.50 (plus VAT).

#### LBB9100/05

High quality cardioid microphone for speech and music. FR: 50Hz-16kHz. Impedance: 200 ohms. Front-to-back ratio: 18dB. Speech music switch. Built-in DIN connector. All-metal housing. Price: £36 (plus VAT).

#### Philips EL.6042/05 ★

Professional quality omni-directional moving coil. FR: 30Hz-20kHz. Impedance: 200 ohms. Sensitivity: -79dB at 1kHz reference 1V/ $\mu$ bar. Size:  $5\frac{3}{8} \times \frac{3}{4}$ in. Finish: matt chrome plate. Quick-release holder-clamp for stands with  $\frac{3}{8}$ ,  $\frac{1}{2}$  or  $\frac{5}{8}$ in Whit threads. Three-pole plug for twin screened cable. Individually calibrated frequency response. Price: £40 (plus VAT).

#### LBB9018

High quality noise cancelling microphone. FR: 200Hz-12.5kHz. Front-to-rear sensitivity: 16dB. Impedance: 250 ohms. Supplied with four-core and screened cable. On/off button. Suspension bracket. Price: £18 (plus VAT).

#### Philips LBB9003/05 ★

Moving coil omni-directional lavalier microphone. FR: 50Hz-15kHz. Impedance: 200 ohms. Sensitivity: -78dB. Suitable also for hand use. Complete with neck cord and 33ft cable. Price: £18 (plus VAT)

#### LBB9102/05

High quality microphone for speech and music. FR: 50Hz-16kHz. Impedance: 200 ohms. Front-to-back ratio: 18dB. Supplied with 16ft cable. Mounted on wood shaft. Price: £39 (plus VAT).



Philips LBB9050

**Philips LBB9050/05 ★**

Studio quality dual capsule microphone with crossover filters. Moving coil. Cardioid. FR: 25Hz-20kHz. Impedance: 200 ohms. Sensitivity: -77dB. Quick release holder for all stands. Price: £38 (plus VAT).

**Philips LBB9500**

Moving coil cardioid microphone. FR: 40Hz-18kHz. Impedance: 500 ohms. Sensitivity: -71 dB. Quick release holder. Supplied with tripod table stand and 10ft twin screened lead. Price: £12 (plus VAT).

**Philips LBB9101/05**

Moving coil microphone with an all-metal housing. FR: 30Hz-20kHz. Speech/music switch. Built-in DIN connector. Impedance: 200 ohms. Price: £36 (plus VAT).

**Philips EL.6204**

Universal microphone table stand. Provided with  $\frac{3}{8}$ in Whit thread and possibility of mounting signal lamps or switches, etc. Price £4.50 (plus VAT).

**ET907**

Telescopic floor stand with heavy base, 42in closed, 72in extended. Price: £13 (plus VAT).

**LBC1203/00**

Table stand. Tripod type. Price: £2.50 (plus VAT).

**LBC1207/00**

Windshield for LBB9005, LBB9007, LBB9008, LBB9100, LBB9101, LBB9500. Price: £1.50 (plus VAT).

**LBC1209/00**

Windshield for LBB9050. Price: £1.50 (plus VAT).

**EL6207**

Vibration damper for use with EL6033 on floor or table stands. Price: £4.50 (plus VAT).

**LBC1200**

Short flexible shaft fitted with socket to accept microphones EL6033, EL6042, LBB9100,

LBB9101. Length 8in. Complete with 5 yards cable. Price: £8 (plus VAT).

**LBC1205/01**

Cable with switched plug for use with LBB9050, LBB9100, LBB9101, EL6042 and EL6033. Price: £7 (plus VAT).

**LBC1210/00**

Three-pole DIN microphone plug for use with LBB9050, LBB9100, LBB9101, EL6042, EL6033. Price: £1 (plus VAT).

**LBC1208/10**

Ten-metre extension cable complete with plugs. For use with LBB9050, LBB9100, LBB9101, EL6042, EL6033. Price: £5 (plus VAT).

■ **PHILIPS ELECTRICAL LTD**

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

**N8500**

Hyper-cardioid electret microphone designed particularly for use with high quality cassette and open reel recorders. FR: 100Hz-16kHz (DIN 45 500). Impedance: 1K. Power supply: 1.5V Penlight. Price: £16 (including VAT).

■ **RESLOSOUND LTD**

Spring Gardens, London Road, Romford, Essex, RM7 9LJ.

Tel: Romford 61926 (3 lines). Telex: 897311.

**UD.1 ★**

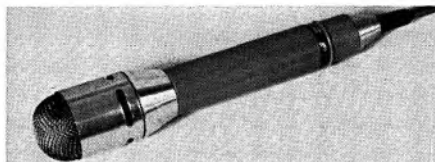
Uni-directional hand or stand microphone FR: 50Hz-17kHz (-4dB at 100Hz, +8dB at 16kHz). Rear pickup -10 to -20dB between 200Hz-15kHz. Sensitivity: -88dB at 30-50 ohms. Output: average voice 6in from front of mic 150 $\mu$ V (low imp), 250-450 $\mu$ V (medium imp), 2-4mV (high imp). Output increases approximately 10 times at one inch from microphone. Impedances: UD.1/L 30-50 ohms or 600 ohms; UD.1/M medium impedance, 200-300 ohms; UD.1/MT. 600-1000 ohms; UD 1/H, high impedance. Finish: main case beige nylon, top case satin silver. Price: £24 (plus VAT).

**S80 Superstar ★**

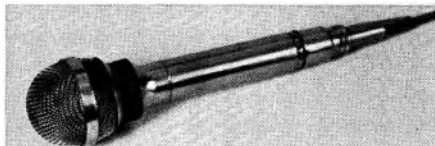
Moving coil cardioid hand or stand microphone FR: 50Hz-15kHz. Sensitivity: -58dB (50K). Impedance: (S80L) 30 or 600 ohms, (S80H) 250 ohms or 50K. Optional accessories: carry case, dual impedance cable set. Price: (both versions) £34 (plus VAT).

**UD3 ★**

Moving coil super cardioid stand microphone. FR: 100Hz-16kHz. Sensitivity: -58dB (50K). Impedance: (UD3/LM) 30 or 600 ohms, (UD3/MH) 200 ohms or 50K. Terminated with Reslo connector and suitable for use with any of the six flexible stems. Price: (both versions) £15 (plus VAT).



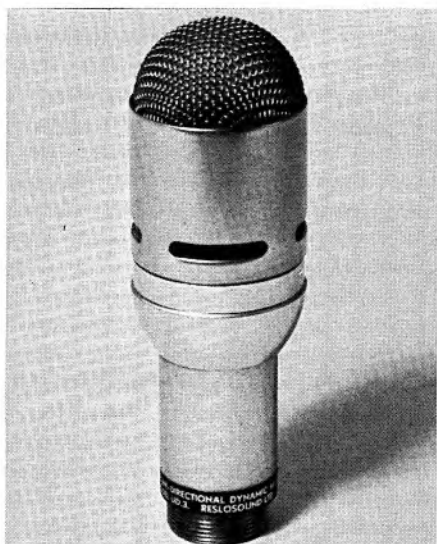
Reslo UDI



Reslo 580 Superstar



Reslo PD3



Reslo UD3

**PD3 ★**

Moving coil omni-directional pencil microphone. FR: 30Hz-17kHz. Sensitivity: -88dB (30 ohms). Impedance: (PD3/L) 30 ohms, (PD3/M Dual) 200 or 600 ohms, (PD3/H) 50K. Supplied with 16ft directly-connected cable. Optional extras: SA6019 stand adaptor, MS500 desk base. Price: (all versions) £12 (plus VAT).

**MR1**

Ribbon semi-cardioid stand microphone. FR: 35Hz-16kHz. Sensitivity: -58dB (50K). Impedance: (MR1/L) 30 ohms, (MR1/M Dual) 250 or 600 ohms, (MR1/H) 50K, (MR1/MT Level) bass version for transistor inputs of 600-1000 ohms. Price: £28 (plus VAT).

**MPD**

Moving coil omni-directional miniature pencil stand or lavalier microphone. FR: 50Hz-15kHz. Sensitivity: -88dB (30 ohms). Impedance: 30 ohms. Available as head only (MPD/HD), lavalier type (MPD/L) and desk version (MPD/D) with 8in flexible stem and desk base. Price: (MPD/head) £9 (plus VAT); (MPD/lavalier) £13 (plus VAT); (MPD/D desk) £17 (plus VAT).

**MPD/L**

Dynamic, omni-directional, lavalier. FR: 50 Hz-15kHz -12dB at 100Hz, +4dB at 14kHz. Sensitivity: 88dB below. Impedance: low. Finish: satin anodised. Price: £13 (plus VAT).

**MPD/D**

Dynamic, omni-directional, desk base fitted with 8in flexible stem. FR: 50Hz-10kHz. Sensitivity: 88dB below. Impedance: low. Finish:

satin anodised microphone, chrome stem, grey enamel base. Price: £17 (plus VAT).

**Coupler unit GE1**

Suitable for use with any impedance microphone. Designed for external use adjacent to the tape recorder or amplifier. Gain: 45-40dB. FR: 50Hz-20kHz +1dB. Fitted 36in screened lead and jack plug. Self-contained PP4 battery with average life of 1500 hours. Price: £11 (plus VAT).

**Microphone transformers MT101, MT102**

Designed for internal mounting in equipment having only high impedance inputs. Input imp: MT101 15-50 ohms, MT102 300-600 ohms. Nominal output imp: 100K. Response: 50Hz-15kHz ±2dB. Price: £3.50 (plus VAT).

**MS.110B**

Adjustable floor stand. Minimum height: 40in, maximum height: 62in. Grey hammertone base, chrome outer and inner stem. Price: £11.50 (plus VAT).

**MS.175 and MS.180**

Boom arm fitting available for use with Reslo floor stands. Price: £15 (plus VAT).

**MS.200**

Adjustable table stand. Minimum height: 1ft 4in, maximum height: 2ft 2in. Grey hammertone base with chrome stem and extension piece. Price: £8.50 (plus VAT).

**MS.300**

Circular desk stand. Grey hammertone base fitted with 3in chrome stem. Price: £4.50 (plus VAT).

★ Indicates entry is illustrated

### MS.500

Rectangular desk base. Fitted with rubber feet. Finished in silver grey hammertone. Muting switch optional extra. Price: £3.50 (plus VAT).

### Reslo radio microphones

Range of radio microphones for all purposes. Full details on request.

## ■ SENNHEISER ELECTRONIC

Distributors: Hayden Laboratories Ltd, Hayden House, 17 Chesham Road, Amersham, Bucks, HP6 5AG. Tel: Amersham 5511.

Audio equipment showroom, service department and despatch department: 12-13 Poland Street, London, W1V 3DE. Tel: 01-734 3748/9.

### MD21N

Omni-directional moving coil hand or stand microphone. FR: 40Hz-18kHz  $\pm$  3dB. Sensitivity: 0.2mV/ $\mu$ bar  $\pm$  3dB. Impedance: 200 ohms. Rec load: 1K. Light alloy case finished hammer stove enamel. Windshield MZW22 optional extra. Price: (microphone) £29.80 (plus VAT); (windshield MZW22) £5.95 (plus VAT); (desk stand MZT21) £3.60 (plus VAT).

### MD21HL

Dual-impedance version of MD21. Price: £31.20 (plus VAT).

### MD211N ★

Omni-directional moving coil miniature studio microphone. Hand or stand use. FR: 40Hz-20 kHz  $\pm$  2.5dB. Sensitivity: 0.13mV/ $\mu$ bar  $\pm$  2.5dB. Impedance: 200 ohms. Rec load: 1K. Metal case with satin chrome finish. Windshield MZW201 optional extra. Price: (microphone) £53.80 (plus VAT); (windshield MZW201) £3.05 (plus VAT); (small tripod desk stand MZT104) £3.05 (plus VAT).

### MD214N ★

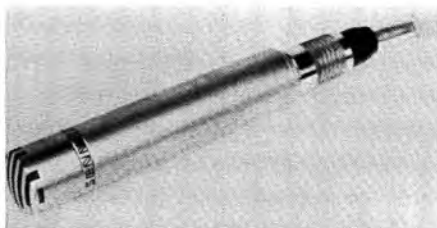
Omni-directional moving coil lavalier microphone. Built-in 'natural voice' equaliser to studio standards. FR: specially designed for lavalier operation. Sensitivity: 0.10mV/ $\mu$ bar  $\pm$  2.5dB. Impedance: 200 ohms. Rec load: 1K. Metal case finished special 'non-glare' enamel. Price: £50.85 (plus VAT).

### MD408N

Super cardioid moving coil microphone with flexible shaft. Specially suitable for PA applications. FR: 50Hz-15kHz  $\pm$  3dB. Impedance: 200 ohms. Sensitivity: -55dB. Case of light gauze woven wire cloth. Price: £28 (plus VAT).

### MD420-2

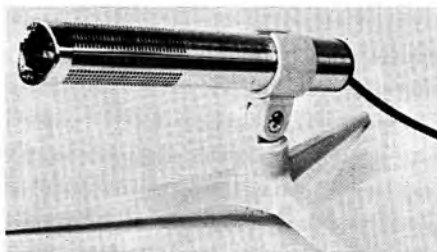
Super-cardioid noise cancelling moving coil mono microphone. FR: 200Hz-10kHz (special response curve for noise cancellation). Impedance: 200 ohms. Rec load: 1K. Sensitivity: 0.18mV/ $\mu$ bar. Hand or stand microphone with



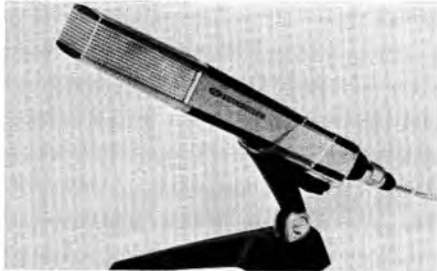
Sennheiser MD211N



Sennheiser MD214N



Sennheiser MD402LM



Sennheiser MD441



Sennheiser MKH105

large Tuchel plug. Metal case with silver finish. Price: (MD420-2) £22.90 (plus VAT); (MD420-2T with switch) £25.45 (plus VAT).

**MD420-9**

Shorter version of MD420 for gooseneck mounting. Price: £22.90 (plus VAT).

**MD402LM ★**

Mono moving coil super cardioid microphone. FR: 80Hz-12.5kHz. Sensitivity: 2.3mV/μBar. Impedance: 750 ohms. Rec load: 4K. Hand mic with stand and clip. Rugged construction. Frequency response tailored for domestic applications. Finish: satin chrome. Price: £11.80 (plus VAT).

**MD409N**

Mono moving coil super cardioid. FR: 50Hz-15kHz. Sensitivity: 0.18mV/μBar. Impedance: 200 ohms. Rec load: 200 ohms or greater. Stand mounted musicians' microphone. Finish: black and gold. Price: £36 (plus VAT).

**MD415N**

Mono moving coil super cardioid. FR: 60Hz-15kHz. Sensitivity: 0.12mV/μBar. Impedance: 200 ohms. Rec load: 200 ohms or greater. Hand/stand microphone. Rugged construction. Built-in anti-popping shield. Good feedback immunity. Finish: solid brass, satin chrome finish. Price: £38.25 (plus VAT).

**MD421**

Mono moving coil cardioid microphone. FR: 30Hz-17kHz. Sensitivity: 0.2mV/μBar at 1kHz. Impedance: (HL series) 200 ohms and 24K; (N, U and 2 series) 200 ohms. Rec load: (high Z version of HL series) 50K, (all others) 1K. Hand/stick microphone. 3/8" in thread fitting. Built-in bass cut switch. Low handling noise. Finish: (standard versions) grey plastic body with chrome grille; (de luxe versions) black plastic body with gold grille. Price: (MD421N) £45 (plus VAT); (MD421HL de luxe) £54.15 (plus VAT).

**MD441 ★**

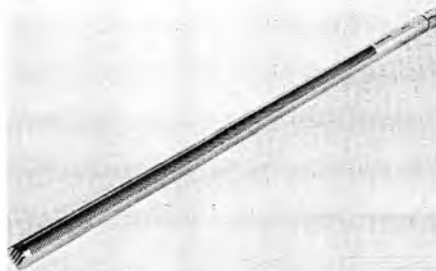
Mono moving coil super cardioid microphone. FR: 30Hz-20kHz. Sensitivity: 0.2mV/μBar. Impedance: 200 ohms. Rec load: 1K. Hand microphone, with optional mounting clip available. Choice of ten switchable frequency responses. Low handling noise. Polar diagram constant over frequency range. Finish: shock resistant metal case. Silver-plated metal grille on matt black body. Price: (MD441N, MD441-2, MD441-U) £69 (plus VAT).

**MKH105 ★**

Mono capacitor omni-directional microphone. FR: 20Hz-20kHz. Sensitivity: 2mV/μBar. Impedance: 20 ohms. Rec load: 200 ohms or greater. Hand/stand microphone. Table stands MZT104 and 105 available. Low self noise.



Sennheiser MK124



Sennheiser MKH815

Windshield. Finish: satin chrome on brass. Price: £108 (plus VAT).

**MKH124 ★**

Mono capacitor omni-directional. FR: 40Hz-20kHz. Sensitivity: 0.32μV/Bar. Impedance: 150 ohms. Rec load: 200 ohms or greater. Lapel or lavalier microphone with clip or lanyard. Small size: flat frequency response. Presence lift. Finish: matt grey enamel. Price: £144 (plus VAT).

**MKH125**

Mono capacitor omni-directional microphone. FR: 40Hz-20kHz. Sensitivity: 2mV/μBar. Impedance: 10 ohms. Rec load: 200 ohms. Lapel/lavalier microphone with lanyard or clip. Small size. Flat frequency response. Presence lift. Finish: matt grey enamel. Price: £153 (plus VAT).

**MKH415**

Mono capacitor super cardioid microphone. FR: 40Hz-20kHz. Sensitivity: 2mV/μBar. Impedance: 20 ohms. Rec load: 200 ohms. Hand/stand microphone. Table stand MZT415 available. Low self noise. Good wind noise rejection. Windshield MZW415. Finish: satin chrome on brass. Price: £130 (plus VAT).

**MKH815**

Mono capacitor uni-directional (narrow beam) microphone. FR: 50Hz-20kHz. Sensitivity:



★ Indicates entry is illustrated

4mV/ $\mu$ Bar. Impedance: 20 ohms. Rec load: 200 ohms. Gun microphone. Fittings: boom MZS-805 or pistol grip MZP805. Low self noise. Very narrow beam. Windshield: MZW804 and MZW-815. Finish: satin chrome on brass. Price: (plus VAT).

#### **MD412LM**

Moving coil super cardioid mono microphone. FR: 50Hz-12.5kHz. Impedance: 200 or 800 ohms. Sensitivity: 0.2mV/ $\mu$ bar  $\pm$  3dB. Built-in roll-off filter. With desk stand. Price: £18.55 (plus VAT).

#### **MKH435**

Studio quality capacitor microphone. Cardioid polar diagram. FR: 40Hz-20kHz. Sensitivity: 2mV/ $\mu$ Bar  $\pm$  1dB. Impedance: 200 ohms. Hand/stand type microphone. Price: £126 (plus VAT).

#### **MD416N**

Moving coil mono microphone. Super cardioid polar diagram. Insensitive to handling or mechanical vibrations. Designed for vocal or instrumental soloists. FR: 50Hz-15kHz. Sensitivity: 0.13mV/ $\mu$ Bar  $\pm$  3dB. Impedance: 200 ohms. Hand or stand microphone. Price: £44.55 (plus VAT).

#### **MD413N**

Moving coil mono microphone. Cardioid diagram. FR: 50Hz-15kHz. Impedance: 200 ohms. Sensitivity: 0.13mV/ $\mu$ Bar  $\pm$  3dB. Rec load: 200 ohms or greater. Hand or stand microphone. Built-in 'pop' protector. Good immunity to feedback. Finish: solid brass with satin chrome finish. Price: £32.65 (plus VAT).

#### **MD413U**

Similar to the MD413N but fitted with Cannon connector. Price: £32.65 (plus VAT).

#### **MKE201**

Electret omni-directional mono microphone. FR: 50Hz-15kHz. Rec load: (minimum) 1.5K. Battery requirement: 5.6V DC (Mallory PX23). Operating time on one battery greater than 600 hours. Hand or stand type supplied with MZT104 stand. Finish: satin nickel. Price: £32.05 (plus VAT).

#### **MKE401**

Similar specification to the MKE201 but with super cardioid polar diagram. Price: £37.40 (plus VAT).

### ■ SHURE ELECTRONICS LTD

Eccleston Road, Maidstone, ME15 6AJ  
Tel: Maidstone (0622) 59881.

#### **545 Unidyne III ★**

Cardioid moving coil. FR: 50Hz-15kHz. Sensitivity: -55dB. Source impedance: 25-250 ohms and high. Built-in transformer. Price: £36.30 (including VAT).



*Shure 545 Unidyne III*



*Shure 565 Unisphere I*



*Shure 588SA Unisphere B*

# LAMB LABORATORIES

## RANGE OF FRANZ RAAB CABLES AND FLEXIBLES

Some of the main fields of application :

Audio frequency and special cables  
Ultra Flexible Headphone etc leads  
Microphone cables  
Diode cables  
Stereo cables  
Entirely or partly shielded multiple switching cables and series  
switching cables  
Cables for duplex telephony  
Speaker lines  
Photo and flash cables

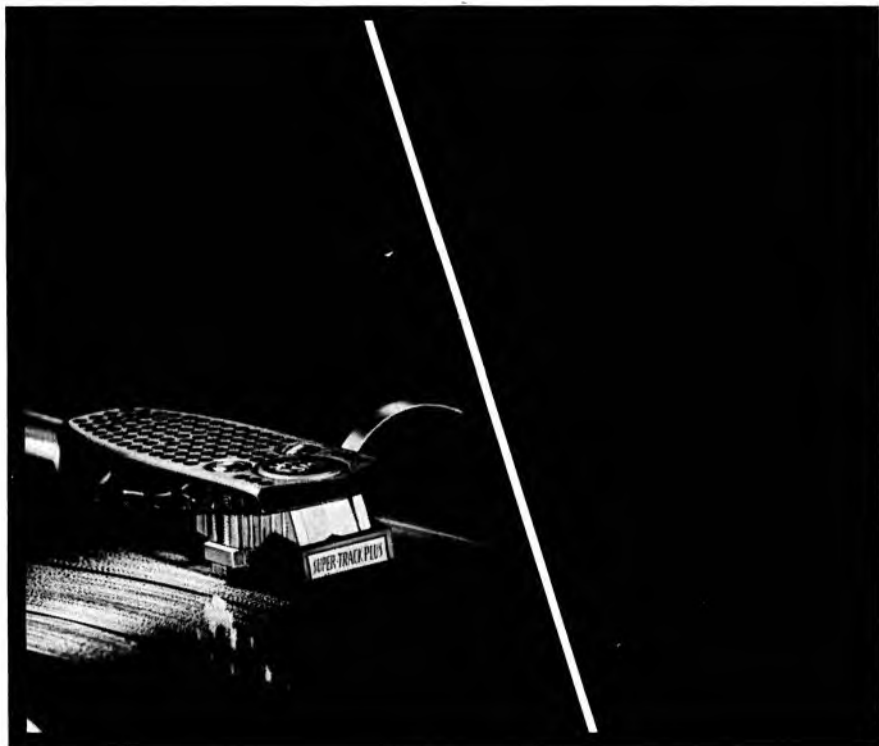
Weak-current lines can be supplied by the metre or by the desired length with lacings, protective sleeves, plug connections etc.

They are supplied according to the specifications of the German Post, the DIN standards, VDE and special specifications.

Price lists or offers upon inquiry. Please send exact specifications with your inquiry.

# LAMB LABORATORIES

Lamb House, Church Street, Chiswick, London, W4 2PB.  
Telephone: 01-995 4551. Telex: 934047. Cables: Lambex London.



## anything II could do III can do better!

Several years ago, we decided that our next challenge would be to go beyond the best there was. Our computers told us we had taken the existing cartridge structure and stylus assembly of the V-15 Type II Improved as far as we could, and that hereafter, any improvement in one performance parameter would be at the expense of performance in some other parameter.

Therefore, over the past several years, a wholly new laminated cartridge structure has been developed, as was an entirely new stylus assembly with a 25% reduction in effec-

tive stylus mass! These developments have resulted in optimum trackability at light tracking forces ( $\frac{1}{4}$ - $1\frac{1}{4}$  grams), a truly flat, unaccented frequency response, and more extended dynamic range than was possible even with the Type II Improved, without sacrificing output level!

If you like its sound today, you will like it even more as time goes on. In fact, to go back to any other cartridge after living with the Type III for a short while is simply unthinkable, so notable is its neutral, uncolored sound. You must hear it.

INTRODUCING THE NEW

 **SHURE**® V-15 TYPE III

Super-Track "Plus" Phono Cartridge

Shure Electronics Limited  
Eccleston Road, Maidstone ME15 6AU

**565 Unisphere I ★**

Moving coil. Cardioid (with polar diagram uniform with frequency, symmetrical about axis). FR: 50Hz-15kHz. Dual impedance (50-250 ohms and high). Sensitivity: (low Z) -78dB, (high Z) -55dB. Hand or stand. Built-in wind/breath filter. Available with or without switch. Detachable 15ft three-core screened lead. Finish: satin chrome body with plated steel grille. Size: 6½in long, 2in diameter over head. Price: (565 less switch) £41-58 (including VAT); (565S with switch) £42-90 (including VAT).

**588SA Unisphere B ★**

Moving coil. Cardioid. FR: 50Hz-13kHz. Impedance: high Z (low version 25-200 ohms available). Sensitivity: (high Z) -59dB, (low Z) -81-5dB. Hand or stand microphone supplied with swivel stand adaptor. Built-in switch with provision for locking on. Wind/breath filter. Detachable 15ft cable. Finish: satin chrome with steel mesh grille. Size: 6½in long, 2½in diameter. Price: (588SA high Z) £26-40 (including VAT); (588SB low Z) £25-08 (including VAT).

**515SA Unidyne' B**

Moving coil. Cardioid. FR: 80Hz-13kHz. Sensitivity: -58dB. High impedance (low impedance version available). Hand or stand. On/off switch with lock. Size: 6½in long, 1½in diameter. Satin chrome body with black grille and stainless steel screens. Price: 515SA (high impedance) £18-48 (including VAT); 515SB (low impedance) £17-82 (including VAT).

**■ SONY (UK) LTD**

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

**ECM95S**

Mono capacitor microphone. Cardioid response. FR: 40Hz-18kHz. Sensitivity: -50dB (ref 1V/10µbars). Impedance: 1.5K. Hand type. Remote control switch, with twin jack plugs. Anodised aluminium finish. Price: £6-99 (plus VAT).

**F99B**

Stereo hand microphone. Cardioid response each channel. FR: 18Hz-20kHz. Sensitivity: -62dB (ref 1V/10µbars). Impedance: 200 ohms per channel. Finish: anodised aluminium. Price: £8-25 (plus VAT).

**ECM19B**

Mono capacitor hand microphone. Cardioid response. FR: 50Hz-12kHz. Sensitivity: -54-8dB (ref 1V/10µbars). Impedance: 250 ohms. Electret capacitor system. Finish: anodised aluminium. Price: £14-30 (plus VAT).

**ECM21**

Mono capacitor hand microphone. Cardioid response. FR: 50Hz-12kHz. Impedance: 50



Thorn Consumer Electronics TA24

ohms, 250 ohms, 600 ohms. Sensitivity: -60-8 dB, -53-8dB, -50dB (ref 1V/10µbars). Wind-shield and desk stand included. Finish: anodised aluminium. Price: £22-28 (plus VAT).

**ECM22P**

Mono capacitor hand microphone. Cardioid response. FR: 40Hz-15kHz. Impedance: 250 ohms, 600 ohms. Sensitivity: -54-8dB, -51dB (ref 1V/10µbars). Voice/music switch. Finish: anodised aluminium. Price: to be announced.

**ECM99**

Stereo electret microphone. FR: 40Hz-18kHz. Impedance: 600 ohms. Price: £13-23 (plus VAT).

**■ THORN CONSUMER ELECTRONICS LTD**

284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.

**TA24 Cardioid microphone ★**

Dynamic microphones with variable cardioid characteristics. Switch positions for optimum results on speech and music. Supplied complete with desk stand and tripod adaptor. Low impedance version TA/24. High impedance version TA/20. Price: £9-90 (including VAT).

**■ T.T.C.**

Joint distributors: Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288/9.

E.R. (Factors) Ltd. 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.

**B1078**

Moving coil cardioid microphone. FR: 50Hz-15kHz. Sensitivity: (600 ohms) -72dB, (50K) -54dB. Impedance: 600 ohms and 50K. Stick type with adjustable cradle fitting, ½in 27tpi thread. Built-in switch. Wire mesh windshield.



Turner 700

20ft cable. Satin chrome finish. Price: £8.60 (including VAT).

#### B7105

Capacitor cardioid microphone. Power supply: 1.5mA 1.5V. FR: 30Hz-16kHz. Sensitivity: -70dB  $\pm$  2.5dB at 1kHz. Impedance: 600 ohms. Stick type mic with adjustable cradle. Built-in battery compartment. Slip-on windshield. 20ft cable. Finish: textured aluminium and black. Price: £20.90 (including VAT).

#### Piezo EX220

Capacitor cardioid microphone. Stick type with adjustable cradle. Power supply: 1.5V at 0.8mA. FR: 50Hz-15kHz. Sensitivity: -70dB at 1kHz. Impedance: 600 ohms. Built-in switch. Internal 1.5V battery. Slip-on windshield. 19ft lead. Price: £16.17 (including VAT).

#### ■ TURNER

Millbank Electronics Group, Bellbrook Estate, Uckfield, Sussex. Tel: Uckfield (0825) 4166.

#### 700 ★

Mono moving coil stick type hand or stand microphone. Cardioid response. FR: 40Hz-15kHz. Sensitivity: (high impedance) -55dB (0=1V/ $\mu$ bar); (150 ohms) -57dB (0=1mW/10 $\mu$ bars). Rec load: 40K. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi (stand adaptor provided). Built-in switch. Finish: diecast zinc alloy with satin chrome finish, bright chrome grille. Price: £43.87 (plus VAT).

#### 2203

Mono moving coil stick type hand or stand microphone. Cardioid response. FR: 50Hz-15kHz. Sensitivity: -57dB (0=1mV/10 $\mu$ bars). Rec load: 200 ohms. Finish: diecast zinc alloy with satin chrome finish, bright chrome grille. Price: £41.69 (plus VAT).

#### 2255

Mono moving coil stick type hand or stand microphone. Cardioid response. FR: 70Hz-13kHz. Sensitivity: -57dB (0=1mV/10 $\mu$ bars). Rec load: 200 ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi (stand adaptor provided). Built-in switch. Finish: diecast zinc alloy with satin chrome finish, bright chrome grille. Price: £30.75 (plus VAT).

#### 2302

Mono moving coil stick type hand or stand microphone. Omni-directional response. FR: 50Hz-15kHz. Sensitivity: -57dB (0=1mV/10 $\mu$ bars). Rec load: 200 ohms. Fitting:  $\frac{5}{8}$ in  $\times$  27tpi (stand adaptor provided). Built-in switch. Finish: diecast zinc alloy with satin chrome finish, bright chrome grille. Price: £37.38 (plus VAT).

#### ■ UHER

Distributors: Bosch Ltd, Rhodes Way, Radlett Road, Watford, Herts, WD2 4LB. Tel: Watford 44233.

#### M154 ★

Dynamic microphone with remote control switch providing: record, stop, start, rewind. FR: 50Hz-10kHz. Impedance: 200 ohms. For use with model 5000 tape recorder. Price: approximately £15 (plus VAT).

#### M517

Dynamic cardioid microphone for use with battery portable series. Remote stop/start switch. Speech/music switch. FR: 70Hz-14kHz. Windshield fitted. Impedance: 500 ohms. Price: £15 (plus VAT).

#### M534

Dynamic cardioid microphone with speech/music switch. Sensitivity: 0.23mV/ $\mu$ bar. FR: 50Hz-16kHz. Impedance: 500 ohms. For recording under adverse acoustic conditions. Pressure diecast case. Includes table stand (M923). Plug wiring: unbalanced 3/2. Price: £13 (plus VAT).

#### M537 ★

Dynamic cardioid microphone with speech/music switch. Sensitivity: 0.23mV/ $\mu$ bar. FR: 40Hz-18kHz. Impedance: 500 ohms. Flexibly supported microphone system. Includes stand connecting piece (M937) and table stand (M923). Supplied without connecting lead. Plug wiring: balanced 1-2/3. Price: £28.70 (plus VAT).

#### M538

Dynamic cardioid studio microphone. Sensitivity: 0.14mV/ $\mu$ bar. FR: 30Hz-18kHz. Impedance: low Z. Sintered bronze head. Separate bass and treble systems incorporated. Includes stand connecting piece (M937) and table stand (M923). Supplied without connecting lead. Plug wiring: 1-2/3. Price: £47.70 (plus VAT).

**M539**

Dynamic omni-directional studio microphone. Sensitivity: 0.18mV/ $\mu$ bar. FR: 40Hz-17kHz. Low impedance. Flexibly supported microphone system. Includes stand connecting piece (M937) and table stand (M923). Supplied without connecting lead and windshield. Plug wiring: balanced 1-2/3. Price: £28.60 (plus VAT).



Uher M154



Uher M537



Uher M634 Stereo System

**M634 (stereo) ★**

Dynamic cardioid stereo microphone system. Sensitivity: 0.23mV/ $\mu$ bar. FR: 50Hz-16kHz. Impedance: 500 ohms. Comprises two M534 microphones, one M925 stereo bar and one M923 table stand. Speech/music switch. Price: £24 (plus VAT).

**■ UNISOUND**

Condor Electronics Ltd, 100 Combe Lane, London, SW20 0AY. Tel. 01-946 0033.

**EM-82**

Electret capacitor microphone. Omni-directional. FR: 40Hz-18kHz. Impedance: 600 ohms. Sensitivity:  $-65\text{dB} \pm 3\text{dB}$ . Supply voltage: 1.1-1.5V. Cable: 16½ft with plug. Size:  $6\frac{3}{8} \times \frac{7}{8}$ in diameter. Weight: 6¼oz. On/off switch. Holder. Lavalier cord. Windshield. Price: £9.95 (plus VAT).

**EM-82H**

Electret capacitor microphone. Omni-directional. FR: 40Hz-18kHz. Impedance: 50K. Sensitivity:  $-45\text{dB} \pm 3\text{dB}$ . Supply voltage: 1.1-1.5V. Cable: 16½ft with plug. Size:  $6\frac{3}{8} \times \frac{7}{8}$ in diameter. Weight: 6¼oz. On/off switch. Holder. Lavalier cord. Windshield. Price: £9.95 (plus VAT).

**EM-83**

Electret capacitor microphone. Uni-directional. FR: 40Hz-18kHz. Impedance: 1K. Sensitivity:  $-68\text{dB} \pm 3\text{dB}$ . Supply voltage: 1.1-1.5V. Cable: 16½ft with plug. Size:  $6\frac{3}{8} \times \frac{7}{8}$ in diameter. Weight: 6¼oz. On/off switch. Holder. Lavalier cord. Windshield. Price: £10.95 (plus VAT).

**EM-83H**

Electret capacitor microphone. Uni-directional. FR: 40Hz-18kHz. Impedance: 50K. Sensitivity:  $-50\text{dB} \pm 3\text{dB}$ . Supply voltage: 1.1-1.5V. Cable: 16½ft with plug. Size:  $6\frac{3}{8} \times \frac{7}{8}$ in diameter. Weight: 6.9oz. On/off switch. Holder. Lavalier cord. Windshield. Price: £10.95 (plus VAT).

**EM84**

Tie-clip miniature electret capacitor microphone. FR: 50Hz-16kHz. Impedance: 600 ohms. Sensitivity:  $-65\text{dB} \pm 3\text{dB}$ . Supply voltage: 1.1-1.5V. Cable: 13¼ft with miniature plug. Size:  $1\frac{3}{8} \times \frac{1}{2}$ in approx. diameter. Weight: 2.3oz. Price: £9.95 (plus VAT).

**■ VITAVOX**

Westmoreland Road, London, NW9 9RJ. Tel: 01-204 4234. Cables: Vitavox, London.

**M100**

Moving coil microphone. Output level at 1kHz: 85dB ref 1 volt/dyne/cm<sup>2</sup>. Optimum load impedance: 25 ohms. FR: 50Hz-15kHz  $\pm 3\text{dB}$ . 9ft cable and flexible support. Table, desk and floor stands available. Switched and non-switched versions. Prices: on application.



# Directory of Speaker Drive Units

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ADASTRA ELECTRONICS LTD

Unit 22, Cricklewood Trading Estate  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288 (answering service 01-452 6289).

### Top 20

Bass speaker. 12in. Fibre cone. Voice coil dia: 1½in. Voice coil material: aluminium. Impedance: 8 ohms and 15 ohms. Gap flux: 12,000 lines. Total flux: 80,000 maxwells. HC: 25W RMS. FR: 25Hz-13kHz. Price: £8.47 (including VAT).

### Hi-Ten ★

Full range speaker. 10in. Fibre cone. vci: 8 ohms or 15 ohms. Voice coil dia: 1in. Voice coil material: copper. Gap flux: 10,000 lines. Total flux: 38,000 maxwells. HC: 10W RMS. FR: 40Hz-10kHz. Price: £3.30 (including VAT).

## ■ RICHARD ALLAN RADIO LTD

Bradford Road, Gomersal, Cleckheaton,  
Yorkshire, BD19 4AZ. Tel: Cleckheaton 2442/3.  
Cables: Acoustics, Bradford.

### CB4

4in tweeter. Paper cone. Doped cambric surround. Ceramic magnet. Voice coil 1½in. Gap flux 8000 gauss. Total flux 12,000 maxwells. HC: in systems up to 25W. vci: 8 or 15 ohms. FR: 2kHz-17kHz. rcf: 5kHz. Price: £2.25 (plus VAT).

### DT20

20mm dome tweeter. Low mass, plastic foil dome. Ceramic magnet. Voice coil 20mm. Gap flux 12,000 gauss. Total flux 24,500 maxwells. HC: in systems up to 35W. vci: 8 or 15 ohms. FR: 5kHz-25kHz. rcf: 7kHz. Price: £5.25 plus VAT).

### CF5

5in mid-range unit. Coated paper cone with PVC surround. Ceramic magnet. Voice coil 1in. Gap flux: 8000 gauss. Total flux: 32,000 maxwells. HC: in systems up to 30W. FR: 250Hz-15kHz. vci: 8 or 15 ohms. Price: £3.50 (plus VAT).

### CP5

5in mid-range unit. Coated paper cone with

PVC surround. Ceramic magnet. Voice coil 1in. Gap flux: 10,000 gauss. Total flux: 40,000 maxwells. HC: in systems up to 30W. FR: 250Hz-15kHz. vci: 8 or 15 ohms. Price: £3.50 (plus VAT).

### CR5

5in mid-range unit. Coated paper cone with PVC surround. Ceramic magnet. Voice coil 1in. Gap flux: 12,000 gauss. Total flux: 48,000 maxwells. HC: in systems up to 30W. FR: 250Hz-15kHz. vci: 8 or 15 ohms. Price: £4.25 (plus VAT).

### CR5

5in bass/mid-range unit. Paper cone with PVC surround. Ceramic magnet. Voice coil 1in. Gap flux: 14,000 gauss. Total flux: 56,000 maxwells. HC: 10W. vci: 8 or 15 ohms. FR: 30Hz-8kHz. Specially designed for use in small volume infinite baffle enclosure. Price: £5.25 (plus VAT).

### CPR

8in mid-range unit. Paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 1in. Gap flux: 10,000 gauss. Total flux: 40,000 maxwells. HC: 8W. vci: 8 or 15 ohms. FR: 100Hz-12kHz. Price: £3.50 (plus VAT).

### CB8

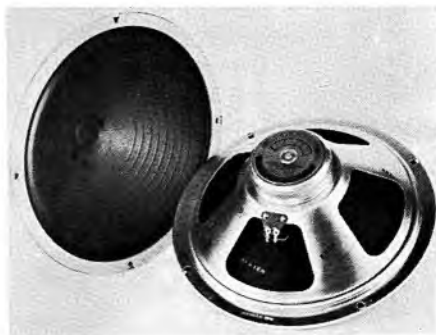
8in paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 1in. Gap flux: 12,000 gauss. Total flux: 48,000 maxwells. HC: 10W. vci: 8 or 15 ohms. FR: 45Hz-10kHz. Price: £4.25 (plus VAT).

### CR8T

8in paper cone plus tweeter inner. Doped cambric surround. Ceramic magnet. Voice coil: 1in. Gap flux: 12,000 gauss. Total flux: 48,000 maxwells. HC: 10W. vci: 8 or 15 ohms. FR: 45Hz-17kHz. Price: £4.50 (plus VAT).

### CR8F

8in bass/mid-range unit. Paper cone. Moulded polyurethane surround. Ceramic magnet. Voice coil: 1in. Gap flux: 12,000 gauss. Total flux:



Adastra Hi-Ten



★ Indicates entry is illustrated

48,000 maxwells. HC: 12W. vci: 8 or 15 ohms. FR: 40Hz-10kHz. Price: £4.50 (plus VAT).

**CG8**

8in paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 1in. Gap flux: 14,000 gauss. Total flux: 56,000 maxwells. HC: 15W. vci: 8 or 15 ohms. FR: 45Hz-10kHz. Price: £6 (plus VAT).

**CG8T**

8in paper cone with tweeter inner. Doped cambric surround. Ceramic magnet. Voice coil: 1in. Gap flux: 14,000 gauss. Total flux: 56,000 maxwells. HC: 15W. vci: 8 or 15 ohms. FR: 45Hz-17kHz. Price: £6.25 (plus VAT).

**CF8L**

8in. bass unit. Coated paper cone. Moulded polyurethane surround. Ceramic magnet. Resonance 25Hz. Voice coil: 1in. Gap flux: 14,000 gauss. Total flux: 56,000 maxwells. HC: 15W. vci: 8 or 15 ohms. FR: 35Hz-2.5kHz. Price: £6 (plus VAT).

**CG10**

10in paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 1½in. Gap flux: 14,000 gauss. Total flux: 105,000 maxwells. HC: 20W. vci: 8 or 15 ohms. FR: 35Hz-10kHz. Price: £9 (plus VAT).

**CG10T**

10in paper cone with tweeter inner. Doped cambric surround. Ceramic magnet. Voice coil: 1½in. Gap flux: 14,000 gauss. Total flux: 105,000 maxwells. HC: 20W. vci: 8 or 15 ohms. FR: 35Hz-15kHz. Price: £9.25 (plus VAT).

**CG12**

12in paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 1½in. Gap flux: 14,000 gauss. Total flux: 105,000 maxwells. HC: 20W. vci: 8 or 15 ohms. FR: 25Hz-9kHz. Price: £10.50 (plus VAT).

**CG12T**

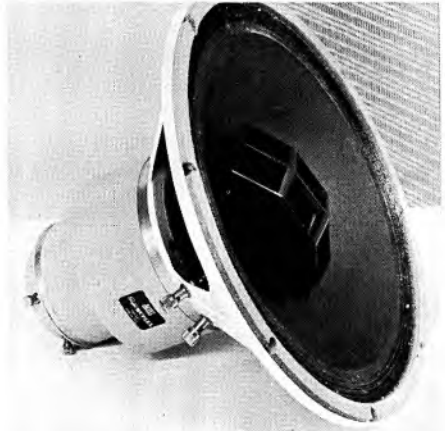
12in paper cone with tweeter inner. Doped cambric surround. Ceramic magnet. Voice coil: 1½in. Gap flux: 14,000 gauss. Total flux: 105,000 maxwells. HC: 20W. vci: 8 or 15 ohms. FR: 25Hz-15kHz. Price: £10.75 (plus VAT).

**CG12 Super**

12in paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 2in. Gap flux: 14,000 gauss. Total flux: 186,000 maxwells. HC: 25W. vci: 8 or 15 ohms. FR: 25Hz-5kHz. Price: £13.75 (plus VAT).

**CG15**

15in paper cone. Doped cambric surround. Ceramic magnet. Voice coil: 2in. Gap flux: 17,000 gauss. Total flux: 220,000 maxwells. HC: 25W. vci: 8 or 15 ohms. FR: 20Hz-5kHz. Price: £22.50 (plus VAT).



*Altec-Lansing 604E*



*Baker 12in Major*



*Baker 12in Superb*



*Baker 15in Auditorium*

Richard Allan full-range speaker modules are included in Speaker Enclosure section. Twin Assembly, Triple-8 Assembly, Triple-12 Assembly and Super-12 Assembly speaker kits are in the Constructional Kits section.

### ■ ALTEC LANSING (professional)

Ling Dynamic Systems Ltd,  
Baldoek Road, Royston, Herts, SG8 5BQ.  
Tel: Royston 42424. Telex: 81174.

#### 604E ★

Duplex speaker unit with crossover. 15¼in nominal diameter. Separate LF and HF cone and speech coil assemblies. Damped high compliance edge suspension. LF voice coil 3in diameter, HF voice coil 1½in diameter. Impedance: designed to operate from 8 ohms or 16 ohms. Alnico V magnets: (LF) 4'4lb, (HF) 1'2lb. HC: 35W RMS (50W peak). FR: 20Hz-22kHz. Crossover (included in speaker) 1.5kHz. LF cone resonance: 25Hz. Horizontal distribution 90°, vertical distribution 40°. Flux: LF 13,000 gauss. HF 15,500 gauss. Weight: 34lb. Finish: white and grey. Recommended enclosures: 859A, 860A, 612A, 614A (enclosures not available in UK at present). Price: on application.

### ■ BAKER REPRODUCERS LTD

Bensham Manor Road Passage, Thornton Heath, Surrey. Tel: 01-684 1665.

#### Regent

Full range 12in cone speaker. Paper cone with roll surround. Voice coil: 1½in. Copper voice coil. vci: 3, 8 or 15 ohms. Gap flux: 12,000 gauss. HC: 15W RMS. FR: 45Hz-13kHz. Price: approximately £7 (plus VAT).

#### Major ★

Full range 12in speaker with built-in tweeter cone. 14,000 gauss magnetic gap. FR: 40Hz-14.5kHz. HC: 20W RMS. vci: 3, 8 or 15 ohms. Cast aluminium chassis. Weight: 6lb. Price: approximately £9 (plus VAT).

#### Deluxe Mk II

Full range 12in cone speaker. 15W RMS. Bass resonance: 30Hz. Gap flux: 14,000 gauss. Copper voice coil: 1½in diameter. vci: 8 or 15 ohms. Paper cone with foam plastic surround. Built-in tweeter cone. FR: 25Hz-16kHz. Cast aluminium chassis. Depth: 6in. Weight: 6lb. Price: approximately £10 (plus VAT).

#### Superb Twelve ★

Full range 12in speaker with built-in tweeter cone. Foam plastic surround. Coil diameter: 1½in. vci: 8 or 15 ohms. Gap flux: 16,500 gauss. HC: 20W RMS. FR: 20Hz-17kHz. Bass resonance: 25Hz. Copper speech coil. Diecast alu-

minium chassis. Weight: 10lb. Price: approximately £15 (plus VAT).

#### Auditorium 12

Full range 12in cone speaker suitable for bass unit multi-speaker system. HC: 25W RMS. Bass resonance: 35Hz. Gap flux: 15,000 gauss. Copper voice coil: 1½in diameter. vci: 8 or 15 ohms. FR: 25Hz-16kHz. Paper cone with roll surround. Cast aluminium chassis. Depth: 7in. Weight: 10lb. Price: approximately £14 (plus VAT).

#### Auditorium 15 ★

High power 15in speaker suitable for bass unit in multi-speaker system. HC: 35W RMS. Bass resonance: 35Hz. Gap flux: 15,000 gauss. vci: 8 or 15 ohms. FR: 20Hz-14kHz. 2in diameter voice coil. 35W RMS. Depth: 8in. Weight: 15lb. Price: approximately £19 (plus VAT).

#### Laboratory Standard 12

Full range 12in speaker employing patented differential wave impedance cone. Resin-impregnated paper cone with double central metallic ellipse. 1½in diameter copper voice coil. Rubber roll surround. Impedance: 8 or 15 ohms. Gap flux: 15,000 gauss. HC: 15W RMS. FR: 20Hz-20kHz. Bass resonance: 22-27Hz. Price: approximately £22 (plus VAT).

#### Laboratory Standard 15

Medium range 15in speaker employing patented differential wave impedance cone. Resin-impregnated paper cone with central metallic ellipse. Foam plastic surround. 2in diameter copper voice coil. vci: 15 ohms. Cast aluminium chassis. Gap flux: 15,000 gauss. HC: 20W RMS. FR: 20Hz-12kHz. Bass resonance: 18-25Hz. Price: approximately £28 (plus VAT).

#### Group 25

12in cone speaker with heavy duty suspension for electronic music, guitars, etc. HC: 25W RMS. vci: 3, 8 or 15 ohms. Bass resonance: 55Hz. FR: 30Hz-13kHz. Gap flux: 12,000 gauss. Voice coil: 1½in. Depth: 6in. Weight: 5lb. Price: approximately £7 (plus VAT).

#### Group 35

12in cone speaker with heavy duty suspension forelectronic music, guitars, etc. HC: 35W RMS. vci: 3, 8 or 15 ohms. Bass resonance: 55Hz. FR: 55Hz-13kHz. Gap flux: 14,000 gauss. Voice coil: 1½in. Depth: 6½in. Weight: 6lb. Price: approximately £9 (plus VAT).

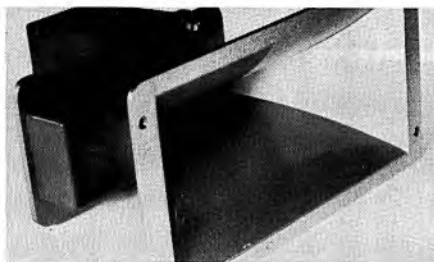
#### Group 50

15in cone speaker with heavy duty suspension forelectronic music, guitars, etc. HC: 50W RMS. vci: 8 or 15 ohms. Bass resonance: 45Hz. FR: 30Hz-13kHz. Gap flux: 17,000 gauss. Voice coil: 2in. Depth: 8in. Weight: 15lb. Price: approximately £19 (plus VAT).

★ Indicates entry is illustrated



Celestion PS8TC



Decca DK30 Ribbon



Decca London Ribbon Speaker

## ■ CELESTION

Rola-Celestion Ltd, Ditton Works,  
Foxhall Road, Ipswich, Suffolk, IP3 8JP.  
Tel: Ipswich 73131.

### HF1300 Mk 2

High frequency 3in tweeter. vci: 15 ohms at 10kHz. HC: 5W RMS. Suitable for use with systems up to 20W. FR: 2kHz-15kHz. Rec crossover: 3kHz. Styled with flange to give easy and accurate mounting. Phase correction plate for improved polar response. Self-aligning diaphragm. Contoured pole piece. Damped acoustic cavity to reduce fundamental diaphragm resonance. High flux magnet. Price: £7.14 (plus VAT).

### PS8TC ★

8in twin-cone unit. Designed for the home constructor. Impedance: 15 ohms. Resonance: 75Hz. 1in voice coil. Paper cone. Copper voice coil. Gap flux: 10,000 gauss. Total flux: 38,500 maxwells. HC: 6W. FR: 50Hz-12.5kHz. Price: £2.47 (plus VAT).

### PS12TC

Full-range twin cone unit. 12in diameter.  $1\frac{3}{4}$ in voice coil. Impedance: 4-8 ohms or 15 ohms. Gap flux: 11,500 gauss. Total flux: 128,000 maxwells. HC: 20W RMS. FR: 30Hz-12kHz. Price: £10.50 (plus VAT).

### G12M

Heavy duty 12in unit for electronic musical

instruments. HC: 25W RMS. FR: 40Hz-8kHz. Impedance: 8 or 15 ohms. Price: £12.95 (plus VAT).

### G12H

Heavy duty 12in unit for electronic musical instruments. HC: 30W RMS. FR: 40Hz-8kHz. Impedance: 8 or 15 ohms. Price: £15.75 (plus VAT).

### G15C

Heavy duty 15in unit for electronic musical instruments. HC: 50W RMS. FR: 30Hz-8kHz. Impedance: 8 or 15 ohms. Price: £26 (plus VAT).

### G18C

Heavy duty 18in unit for electronic musical instruments. HC: 100W RMS. FR: 25Hz-5kHz. Impedance: 8 or 15 ohms. Price: £34 (plus VAT).

## ■ DECCA

Decca Special Products,  
Ingate Place, Queenstown Road, London,  
SW8 3NT. Tel: 01-622 6677.

### DK30 Ribbon ★

Horn-loaded high frequency ribbon speaker. Size:  $6\frac{1}{2} \times 3\frac{1}{2} \times 2$ in. Aluminium ribbon element. Impedance: 8 ohms constant. HC: 30W maximum. FR: 2.5kHz-25kHz. rcf 2-5kHz. Price: £15.75 (plus £1.57 VAT).

### London Ribbon ★

Horn-loaded high frequency ribbon speaker.

Size:  $9\frac{1}{2} \times 4\frac{1}{2} \times 7\frac{1}{2}$  in. Aluminium ribbon element. Impedance: 8 ohms constant. HC: 30W RMS maximum. FR: 1kHz-25kHz. Rec cross-over: 1kHz. Price: £25 (plus £2.50 VAT).

#### Decca Acoustic lens

Device for obtaining optimum dispersion of higher audio frequencies produced by Decca Mk II ribbon speaker or the Decca DK30 ribbon speaker. Price: £3 (plus 30p VAT).

### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU.

Tel: 01-903 0144.

#### CT5 Cone Tweeter

Diameter 3in approximately. HC: 5W. Rec crossover 3kHz. Price: £1.26 (plus VAT).

#### CT10 Horn Tweeter ★

$3\frac{1}{4}$ in aluminium cone and surround. Voice coil: 1in (aluminium). vci: 8 ohms. HC: 10W. FR: 1.5-18kHz. rcf 3kHz. Price: £2.52 (plus VAT).

#### FR4

High-compliance full-range 4in unit. FR: 40Hz-16kHz. Bass resonance 60-70Hz. HC: 5W RMS. Flux density: over 10,000 gauss. vci: 8 ohms. Baffle opening:  $3\frac{1}{2}$ in. Depth: 2in. Price: £4.40 (plus VAT).

#### FR65

High-compliance full-range  $6\frac{1}{2}$ in unit. FR: 30Hz-18kHz. HC: 10W. Flux density: over 11,000 gauss. vci: 8 ohms. Baffle opening:  $5\frac{3}{8}$ in. Depth:  $2\frac{1}{2}$ in. Price: £6.10 (plus VAT).

#### FR8

High-compliance full-range 8in unit. FR: 30Hz-20kHz. Bass resonance 30-50Hz. HC: 15W RMS. Flux density: over 12,000 gauss. vci: 8 ohms. Baffle opening:  $6\frac{1}{4}$ in. Depth:  $3\frac{3}{8}$ in. Price: £8 (plus VAT).

#### HT15

High Frequency horn unit. FR: 2kHz-18kHz. vci: 16 ohms. HC: 15W music. rcf 3kHz. Flux density: 13,000 gauss. Baffle hole required  $2\frac{1}{8}$ in. Price: £3.68 (plus VAT).

#### HT21

Horn tweeter using centre stabiliser to improve efficiency and loading. FR: 2-20kHz. Crossover: 3kHz. Impedance: 8 ohms. Flux density: 14,000 gauss. HC: 20W. Price: £4.41 (plus VAT).

#### DT33

Heavy duty horn tweeter. FR: 2-18kHz. Crossover: 3kHz. Impedance: 8 ohms. Flux density: 14,000 gauss. HC: 30W. Front mounted dome to give wide listening angle. Price: £5.46 (plus VAT).

#### FF23 ★

Full-range elliptical speaker.  $9 \times 6$ in. Paper cone. Plastic surround. Copper voice coil. Impedance:

8 ohms. Total flux: 11,500 gauss. HC: 15W RMS. FR: 36Hz-16kHz. Price: £8.30 (plus VAT).

#### FF24 ★

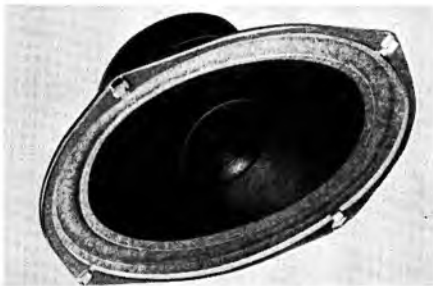
Dome mid-range unit. 2in diameter. Treated fabric dome. Fabric sprung surround. Aluminium voice coil. Impedance: 8 ohms. Total flux: 10,000 gauss. HC: 20W RMS. FR: 400Hz-9kHz. Crossover: 1kHz and 5kHz. Price: £9.03 (plus VAT).

#### FF25 ★

Dome mid-range unit.  $1\frac{1}{2}$ in diameter. Plastic dome. Aluminium voice coil. Impedance: 8 ohms. Total flux: 9200 gauss. HC: 30W RMS. FR: 700Hz-5kHz. Crossover: 1kHz and 5kHz. Price: £7.98 (plus VAT).



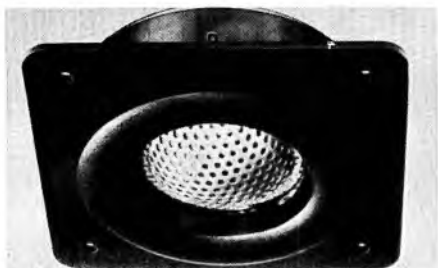
Eagle CT10 horn tweeter



Eagle FF23



Eagle FF24



Eagle FF25



Eagle FF26



Eagle FF28



Goodmans Twin Axiom 8

**FF26 ★**

Cone mid-range unit. 5½in diameter. Paper cone. Treated fabric surround. Aluminium voice coil. Impedance: 8 ohms. Total flux: 10,300 gauss. HC: 20W RMS. FR: 300Hz-5kHz. Crossover: 1kHz and 5kHz. Price: £5.25 (plus VAT).

**FF28 ★**

Horn tweeter. Plastic diaphragm. Aluminium voice coil. Impedance: 8 ohms. Total flux: 10,000 gauss. HC: 15W music. FR: 3kHz-20kHz. Crossover: 3kHz. Price: £10.08 (plus VAT).

**■ ELAC**

Electro Acoustic Industries Ltd, Stamford Works, Broad Lane, Tottenham, London, N15. Tel: 01-808 0505.

Manufacturers of hi-fi speaker units and enclosures. No product information or prices obtainable as this edition of the Year Book closed for press.

**■ EMI SOUND & VISION**

EMI Pathé Division, 252 Blyth Road, Hayes, Middlesex, UB3 1HW.

Tel: 01-573 3888. Telex: 22417.

**Enthusiast's Range**

A comprehensive range of speaker chassis covering all requirements from bass drivers, through mid-range units to HF tweeters. Fully illustrated literature, specification data and prices on request.

**■ FANE ACOUSTICS LTD**

Hick Lane, Batley, Yorks. Tel: Batley 6431.

Manufacturers of hi-fi and heavy duty speaker drive units in all sizes and types. Also a range of speaker accessories and crossovers. No product information obtainable as this edition of the Year Book closed for press.

**■ GOODMAN'S LOUDSPEAKERS LTD**

Downley Road, Havant, Hampshire, PO9 2NL.

Tel: Havant 6344. Telex: 86296.

**Twin Axiom 8 ★**

8in full-range twin-cone driver. Paper cone. Rubber surround. Voice coil: 1in diameter copper wound. Impedance: 8 or 15 ohms. Gap flux: 13,500 gauss. Total flux: 53,000 maxwells. HC: 15W (DIN). FR: 40Hz-18kHz. Price: £7.80 (plus VAT).

**Twin Axiom 10**

Full-range 10in unit. Paper cone. Latex coated paper surround. Voice coil: 1in diameter (copper). Impedance: 8 or 15 ohms. Gap flux: 13,500 gauss. Total flux: 53,000 maxwells. HC: 10W

RMS. FR: 40Hz-18kHz. Price: £8.61 (plus VAT).

**Axent 100 ★**

Domed diaphragm high-frequency direct radiator with built-in filter network. 1in diameter cone. Plastic cone. Voice coil: 1in diameter copper wound. Impedance: 8 ohms. HC: for use in systems rated at not more than 30W. FR: typically 2kHz-22kHz. Crossover: cut-off of 12dB/octave from 3kHz down. Price: £6.90 (plus VAT).

**Axiom 401**

12in full-range twin-cone driver. Paper cone. Plastic surround. Voice coil: 1½in diameter

copper wound. Impedance: 8 or 15 ohms Gap flux: 15,500 gauss. Total flux: 179,000 maxwells FR: 30Hz-11kHz. HC: 40W (DIN) Price: £17.68 (plus VAT).

**Audiom 100**

12in bass driver. Paper cone. Plastic surround. Voice coil: 1½in diameter, copper wound. Impedance: 8 or 15 ohms. Gap flux: 10,000 gauss. Total flux: 80,000 maxwells HC: 30W (DIN). FR: 35Hz-3kHz. Crossover: 3000Hz, recommended for use with Axent 100 Price: £12 (plus VAT).

**Audiom 8P**

8in heavy duty. HC: 15W. Impedance: 8 or 15 ohms. Price: £4.70 (plus VAT).

**Audiom 10P**

10in heavy duty. HC: 15W. Impedance: 8 or 15 ohms. Price: £5.11 (plus VAT).

**Audiom 12P**

12in heavy duty. HC: 50W. Impedance: 8 or 15 ohms. Price: £13 (plus VAT).

**Audiom 15P**

15in heavy duty HC: 50W. Impedance: 8 or 15 ohms. Price: £21 (plus VAT).

**Audiom 18P**

18in. Voice coil diameter: 3in. vci: 8 or 15 ohms. HC: 100W. Fundamental resonance: 45Hz. Flux density: 13,500 gauss. Baffle hole diameter: 16¼in. Depth: 8½in. Weight: 26lb. Recommended sealed enclosure (per speaker): 7000 cu in. Price: £35.70 (plus VAT).

**Audiom 12P-G**

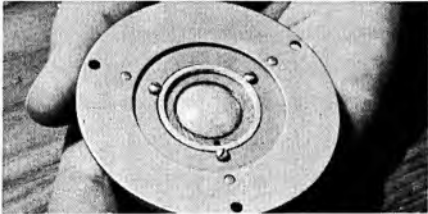
12in heavy duty. HC: 50W. Impedance: 8 or 15 ohms. Price: to be announced

**Audiom 12P-D**

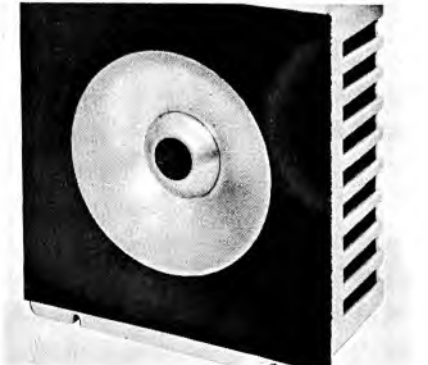
12in heavy duty. HC: 50W. Impedance: 8 or 15 ohms. Price: to be announced



Goodman's Axent 100



ITT 4001 HF unit



Jordan-Watts speaker drive module

**ITT-SIC**

ITT Component Group Europe, Standard Telephones & Cables Ltd, Electro-Mechanical Product Division, West Road, Harlow, Essex Tel: Harlow 26811.

**Type 4001G, High Frequency Unit ★**

High frequency pressure unit FR: 6kHz-20kHz. Substantially omni-directional. vci: 15 ohms. Flux density: 14,000 gauss. Size: approximately 2½ × 1in. Price on request.

**JORDAN-WATTS LTD**

Benlow Works, Silverdale Road, Hayes, Middlesex, UB3 3BW. Tel: 01-573 6928.

**Jordan-Watts Module Mk 11 ★**

6in square frame. Aluminium diaphragm with plastic surround. Voice coil: 1½in. Ceramic magnet vci: 4, 8 or 16 ohms HC: 12W. FR: 25Hz-20kHz. Price: £14.25 (including VAT).



KEF B139



KEF T27



Keith Monks Hypertone

## ■ KEF ELECTRONICS LTD

Tovil, Maidstone, Kent.

Tel: Maidstone 57258. Cables: KEF, Maidstone.

### B139 ★

13 × 9½ × 3in. 10lb. HC: 30W. Resonance: 20Hz. Impedance: 8 ohms. FR: 20-1000Hz. Price: £12.50 (plus VAT).

### B200

8¾ dia × 4in. 3¾lb. HC: 25W. Resonance: 25Hz. Impedance: 8 ohms. FR: 25-3500Hz. Price: £7.50 (plus VAT).

### B110

5½ in dia × 3¾ in. 3.6lb. HC: 15W. Resonance: 30Hz. Impedance: 8 ohms. FR: 30-5000Hz. Price: £6.50 (plus VAT).

### T15

3¾ in dia × 1¾ in. 2lb. HC: 6W. Resonance: 550Hz. Impedance: 8 ohms. FR: 800Hz-20kHz. Price: £6 (plus VAT).

### T27 ★

4¼ in dia × 1¾ in. 1.4lb. HC: 6W. Resonance: 900 Hz. Impedance: 8 ohms. FR: 3-30kHz. Price: £5 (plus VAT).

See also entry in Constructional Kits section and Speaker Accessories section.

## ■ LOWTHER ACOUSTICS LTD

Lowther House, St Mark's Road, Bromley, Kent, BR2 9HQ.

Tel: 01-460 5225. Cables: Lowther, Bromley.

### P.M.2 Mk I ★

6in. Selected paper cone. Roll foam rubber surround. Voice coil: 39mm. Gap flux: 21,000 lines per sq cm. Total flux: 281,000 maxwells. HC: 6W; 20W programme material. vci: 15 ohms. FR: 30Hz-20kHz. Price: £40 (plus VAT).

### P.M.2 Mk II

6in. Selected paper cone. Roll foam rubber surround. Voice coil: 39mm. Gap flux: 23,000 gauss. Total flux: 350,000 maxwells. HC: 6W; 20W programme material. vci: 15 ohms. FR: 25Hz-22kHz. Price: £55 (plus VAT).

### P.M.4

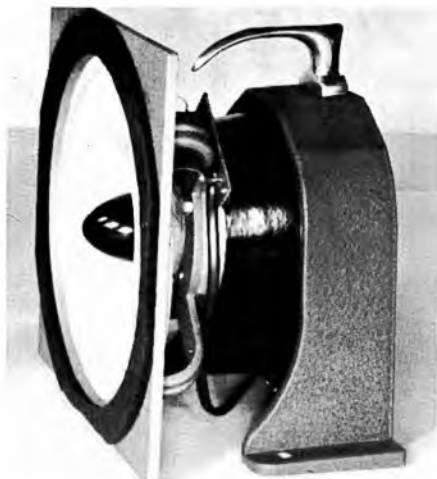
6in. Selected paper cone. Roll foam rubber surround. Voice coil: 37mm. Gap flux: 24,000 gauss. Total flux: 385,000 maxwells. HC: 6W; 20W programme material. vci: 16 ohms. FR: 25Hz-24kHz. Price: £65 (plus VAT).

### P.M.6

6in. Selected paper cone. Roll foam rubber surround. Voice coil: 39mm. Gap flux: 17,500 gauss. Total flux: 196,000 maxwells. HC: 6W; 20W programme material. vci: 16 ohms. FR: 30Hz-20kHz. Price: £24 (plus VAT).

### P.M.6 Mk I

P.M.6 magnet assembly with a new diaphragm



Lowther PM2 Mk 1



Lowther PM7 Drive Unit

assembly: Lowther Special Silver speech coil. roll surround and back centring providing an improved performance. P.M.6 will still be available as a replacement unit. Price: £26 (plus VAT).

#### **P.M.7 ★**

6in. Selected paper cone. Roll foam rubber surround. Voice coil: 39mm. Gap flux: 19,650 gauss. Total flux: 250,000 maxwells. HC: 6W; 20W programme material. vci: 16 ohms. FR: 30Hz-20kHz. Price: £36 (plus VAT).

Full stabiliser for any of Lowther drive units. Price: £2.50 (plus VAT).

#### **■ KEITH MONKS (AUDIO) LTD**

26-30 Reading Road South, Fleet,  
near Aldershot, Hants.

Tel: Fleet (02514) 7316 and 3566.

#### **Hypertone ★**

Titanium cone speaker module. 6in titanium piston with cantilever suspension. 1½in dia voice coil. Total flux: 160,000 maxwells. Mean hemispherical power response substantially level to 15kHz. vci: 8 or 15 ohms at 400Hz. HC: 15W RMS at and above the lower system limit (dependent upon loading conditions), 30W music rating, i.e. under normal use. Price: £19.50 (plus £1.95 VAT).

#### **■ PEERLESS**

Distributor: P. F. & A. R. Helme Ltd,  
Summerbridge, Harrogate. HG3 4DR, Yorks.  
Tel: Darley 279.

All units are 8 ohms impedance, but some tweeters have 16 ohm alternatives.

#### **MT 20 HFC**

Tweeter, 2 × 2in. HC: 5W. FR: 2.5-18kHz. Price: £1.70 (plus VAT).

#### **MT 225 HFC**

Tweeter, 2¼ × 2¼in. vci: 16 ohms. HC: 5W. FR: 1.5-20kHz. Price: £1.80 (plus VAT).

#### **MT 25 HFC**

Tweeter, 2½ × 2½in. vci: 16 ohms. HC: 5W. FR: 1.5-18kHz. Price: £1.80 (plus VAT).

#### **B 65 WG**

Woofer, 6½in. HC: 10W. Maxwells: 54,000. Resonant frequency: 50Hz. Price: £5 (plus VAT).

#### **P 825 W**

Woofer, 8in. HC: 12W. Maxwells: 90,000. Resonant frequency: 45Hz. Price: £6.20 (plus VAT).

#### **L 825 WG**

Woofer, 8in. HC: 50W. Maxwells: 64,000. Resonant frequency: 25Hz. Price: £6.80 (plus VAT).

#### **L 100 WG**

Woofer, 10in. HC: 50W. Maxwells: 64,000. Resonant frequency: 20Hz. Price: £8 (plus VAT).

#### **CM 120 W**

Woofer, 12in. HC: 12W. Maxwells: 90,000. Resonant frequency: 35Hz. Price: £7.60 (plus VAT).

#### **D 120 WL(Sp)**

Woofer, 12in. Hc: 40W. Maxwells: 115,000. Resonant frequency: 25Hz. Price: £12.70 (plus VAT).



★ Indicates entry is illustrated

### **D 150 WL(Sp)**

Woofers, 15in. HC: 50W. Maxwells: 115,000. Resonant frequency: 20Hz. Price: £25 (plus VAT).

### **GT 50 MRC**

Mid-range unit. 5in dia. HC: 6W. FR: 800Hz-7kHz. Maxwells: 21,500. Price: £2.50 (plus VAT).

### **G 50 MRC**

Mid-range unit. 5in dia. HC: 10W. FR: 750Hz-6kHz. Maxwells: 42,000. Price: £3.70 (plus VAT).

### **E.396 M**

Full-range 6 × 4in unit. Price: £4.40 (plus VAT).

### **B 65 FM**

Full-range. 6½in. HC: 6W. FR: 35Hz-15kHz. Maxwells: 57,000. Price: £4.10 (plus VAT).

### **P 825 FM**

Full-range. 8¼in. HC: 10W. FR: 30Hz-16kHz. Maxwells: 90,000. Price: £7.10 (plus VAT).

### **CM 120 FM**

Full-range. 12in. HC: 12W. FR: 30Hz-14kHz. Maxwells: 57,000. Price: £5.80 (plus VAT).

### **D 120 FM**

Full range. 12in. HC: 12W. FR: 30Hz-14kHz. Maxwells: 115,000. Price: £11.30 (plus VAT).

### **Coax 825-20**

Full-range. 8¼in. HC: 12W. FR: 30Hz-18kHz. Maxwells: woofer 90,000; tweeter 12,000. Price: £12.40 (plus VAT).

### **Coax 120-20-20**

Full-range 12in unit. HC: 12W RMS. FR: 25Hz-18kHz. Maxwells: (bass unit) 90,000; (two tweeters) 120,000 each. Price: £17 (plus VAT).

## ■ RADFORD ACOUSTICS LTD

Ashton Vale Road, Bristol, BS3 2HZ.  
Tel: Bristol 662301.

### **TD 3/2**

Dome pressure-type high frequency unit. 1in diameter. Impedance: 4 or 8 ohms. HC: up to 50W system with correct network. FR: 4kHz-20kHz. Crossover: 4.2kHz. Price: £6.25 (plus VAT).

### **MD 9/1**

Open back mid-range unit. 3in. diameter. Paper cone. Plastic surround. Copper voice coil. Impedance: 8 ohms. HC: up to 50W system with correct network. FR: 500Hz-5kHz. Crossover: 500Hz and 4.2kHz. Price: £8.50 (plus VAT).

### **MD 9/2**

Closed back mid-range unit. 3in diameter. Paper cone. Plastic surround. Copper voice coil. Impedance: 8 ohms. HC: up to 50W system with

correct network. FR: 500Hz-5kHz. Crossover: 500Hz and 4.2kHz. Price: £8.50 (plus VAT).

### **MD 9/3**

Closed back mid-range unit with high flux density magnet. 3in diameter. Paper cone. Plastic surround. Copper voice coil. Impedance: 4 ohms. HC: up to 50W system with correct network. FR: 500Hz-5kHz. Crossover: 500Hz and 4.2kHz. Price: £9.50 (plus VAT).

### **BD 25/1**

Bass driver. 12in diameter. Plastic cone and surround. Copper voice coil. Impedance: 4 or 8 ohms. HC: 50W RMS. FR: 20Hz-1kHz. Crossover: 500Hz. Price: £12.50 (plus VAT).

## ■ ROLA-CELESTION

See Celestion.

## ■ STENTORIAN

Whiteley Electrical Radio Co Ltd,  
Victoria Street, Mansfield, Notts, NG18 5RW.  
Tel: Mansfield (0623) 24762.

### **Stentorian HF.812**

8in. Composite (paper and cambric) cone. Cambric surround. Voice coil: 1in. Gap flux: 12,000 gauss. Total flux: 47,400 maxwells. HC: 5W. vci: universal 3, 7.5 and 15 ohms. FR: 50Hz-12kHz. Price: £5.57 (plus VAT).

### **H.F.816**

8in. Composite (paper and cambric) cone. Cambric surround. Voice coil: 1in. Gap flux: 16,000 gauss. Total flux: 63,000 maxwells. HC: 6W. vci: universal 3, 7.5 and 15 ohms. FR: 50Hz-14kHz. Price: £9.16 (plus VAT).

### **H.F.912/67**

9in die cast. Speech coil: aluminium. Pole dia: 1in. Magnet system: 1.2 Webers/m<sup>2</sup>. vci: 15 ohms. HC: 10W. Price: £6.94 (plus VAT).

### **H.F. 1012**

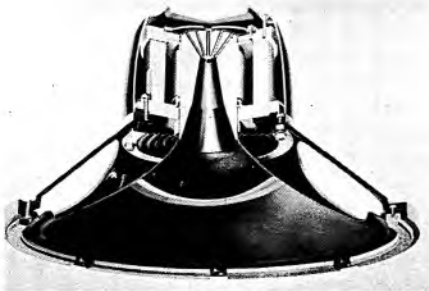
10in. Composite (paper and cambric) cone. Cambric surround. Voice coil: 1in. Gap flux: 12,000 gauss. Total flux: 47,400 maxwells. HC: 10W. vci: universal 3, 7.5 and 15 ohms. FR: 30Hz-14kHz. Price: £6.69 (plus VAT).

### **H.F. 1016**

10in. Composite (paper and cambric) cone. Cambric surround. Voice coil: 1in. Gap flux: 16,000 gauss. Total flux: 63,000 maxwells. HC: 10W. vci: universal 3, 7.5 and 15 ohms. FR: 30Hz-15kHz. Price: £10.68 (plus VAT).

### **H.F. 1214**

12in. Composite (paper and cambric) cone. Cambric surround. Voice coil: 1.5in. Gap flux: 14,000 gauss. Total flux: 106,000 maxwells. HC: 15W. vci: 15 ohms. FR: 25Hz-14kHz. Price: £18.30 (plus VAT).



Tannoy Monitor Gold 12ins



Tannoy Monitor Gold "Twelve"

**H.F. 1214/67**

12in bass loudspeaker. Speech coil: copper. Pole dia: 1½in. Magnet system: 1.4 Weber/m<sup>2</sup>. vci: 15 ohms. Price: £20.25 (plus VAT).

**H.F. 1216**

Composite (paper and cambric) cone. Cambric surround. Voice coil: 1½in. Gap flux: 16,000 gauss. HC: 15W. FR: 20Hz-16kHz. Price: £28.06 (plus VAT).

**T.359**

3½in. Paper cone and surround. Voice coil: 0.635in. Gap flux: 9000 gauss. Total flux: 14,900 maxwells. HC: 15W with crossover. vci: 5 or 15 ohms. FR: 3-17kHz. rcf 3kHz. Price: £2.34 (plus VAT).

**T812/67**

8in middle and high frequency loudspeaker. Speech coil: aluminium. Pole dia: 1in. Magnet system: 1.2 Webers/m<sup>2</sup>. vci: 15 ohms. ¼ section crossover unit 1kHz. Price: £6.64 (plus VAT).

**■ TANNOY PRODUCTS LTD**

Norwood Road, West Norwood, London, SE27 9AB. Tel: 01-670 1131. Cables: Tannoy, London.

**Direct radiator**

12in. Moulded fibre cone. Plastic treated sur-

round. Voice coil: 2in. Gap flux: 14,000 gauss. HC: 15W. vci: 8 ohms. FR: 40Hz-16kHz. Price: £22 plus VAT (to special order).

**Monitor Gold III LZ ★**

12in dual concentric. Moulded fibre cone. Plastic impregnated surround. Gap flux: (LF) 10,000, (HF) 15,000 gauss. HC: 25W. FR: 23Hz-20kHz. recommended crossover (supplied) 1kHz. vci: 8 ohms. Price: £31 (plus VAT).

**Monitor Gold 'Twelve' ★**

12in. Moulded fibre cone. Plastic treated surround. Voice coils: (HF and LF) 2in. Gap flux: (LF) 11,500, (HF) 15,000 gauss. HC: 35W. FR: 25Hz-20kHz. recommended crossover (supplied) 1kHz. Price: £36.50 (plus VAT).

**Monitor Gold 'Fifteen'**

15in. Moulded fibre cone. Plastic treated surround. Voice coils: (HF and LF) 2in. Gap flux: (LF) 13,500, (HF) 18,000 gauss. HC: 50W. FR: 23Hz-20kHz, recommended crossover (supplied) 1kHz. Price: £43.25 (plus VAT).

**■ T.T.C**

Sole distributor: Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288.

**Peak 100**

Heavy-duty full-range speaker unit. 15in nominal diameter. Fibre cone. Voice coil diameter: 2in. Voice coil material: aluminium. Impedances: 8 or 16 ohms. Gap flux: 15,000 lines. HC: 50W RMS (peak 100W). FR: 20Hz-15kHz. Ceramic magnet. Price: £23.76 (including VAT).

**■ VITAVOX LTD**

Westmoreland Road, London. NW9 9RJ. Tel: 01-204 4234. Cables: Vitavox. London.

**Duplex coaxial DU121**

12in paper cone. Plastic treated paper surround. 3in polyester film cone and surround. Voice coil (LF) 1.78in (HF) 0.65in. Gap flux (LF) 16,000 gauss. (HF) 12,000 gauss. Total flux (LF) 180,000 maxwells, (HF) 15,000 maxwells. vci: 15 ohms. FR: 30Hz-15kHz. Replaceable cone. Price on application.

**AK123 Heavy Duty**

12in paper cone. Paper surround. Voice coil 1.78in. Gap flux 16,000 gauss. Total flux 180,000 maxwells. vci: 15 ohms. FR: 50Hz-8kHz. Replaceable cone. Price on application.

**AK124**

12in paper cone. Paper surround. Voice coil 1.78in. Gap flux 16,000 gauss. Total flux 180,000 maxwells. vci: 15 ohms. FR: 30Hz-13kHz. Replaceable cone. Price on application.

### **Cone Kit**

Spare cone kit AK123, DU121, AK124. Price on application.

### **AK154**

15in paper cone. Treated paper surround. Bass resonance 30-35Hz. Voice coil 2.25in. Gap flux 14,000 gauss. Total flux 260,000 maxwells. HC: 25W nominal. FR: 30Hz-5kHz nominal. (HC and FR determined by enclosure.) vci: 15 ohms. Replaceable cone. Price on application.

### **AK155**

Driver for bass horn of dual channel system. 15in paper cone, paper surround. Bass resonance 40-50Hz. Voice coil 2½in. Gap flux 14,000 gauss. Total flux 260,000 maxwells. DC resistance of voice coil 5.5-6.5 ohms. HC and FR determined by associated horn characteristics. Replaceable cone. Price on application.

### **Cone Kit**

Spare cone kit for AK154 and AK155. Price on application.

### **AK156**

High-power high-efficiency bass driver. Bass resonance 30-35Hz. Voice coil 2½in. Gap flux 15,000 gauss. Total flux 260,000 maxwells. vci: 15 ohms. HC: 100W music. Replaceable cone. Price on application.

### **AK157**

High-power high-efficiency bass driver. Specification as for AK156 except vci: 7.5 ohms. Price on application.

### **S3 HF pressure unit**

High frequency pressure unit. 3in voice coil. Copper wound voice coil. Impedance: 15 ohms. Gap flux 18,000 gauss. Total flux 250,000 maxwells. HC: 70W RMS above 500Hz. FR: 200 Hz-16kHz. Recommended crossover: 500-1000 Hz. Price on application.

### **High frequency horn**

Designed for use with S2, S3 and GP1 pressure units. Cast in aluminium alloy. Non-resonant. Cut-off frequency 300Hz. Price on application.

### **GP1 pressure unit**

Diaphragm formed from lightweight aluminium alloy. Voice coil 1.96in diameter. Gap flux 15,000 gauss. Total flux 80,000 maxwells. HC: above 200Hz 20W. Nominal FR: 200Hz-14kHz. vci: 15 ohms. Price on application.

### **GP2 pressure unit**

Compact and light HF pressure unit. Voice coil 1.5in diameter. Gap flux 14,000 gauss. Total flux 40,000 maxwells. HC: above 200Hz 15W. Nominal FR: 300Hz-10kHz. vci: 15 ohms. Price on application.

### **GP2T pressure unit**

Diaphragm formed from lightweight aluminium alloy. Voice coil 1.5in diameter. Gap flux 14,000

gauss. Total flux 40,000 maxwells. HC: above 200Hz up to 12W from built-in 100V line transformer. Nominal FR: 300Hz-10kHz. Price on application.

### **1kHz horn**

High frequency horn designed for use with the GP2 Series and GP1 pressure units. With directional swivel and simple two-point mounting. Price on application.

## ■ WHARFEDALE

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

### **Bronze 8/RS/DD**

Full range 8in unit. Paper cone with double diaphragm. Fabric roll surround. Voice coil: 1in (aluminium). vci: 8-15 ohms. Gap flux 10,500 gauss. Total flux 41,000 maxwells. HC: 4W RMS. FR: 50Hz-20kHz. Price: £4.44 (including VAT).

### **Super 8/RS/DD**

Full range 8in unit. Paper cone with double diaphragm. Fabric roll surround. Voice coil: 1in (aluminium). vci: 8-15 ohms. Gap flux 14,500 gauss. Total flux 60,000 maxwells. HC: 6W RMS, 12W peak. FR: 40Hz-20kHz. Price: £7.95 (including VAT).

### **Super 10/RS/DD**

Full range 10in unit. Paper cone with double diaphragm. Fabric roll surround. Voice coil: 1in. Gap flux 16,000 gauss. Total flux 85,000 maxwells. HC: 10W RMS. vci: 8-15 ohms. FR: 30Hz-20kHz. Price: £13.11 (including VAT).

## ■ WHITELEY ELECTRICAL RADIO

See Stentorian.

## ■ WOOLLETT AUDIOSTATICS

21 Anerley Station Road, London, SE20 8PY. Tel: 01-778 9003.

### **12in Type 1**

Low resonance 12in dynamic unit. Paper cone with foam surround. HC: 16W RMS. FR: 20 Hz-5kHz. Special unit for use with Woollett electrostatic treble speakers. Price: £14.75 (plus VAT).


### **Type C**

Constant charge push-pull electrostatic. Impedance 16 ohms. HC: 20W RMS. FR: 1-6kHz-20kHz. Integral crossover. Attenuator, mains polariser. Rear sealed for mounting in bass cabinet behind horizontal 9 × 6½in aperture. Price: £24 (plus VAT).



# THE SPEAKER ENGINEERS

KEF Units, Kits and  
Systems specifications  
are all in this book

 KEF ELECTRONICS LTD TOVIL  
MAIDSTONE ME15 6QP ENGLAND  
Registered No702392



# *The Stradivarius of Speakers?*

## **MARTIN**



*When we began  
had but one purpose*

*To this day each speaker system is designed on the most advanced equipment available, and then, like the Stradivarius, hand tuned and calibrated for maximum performance. We believe Martin speakers are unexcelled anywhere in the world.*

*Is Martin the Stradivarius of speakers? Go to your favorite Hi-Fi dealer today and judge for yourself.*

*making Martin Speakers we*

*in mind, to make the finest speaker*

*Acos for sound enjoyment.*



# **COSMOCORD**

Cosmocord Ltd., Eleanor Cross Road, Waltham Cross, Hertfordshire.  
Telephone: Waltham Cross 27331

*Martin speakers are distributed exclusively in the U.K. by Cosmocord.*

# Directory of Speaker Accessories

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ RICHARD ALLAN RADIO LTD

Bradford Road, Gomersal, Cleckheaton, Yorkshire, BD19 4AZ. Tel: Cleckheaton 2442/3. Cables: Acoustics, Bradford.

### CN54 Crossover Unit

Two-way quarter section. Recommended for use with CR5 bass unit and CB4 tweeter. Crossover frequency 5kHz. Impedance: 8 or 15 ohms. Price: £2.20 (plus VAT).

### CN104 Crossover Unit

A two-way half-section parallel network. Crossover frequency: 5kHz. Impedance: 8 or 15 ohms. Price: £3.30 (plus VAT).

### CN1284 Crossover Unit

A three-way crossover with main crossover operating from half-wave parallel network and subsidiary crossover capacity fed. Crossover frequencies: 1100Hz and 5kHz. Impedance: 8 or 15 ohms. Price: £5 (plus VAT).

### CN1584 Crossover Unit

Three-way half-section crossover network. Crossover frequencies: 350Hz and 8kHz. Impedance: 8 or 15 ohms. Price: £6.35 (plus VAT).

## ■ AUDIO PACKS

Audio Packs Ltd, 206-210 Ilderton Road, London, SE15 1NS. Tel: 01-639 7844.

### Sound selector units ★

A range of five units for routing signals to phones, speakers and amplifiers. Four of the units provide for the selection of up to three pairs of stereo headphones or up to three pairs of speakers.

The fifth unit, model HZ793, provides facilities for connecting any three signal sources to any three amplifiers. Particularly suitable for demonstration purposes in showrooms and for comparative tests. Prices on request.

See also entry in Pick up Accessories Section and Tape Recorder Accessories Section.

## ■ BANG & OLUFSEN UK LIMITED

Eastbrook Road, Gloucester, GL4 7DE. Tel: Gloucester 21591.

### Ambio Control Unit

Ambiophonic adaptor for use with most conventional amplifiers to facilitate the use of two side loudspeakers in conjunction with main stereo loudspeakers. Enables greatly enhanced reproduction to be obtained from stereo programme sources. Features 6kHz filter switch to eliminate ambiophonic signals above this frequency. Size: 1.4 × 1.9 × 4.3in. Price: £7.34 (including VAT).

## ■ BLACK KNIGHT RUMBLECURE

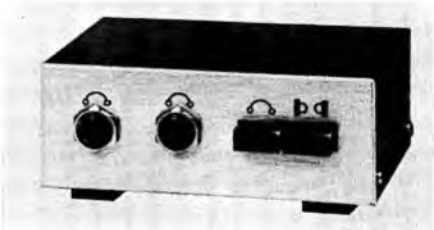
Bank Top, Currier Lane, Ashton-under-Lyne, Lancs. OL6 2TA.

Tel: 061-330 2836 (open 7 days).

Demonstration room at 15, Irving Street, London, WC2.

Specialists in curing rumble due to acoustic feedback through floors and cabinets (Patent 15493/71).

Plinths fitted with Rumblecure equipment available. Details on request. Many standard items



Audio Pack Sound Selector Unit 790—front view



Black Knight acoustic cups on B & W stand



Eagle SM75



Eagle JB3



Eagle FF17

now available and more being added all the time. Quotations on receipt of full details of equipment. Prices from £30 (with kits). Kits not available separately (Patent 28949/69).

### ■ CELESTION

Rola-Celestion Ltd. Ditton Works, Foxhall Road, Ipswich, Suffolk, IP3 8JP. Tel: Ipswich 73131.

#### CO3K crossover

Designed specially for use with Studio 12 and HF1300 Mk 2 units but equally suitable for use with any efficient bass and treble combination. Air-tight terminal assembly with flange mounting. Full half-section filter network. 12dB per octave cut-off at 3kHz. Size:  $3\frac{7}{8}$ in long,  $2\frac{7}{8}$ in diameter of body,  $3\frac{3}{4}$ in diameter of flange. Price: £4.47 (plus VAT).

### ■ DECCA

Decca Special Products. Ingate Place, Queenstown Road, London. SW8 3NT. Tel: 01-622 6677.

#### Acoustic Lens

Device for obtaining optimum dispersion of the higher audio frequencies produced by the Decca Mk II ribbon speaker or the Decca DK30 ribbon speaker. Price: £3 (plus 30p VAT).

#### CO/1/8 Crossover

Crossover network specially designed for use with the DK30 ribbon speaker. Ferrite cored inductors and close tolerance capacitors. Low-

pass section is constant 12dB/octave. high-pass section is variable slope multi-stage network of novel design. Price: £4.40 (plus 44p VAT).

#### CO/1000/8

Crossover network designed for use with London ribbon speaker. Mounted on printed circuit board. Close tolerance carbon polyester capacitors and inductors. Low-pass section is standard constant-impedance 6dB/octave filter. high-pass section attenuates at 12dB/octave. Crossover frequency: 1kHz. Negligible intermodulation distortion. Price: £6.30 (plus 63p VAT).

### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU. Tel: 01-903 0144.

#### CN.23, CN.28 and CN.216

Two-way speaker cross-over networks. Crossover frequency 3kHz. CN.23, 3 ohms; CN.28, 8 ohms; CN.216, 16 ohms. Price: £1.16 (plus VAT).

#### LS.2W

Stereo headphone control unit with provision for two sets of phones. A and B channel switching. Price: £3.80 (plus VAT).

#### JB3 ★

Stereo headphone and speaker switching and attenuation unit. Jack socket for phones. Switch permits phones only, speakers only, or both together. Moulded case with provision for screwing down. Price: £1.79 (plus VAT).

**JB3D**

Similar specification to the JB3 but fitted with two-pin DIN amplifier plugs. Price: £1.93 (plus VAT).

**SN75 ★**

Two-way speaker network. LC crossover plus adjustable high frequency control to determine tweeter loading. Spring-loaded terminals for speaker connections. Impedance: 8 ohms. Crossover: 3kHz. Price: £2.30 (plus VAT).

**FF30**

Three-way speaker network. Comprehensive LC network to split up bass, middle and HF ranges. Mid-range and HF channels incorporate variable attenuators. Spring-loaded colour-coded speaker terminals. Impedance: 8 ohms. Crossover: 1kHz and 5kHz. Price: £5.88 (plus VAT).

**FF17 ★**

Stereo headphone/speaker control centre. Fitted with two stereo headphone jack sockets. Slide switch for selecting speakers or phones. Four slider volume controls adjust levels in both channels on both headphones. Input: suitable for any amplifier up to 50W output. Output: (headphones) 50mW per channel. Size:  $5\frac{7}{8} \times 2\frac{1}{4} \times 3\frac{3}{8}$  in. Price: £7.50 (plus VAT).

**■ FALCON ELECTRONICS**

Components Division,  
33 Station Road, Bexhill-on-Sea, Sussex.  
Tel: Bexhill 1908.

Inductors and capacitors for crossover networks, BAF wadding for inside enclosures, acoustically transparent micro-porous foam and 'L' pad attenuators.

**Inductors**

Wound with self-fluxing, self-bonding wire on high permeability ferrite cores. Low values 1in long, large values 2in long. 25 standard values from 0.2mH to 10mH. Special sizes to order. Average DC resistance: 0.25mH 0.25 ohms, 1.8mH 0.8 ohms, 10mH 1.6 ohms. Price list on request.

**Capacitors**

Plastic cased, fully sealed, non-polarised electrolytics. 16 values from 2µF to 100µF. Size range: 2µF  $\frac{5}{8} \times \frac{1}{2}$  in, 100µF  $1\frac{1}{2} \times \frac{5}{8}$  in. Price list on request.

**BAF Wadding**

In rolls 24in wide and 1in nominal thickness. Cut in multiples of one foot. Price: 40p per linear yard. Enclosures should be lined so that one quarter of the distance between two opposite faces is filled with wadding.

**Long fibre wool**

As per the original specification of Dr Bailey for use in transmission lines, etc.



Howland-West Headphone control Mk III

**Acoustic foam**

Dark grey/black. Thicknesses:  $\frac{1}{8}$  in fine pore,  $\frac{3}{16}$  in medium pore,  $\frac{1}{2}$  in large pore. Prices on request. Negligible attenuation. Any size cut (charged to nearest  $\frac{1}{2}$  sq ft above). Sheet size approximately 7 x 4ft.

**Attenuators**

'L' pad 8 ohm constant impedance attenuators. Gives change in level without affecting response shape. For use with mid-range and HF units. Supplied complete with knob and recessed flange. Price list on request.

**Potentiometers**

50-ohm wirewound. 2-3W rating. Suitable for attenuating tweeters in systems up to 15W. Price list on request.

**Speaker matching transformers**

15W auto transformers matching 4-8-16 ohms any way. Power response: 30Hz-20kHz. Price list on request.

**Grille fabrics**

Range of six colours selected from top European designs for appearance and acoustic transparency. Prices and samples, please send 5p stamp.

Full price list of Falcon Electronics components available on request with 3p stamp.

**■ FANE ACOUSTICS LTD**

Hick Lane, Batley, Yorks. Tel: Batley 6421.

Manufacturers of hi-fi and heavy-duty speaker drive units in all sizes and types. Also a range of speaker accessories and crossovers. No product information obtainable as this edition of the Year Book closed for press.

**■ GOODMAN'S LOUDSPEAKERS LTD**

Downley Road, Havant, Hampshire.  
PO9 2NL. Tel: Havant 6344. Telex: 86296.

**XO/950 Crossover Unit**

A two-way half-section, crossover network.



★ Indicates entry is illustrated



Howland-West Multi-control Mk II



Howland-West Remote control

operating at 950Hz. All terminations 15 ohms. Price: £7.77 (plus VAT).

**Attenuator**  
12dB, eight steps. Price: £3.73 (plus VAT).

**ARU.172**  
For use with 12in range. Price: £4.50 (plus VAT).

■ **HOWLAND-WEST LTD**  
3.5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293/4/5.

**Headphone control Mk III ★**  
For operating two sets of stereo headphones simultaneously from the same source. Independent volume controls for each earpiece (four in all). On/off switch and jack sockets on front panel. Amplifier and speaker connections to colour coded terminals at rear. Teak finish. Size:  $6 \times 2\frac{7}{8} \times 3\frac{1}{8}$  in. Weight: 18oz. Price: £7.81 (including VAT).

**Tri-channel control**  
For use with three sets of speakers. Switch allows each pair of speakers to be selected independently, or all together. In the position where all three sets of speakers are on, the Tri-channel control permits the volume of each speaker to be adjusted independently. Finish: teak. Size:  $12 \times 3\frac{1}{4} \times 3\frac{1}{4}$  in. Weight: 34oz. Price: £11.82 (including VAT).

**Multi-control Mk II ★**  
Versatile control unit which caters for almost all domestic listening requirements. Two pairs of

stereo speakers may be connected, or one stereo pair and two independent single speakers. Independent volume controls on all four speakers. Two stereo phone sockets are fitted and when switched into circuit speakers are muted. Finish: teak. Size:  $12 \times 3\frac{1}{4} \times 3\frac{1}{8}$  in. Weight: 34oz. Price: £10.72 (including VAT).

**Remote Control ★**  
Supplied with 5m of cable. Enables volume of speakers to be controlled individually at this distance from the amplifier. Will also accept headphones which are also individually controlled. Ideal for balancing speakers from central position between speakers. Price: £7.42 (including VAT).

■ **KEF ELECTRONICS LTD**  
Tovil, Maidstone, Kent.  
Tel: Maidstone 57258. Cables: KEF, Maidstone.

**Crossover networks**  
DN8 (NO6305) combines B139 and T15. Price: £1.75. DN12 (SP1004) combines B139, B110 and T27. Price: £4.50. DN13 (SP1017) combines B110 and T27. Price: £2.25. DN13 (SP1015) combines B200 and T27. Price: £2.80. All prices shown exclude VAT which must be added.

See Constructional Kits section for details of KEF crossover inductors, capacitors, terminals and BAF wadding.

■ **KOSS**  
Tape Music Distributors Ltd.  
114 Ashley Road, St Albans, Herts. AL1 5JR.  
Tel: St Albans 64337. Telex: 28474.

**T10A ★**  
Chairside listening station. Comprises control box with separate volume controls for two sets of stereo headphones, plus on/off switch for speakers. Wires directly into amplifier. Seven-core flat connecting cable suitable for under-carpet installation. Tinted plastic cover. Price: £9.50 (plus VAT).

**T3**  
Speaker/headphone switchbox. Incorporates jack socket for stereo headphones, connections for speakers and terminals for connection to stereo amplifier. Switch selects speakers on or off. Price: £3.50 (plus VAT).

**T-5D**  
Remote control station suitable for running two pairs of stereo headphones. Speaker on-off switch incorporated, but headphones are always on. The volume of headphones plugged into left-hand jack individually controlled (other set of headphones controlled by volume knob on amplifier). Fitted DIN sockets for amplifier and



Koss Accessories T10A and T4A

speaker connections. Matches any amplifier with 4, 8 or 16 ohm output. Finish: black with simulated walnut top. Connecting cable seven-core colour-coded 3ft long. Size:  $3\frac{1}{8} \times 3\frac{1}{8} \times 2\frac{3}{8}$  in. Weight:  $10\frac{1}{2}$  oz. Price: £5.50 (plus VAT).

See Headphone Section for details of full range of Koss headphones and accessories.

#### ■ MAC

Modular Audio Components Ltd,  
Canterbury Road, Nottingham, NG8 1PQ.  
Tel: 79797.

#### AAU-2

Audio adaptor unit for connecting stereo headphones, plus two pairs of speakers. 3-way switching provides various combinations. Provision for fitting attenuator resistors internally. 4-ft connecting cable to amplifier. Size:  $3 \times 3 \times 3$  in. Finish: jaguar silver. Price: £4.40 (plus VAT).

#### AAU-2S

Audio adaptor unit. Connects two pairs of speakers to either of two amplifiers selected by toggle switch. 3-way switching gives combination of speakers. Two 4-ft connecting cables. Size:  $3 \times 3 \times 3$  in. January silver finish. Price: £5.52 (plus VAT).

#### AAU-2X

De-luxe version of AAU-2 housed in solid teak case with pre-set gain controls for earpiece,

plus resistive matching networks. Price: £6.88 (plus VAT).

#### AAU-VC

Audio adaptor unit for attenuating extension speakers. Attenuation: Total  $-20$ dB in 2dB steps. Off position. Headphone jack. 20W per channel. F.R: 20Hz-20kHz  $\pm 2$ dB. Channel balance within 0.1dB. Separation:  $-85$ dB. Negligible damping loss. Teak case. Size:  $3\frac{1}{4} \times 3\frac{1}{4} \times 3\frac{1}{2}$  in. Mono and stereo versions available. Prices on application.

Various other combinations of audio adaptor units are offered covering connecting and switching TV sound, headphones, etc. Full details on request.

All MAC AAU units are available in solid teak case at an additional cost of £1.32 (plus VAT).

#### ■ MICRO

Howland-West Ltd, 3-5 Eden Grove, London,  
N7 8EQ. Tel: 01-609 0293.

#### MSB-1

Micro shock absorber. Microsorber employs air damped high efficiency materials to eliminate acoustic feedback from speaker enclosures to record playing deck (fitted under record deck). Adjustable for height to equalise for unbalanced weight of turntable. Price: (set of four) £4.95 (plus VAT).

#### ■ QAS

Quality Audio Supplies, Wollaton Road,  
Beeston, Nottingham, NG9 2PB.  
Tel: 0602 252222 and 265141.

Wide range of audio accessories including phono plugs, DIN plugs and sockets, 4mm and wander plugs, couplers, screw terminals, slider switches, connecting leads with all types of terminations, audio switching units, record cleaner and remote control stations. All items individually blister-packed for over-the-counter or self-service sales.

#### Audio Switch

For use with two sets of stereo speakers and two sets of headphones. Pushbuttons provide any combination of speakers and phones. Headphones attenuated by 100 ohms. Connections by DIN and jack sockets. Size:  $5\frac{1}{2} \times 1\frac{1}{4} \times 2\frac{3}{4}$  in. Finish: brushed aluminium. Price: £4.75 (plus VAT).

#### De Luxe Audio Switch

Provides for two sets of headphones and two sets of stereo speakers. Pushbutton switches permit any combination to be used. Monitor socket for adjusting level of remote speakers.

★ Indicates entry is illustrated

Level controls for left and right channels. Headphones attenuated at 100 ohms. Wirewound potentiometers handle up to 35W. Size:  $7\frac{1}{2} \times 1\frac{1}{2} \times 2\frac{3}{4}$  in. Finish: brushed aluminium. Fixing brackets provided. Price: £8.75 (plus VAT).

#### Phone Switch

Designed to cater for two sets of stereo headphones and one set of speakers. Pushbutton switches provide any combination. Headphones attenuated by 100 ohms. Connections by DIN and jack sockets. Size:  $5\frac{1}{2} \times 1\frac{1}{4} \times 2\frac{3}{4}$  in. Finish: brushed aluminium. Fixing brackets included. Price: £4.75 (plus VAT).

#### Input Selector

Designed to permit hi-fi enthusiasts to switch instantly between three different inputs and three different amplifiers. Also suitable for retailers carrying out demonstrations. Units can be stacked or lined up. DIN connections and pushbutton switches. Size:  $5\frac{1}{2} \times 1\frac{1}{4} \times 2\frac{3}{4}$  in. Finish: brushed aluminium. Fixing brackets included. Price: £6.75 (plus VAT).

#### Output Selector

For connecting three sets of stereo speakers from one source. Suitable for retailers showrooms for comparison of speakers. Also for supplying three sets of speakers in different rooms in the home. Units can be stacked to provide additional facilities. Pushbutton switches. Size:  $5\frac{1}{2} \times 1\frac{1}{4} \times 2\frac{3}{4}$  in. Finish: brushed aluminium. Fixing brackets included. Price: £6.75 (plus VAT).

#### Remote control

Permits listener to balance stereo speakers from listening position. Also provides facilities for stereo headphones. Approximately 16ft cable provided. Colour-coded connection box. Padded cabinet. Two wirewound potentiometers. HC: 35W. Price: £6.75 (plus VAT).

### ■ RADFORD ACOUSTICS LTD

Ashton Vale Road, Bristol, BS3 2HZ.  
Tel: Bristol 662301.

#### FN11

Three-way 17-element crossover network. Impedance: 8 ohms. HC: 100W. FR: 25Hz-25kHz. Crossover frequencies: 500Hz and 4.2 kHz. Price: £9.50 (plus VAT).

### ■ ROLA-CELESTION

See Celestion.

### ■ STENTORIAN

Whiteley Electrical Radio Co Ltd,  
Victoria Street, Mansfield, Notts, NG18 5RW.  
Tel: Mansfield (0623) 24762.

### CX500 Crossover unit

A two-way quarter-section crossover network operating at 500Hz. All terminations 15 ohms. Price: £2.46 (plus VAT).

### CX1000 Crossover unit

Half-section operating at 1kHz. Price: £3.57 (plus VAT).

### CX1500 Crossover unit

Half-section operating at 1.5kHz. Price: £3.57 (plus VAT).

### CX3000 Crossover unit

Half-section operating at 3kHz. Price: £2.82 (plus VAT).

### Constant impedance volume control

T-pad type attenuator having 10 steps of attenuation. Impedance presented by the load remains constant while the volume level is varied. In three versions for 3, 8 or 15 ohms. Price: £1.96 (plus VAT).

### ■ TELEFI

Sound take-off adaptor for feeding hi-fi from TV. See Tape Recorder Accessories and Radio Tuner Sections.

### ■ T.T.C.

Joint distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288/9.

E.R. (Factors) Ltd, 374-378 Harrow Road,  
Paddington, London, W9. Tel: 01-286 0361.

### H.1012

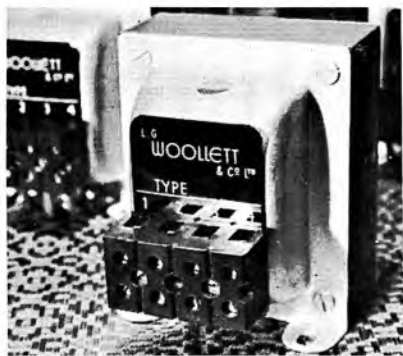
Headphone/speaker junction box. Provides instant stereo headphone and speaker switching, either one or both together. Coded leads. Jack socket for phones. Free-standing or screw fixing. Two-tone moulded case. Price: £1.80 (including VAT).

### G.1301

Remote control listening station. Stereo control unit providing instant selection of speaker and headphones. Individual volume control on each channel. Jack socket for headphone inputs. Suitable for output impedances of 4-16 ohms. Free-standing unit. Price: £3.70 (including VAT).

### G1307

Stereo headphone/speaker junction box providing switching between amplifier, speakers and two pairs of stereo headphones. DIN connectors for speakers and amplifier, jack sockets for phones. Moulded case. Suitable for free-standing or wall mounting. Price: £2.80 (including VAT).



Woollett XS1 and XS2

### JB12A

Six-way headphone adaptor and control unit. Total of seven outlet jack sockets (six individually gain controlled). Monaural. Designed for language laboratories and educational use. Robust free-standing unit. Supplied with lead and two-pole plug. Price: £11.55 (including VAT).

### ■ VITAVOX LTD

Westmoreland Road, London, NW9 9RJ.  
Tel: 01-204 4234. Cables: Vitavox, London.

#### CN458 Crossover

Half section. Crossover: 500Hz. Attenuation: 12dB/octave. Insertion loss 0.9dB. Power handling capacity: 100W RMS. All terminations 15 ohms. Balance control giving 0.8dB HF attenuation incorporated. Price on application.

#### CN459 Crossover

Half-section. Crossover: 1kHz. Attenuation: 12dB/octave. Insertion loss 0.9dB. Power handling capacity: 100W RMS. All terminations 15 ohms. Balance control giving 0.8dB HF attenuation incorporated. Price: on application.

### ■ WHITELEY ELECTRICAL RADIO

See Stentorian.

### ■ WOOLLETT AUDIOSTATICS

21 Anerley Station Road, London, SE20 8PY.  
Tel: 01-778 9003.

#### XS1 ★

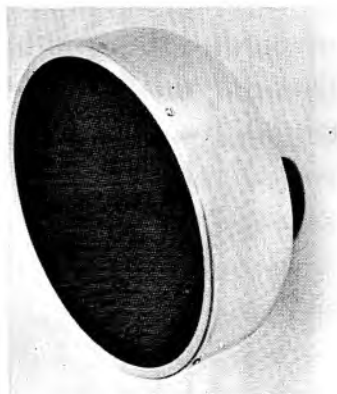
Speaker matching transformer. Converts 16 ohms to 8 ohms, and 8 ohms to 4 ohms. Bifilar wound. Grain orientated laminations. Ratio 1:0.707 auto. FR: 16Hz-30kHz  $\pm 0.6$ dB. Price: £3.87 (plus VAT).

#### XS2 ★

Speaker isolating and matching transformer. Converts 16 ohms to 4 ohms. Bifilar wound. Grain orientated laminations. Ratio 1:1 double wound. FR: 16Hz-100kHz  $\pm 0.6$ dB. May be used to attenuate -6dB and -12dB while maintaining heavy damping on speaker and offering correct load to amplifier. Suitable for operating stereo system comprising two electrostatic high-frequency units with common bass speaker. *Note:* Not suitable for mains isolation in live chassis equipment. Price: £3.87 (plus VAT).

#### Headphone Equaliser blender

Stereo. Provides variable attenuation and adjustable treble lift. Switch positions for: headphones only, headphones and speakers, or speakers only. Variable negative blend cancels out cross-talk and permits compatible stereo records to be played as full stereo. Two input and two output blocks for easy connection into speaker feeds. Fitted with two yards cable for inputs and speaker feeds. Size: 6 x 5½ x 2½in. Price: £12.80 (plus VAT).



# UNIQUE!

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But it's impossible to tell you all about the new Eurotronic RT/12 swivel mounting loudspeaker that for the first time allows you to plan fully for your room characteristics; does away with the need for bookshelves, mounts on floor, wall, ceiling ... we could go on but it's better to write to us for details at

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Telephone: Ruislip 36316

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THE KR10 — a first class infinite baffle loudspeaker system, constructed from high density chipboard with selected teak veneer finish.

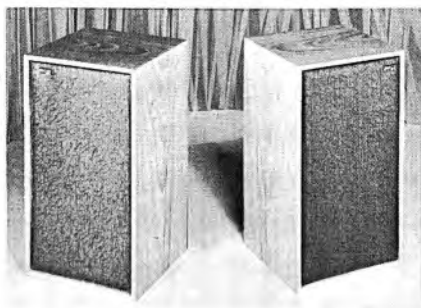
Power handling of 10 Watts R.M.S. with a normal impedance of 8 ohms.

Height 19" Width 10½" Depth 9½"

Power Rating 20 Watts D.I.N.

Guaranteed in finish and performance

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# spendor



The Spendor BCIII illustrated above is an extension and refinement of the BCI and BCII. Both the BCI (widely acknowledged as setting a new standard in loudspeaker design) and the BCII are used extensively by professionals where quality of reproduction is the prime requirement.

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Telephone: Nutfield Ridge 2554

# GREEN

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# QAS

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For further information on how to become a stockist, or if you have any accessory problems, please write to Richard Thornley, Sales Manager, Q.A.S., Wollaton Road, Beeston, Nottingham NG9 2PB or telephone Nottingham 256141.

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IMF express no preference for any one of these design parameters — all are interdependant. Indeed, a superlative performance in one aspect can often only be achieved at the sacrifice of another. No one parameter can be considered in isolation but must be regarded with view to the effect overall. It is thus at this stage that art must be allied to science. At least, at IMF, we recognise the problems and confess to their solution lying within a strata of compromise and balance.

We are thus flattered that even with such unsubtle imperfections surrounding loudspeaker design, critics acclaim the virtues of IMF loudspeakers for the satisfying results they obtain. Others claim perfection . . .

Westbourne Street, High Wycombe,  
Buckinghamshire.  
Telephone: High Wycombe 35166

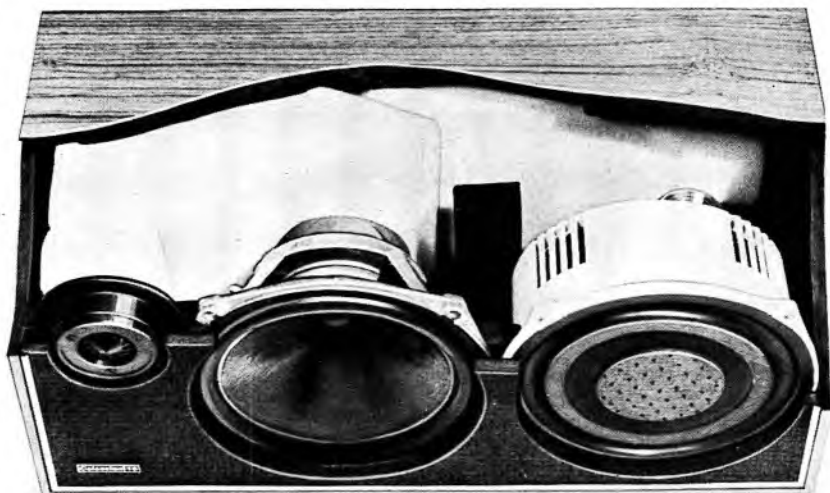
**IMF**



# Celestion



## Loudspeakers for the Perfectionist



Celestion High Fidelity Loudspeakers are justly famous for their superb musical performance . . . the illustration shows the interior of the remarkable Ditton 15 of which many thousands are enjoyed by musically aware enthusiasts throughout the world.

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**ROLA CELESTION LIMITED**

**Ditton Works, Foxhall Road, Ipswich, Suffolk, IP3 8JP**

# Directory of Speaker Enclosures

## ■ ACOUSTICAL MANUFACTURING See Quad.

## ■ ACOUSTIC RESEARCH INTERNATIONAL

High Street, Houghton Regis, Beds.  
Tel: Dunstable 603151. Telex: 825467.

### AR-2ax

Infinite baffle enclosure with units and crossover. One 10in bass driver, one 3½in. mid-range unit, one ¾in tweeter. Crossovers: 1.5kHz, 5kHz. FR: 30Hz-20kHz (45Hz-20kHz ±3dB). HC: 20W minimum power, 50W music power. Impedance: 8 ohms. Mid-range and treble attenuators on rear of unit. Size: 13½ × 24 × 11½in. Weight: 36½lb. Finish: teak or walnut. Five-year guarantee. Price: £59-50 (including VAT).

### AR-3a ★

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 1½in mid-range unit, one ¾in tweeter. Crossovers: 600Hz, 5kHz. FR: 20Hz-20kHz. HC: 25W RMS. Impedance: 4 ohms. Size: 14 × 25 × 11½in. Weight: 53lb. Treble/mid-range adjustment on rear of unit. Finish: teak or walnut. Five-year guarantee. Price: £110 (including VAT).

### AR-4xa

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 1½in cone tweeter. Crossover: 1.5Hz. FR: 30Hz-20kHz (45Hz-20kHz ±5dB). HC: 15W minimum, 60W music power. Impedance: 8ohms. Adjustment provided for treble. Size: 10 × 19 × 9in. Weight: 18½lb. Finish: teak or walnut. Price: £32 (including VAT).

### AR-5

Infinite baffle enclosure with units and crossovers. One 10in bass driver, one 1½in mid-range unit, one ¾in dome tweeter. Crossovers: 600Hz, 5kHz. FR: 30Hz-20kHz (45Hz-20kHz -3dB). HC: 20W minimum, 60W music power. Impedance: 8 ohms. Separate adjustments on rear of cabinet for treble/mid-range. Size: 13½ × 24 × 11½in. Weight: 39lb. Finish: teak or walnut.

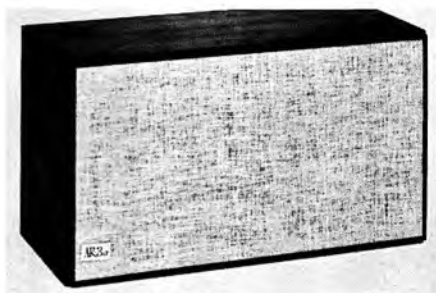
Five-years guarantee. Price: £80 (including VAT).

### AR-6 ★

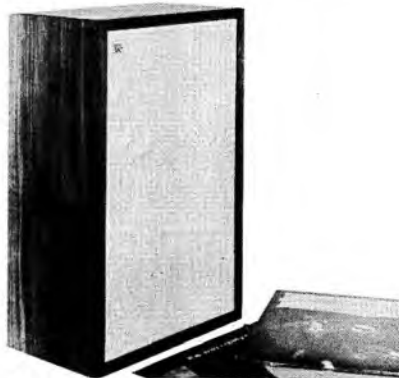
Infinite baffle enclosure with units and crossover. One 8in bass driver with acoustic suspension, one 1½in tweeter. Crossover: 1.5kHz. FR: 25Hz-25kHz (35Hz-20kHz ±5dB). HC: 20W minimum, 100W music power. Impedance: 8 ohms. Treble adjustment on rear of cabinet. Size: 19½ × 12 × 7in. Finish: teak or walnut. Weight: 20lb. Five-year guarantee. Price: £39-90 (including VAT).

### AR-7 ★

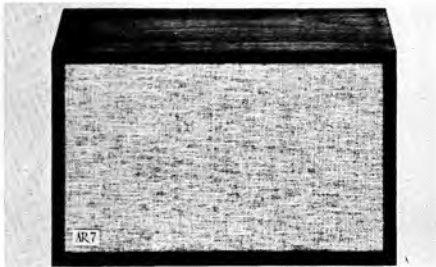
Infinite baffle enclosure with units and crossover. One 8in bass driver, one 1½in tweeter. Cross-



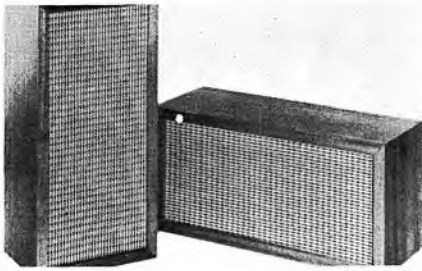
Acoustic Research AR-3a



Acoustic Research AR-6



Acoustic Research AR-7



Adastra Sonata

over: 2kHz. FR: 30Hz-20kHz. HC: 50W music. Impedance: 8 ohms. Independent tweeter control. Size:  $15\frac{7}{8} \times 9\frac{3}{4} \times 6\frac{1}{4}$ in. Weight:  $10\frac{1}{2}$ lb. Finish: teak or walnut. Price: £55 per pair (including VAT).

#### ■ ADASTRA ELECTRONICS LTD

Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288 (answering service 01-452 6289).

#### Sonata ★

Speaker enclosure without units. Removable sub-baffle suitable for all speakers up to  $10 \times 6$ in, plus tweeter. Finish: straight grained teak with contrasting front edges and matching grille material. Size:  $16 \times 8 \times 6$ in. Price: (per pair) approximately £9-90 (including VAT).

#### La Scala

Speaker enclosure without units. Removable sub-baffle suitable for all speakers up to  $13 \times 8$ in, plus tweeter. Finish: polished grained teak with satinwood surround, black/grey flecked Vynair grille. Size:  $14 \times 21 \times 8\frac{1}{4}$ in. Price: (each) approximately £8-80 (including VAT).

#### ■ AKAI

Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR. Tel: 01-568 9222. Telex: 24408.

#### SW155

Reflex enclosure with units and crossover. One 12in roll-edge bass driver, one 5in cone mid-range unit, one 2in horn tweeter, one  $2\frac{1}{2}$ in horn super tweeter. Crossover: (6dB/octave and 12dB/octave) 1.2kHz, 5kHz, 15kHz. FR: 25Hz-21kHz. HC: 35W RMS. Impedance: 8 ohms. Size:  $25 \times 16 \times 13\frac{3}{4}$ in. Weight: 40lb. Finish: walnut. Pipe ducted reflex cabinet. Price: £70-95 (including VAT).

#### CSS8

Bookshelf speaker system. Price: (per pair) £25-85 (including VAT).

#### ■ ALBA (RADIO & TELEVISION) LTD

Tabernacle Street, London, EC2A 4DY.

Tel: 01-253 1322.

#### UA300

Infinite baffle enclosure with units and crossover. One  $6\frac{1}{2}$ in bass driver, one 3in tweeter. Impedance: 8 ohms. Finish: teak with silver trim. Size:  $8\frac{3}{4} \times 16\frac{3}{4} \times 7$ in. Price: £23-32. (including VAT).

#### ■ RICHARD ALLAN RADIO LTD

Bradford Road, Gomersal, Cleckheaton, Yorkshire, BD19 4AZ. Tel: Cleckheaton 2442/3. Cables: Acoustics, Bradford.

#### Minette series II

Infinite baffle bookshelf enclosure. 5in bass unit, 4in tweeter. FR: 50Hz-17kHz. HC: 10W. Size:  $11\frac{1}{2} \times 7 \times 6\frac{1}{2}$ in. Weight: 11lb. Price: £15 (plus VAT).

#### Chaconne series II

Full range two-way system comprising 8in bass unit and 4in tweeter. FR: 45Hz-17kHz. HC: 12W. Size:  $20 \times 12 \times 8\frac{1}{2}$ in. Weight: 19lb. Price: £18-50 (plus VAT).

#### Flamenco series II

Full range three-way system. One 8in bass driver, one 5in mid-range unit, one 4in tweeter. FR: 40Hz-17kHz. HC: 15W. Size:  $20 \times 12 \times 8\frac{1}{2}$ in. Weight: 21lb. Price: £26-50 (plus VAT).

#### Pavane series II

Full range three-way system comprising 12in bass driver, 8in mid-range unit and 4in tweeter. FR: 30Hz-17kHz. HC: 20W. Size:  $27 \times 15\frac{1}{2} \times 12$ in. Weight: 39lb. Price: £38 (plus VAT).

#### Sardana

Full range three-way system comprising 12in bass driver, 8in mid-range unit and 4in tweeter. FR: 30Hz-17kHz. HC: 25W. Size:  $27 \times 15\frac{1}{2} \times 12$ in. Weight: 43lb. Price: £46 (plus VAT).

#### Academy ★

Full range three-way system comprising 12in long-throw bass unit, 5in mid-range and 20mm dome treble unit. FR: 25Hz-25kHz. HC: 35W (25W minimum). Size:  $31\frac{1}{2} \times 16\frac{1}{4} \times 13\frac{1}{2}$ in. Weight: 70lb. Price: Approximately £75 (plus VAT).

#### Richard Allan Kits

See Constructional Kits section for details of Twin Assembly, Triple-8 Assembly, Triple-12 Assembly and Super-12 Assembly speaker kits.

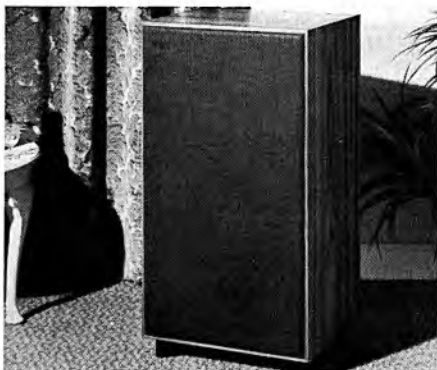
#### ■ ALPHA

Hightate Acoustics, 38 Jamestown Road, London, NW1 7EJ.

Tel: 01-267 4937/8.

#### HT7 Mk II

Infinite baffle enclosure with units and crossover.



Richard Allan Academy

One 8in bass driver, one 2½in tweeter. Crossover: 3-5kHz. FR: 40Hz-18kHz. HC: 20W. Impedance: 8 ohms. Finish: teak or walnut. Size: 17½ × 11¼ × 6½in. Weight: 15lb. Price: £21.50 (plus VAT).

**HT16**

Infinite baffle enclosure with unit. 8¼in full-range dual-cone driver. FR: 50Hz-18kHz. HC: 10W RMS. Impedance: 4 or 8 ohms. Finish: teak. Size: 15½ × 11 × 7in. Price: £11 (plus VAT).

**HT17 Mk II ★**

Infinite baffle enclosure with units and crossover. 7 × 5in bass driver, two 2½in tweeters. Crossover: 3-5kHz. FR: 60Hz-18kHz. HC: 10W RMS. Impedance: 8 ohms. Finish: teak or walnut. Size: 13 × 10 × 4½in. Weight: 7lb. Price: £14.50 (plus VAT).

**HT20 Mk II**

Infinite baffle enclosure with units. 8¼in bass driver, 5in mid-range unit, 2½in tweeter. Crossovers: 750Hz, 4kHz. FR: 40Hz-20kHz. HC: 20W. Impedance: 8ohms. Finish: teak or walnut. Size: 17½ × 11½ × 9½in. Weight: 18lb. Price: £26.35 (plus VAT).

**HT30**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 2½in tweeter. Crossover: 3-5kHz. FR: 50Hz-20kHz. HC: 15W. Impedance: 8 ohms. Finish: teak or walnut. Size: 14¼ × 9½ × 5¾in. Price: £16.35 (plus VAT).

**ALTEC LANSING (domestic)**

Acoustico Enterprises Ltd, 6-8 Union Street, Kingston-upon-Thames, Surrey, KT1 1RP. Tel: 01-549 3471/3. Telex: 929916.

**887A Capri**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 3in tweeter. Crossover: 2-5kHz. FR: 50Hz-18kHz. HC: 45W. Impedance: 8 ohms. Size: 19 × 10 × 9in. Weight: 23lb. Finish: walnut. Price: £36 (plus VAT).

**893B Corona ★**

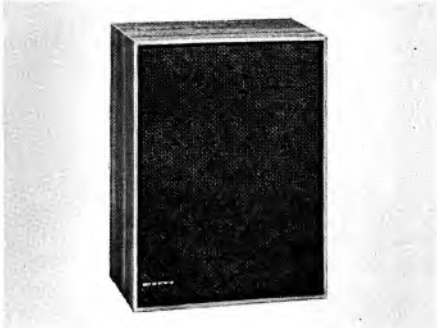
Infinite baffle enclosure with units and crossover. One 10in bass driver, one 3in tweeter. Crossover: 2-5kHz. FR: 50Hz-18kHz. HC: 45W. Impedance: 8 ohms. Size: 22 × 12¼ × 9½in. Weight: 22lb. Finish: walnut. Price: £56 (plus VAT).

**890C Bolero ★**

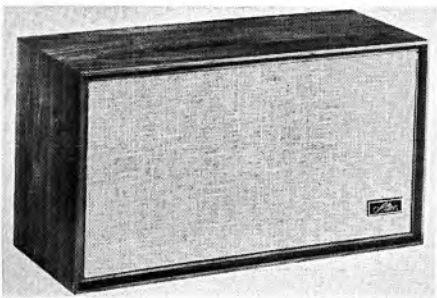
Infinite baffle enclosure with units and crossover. One 10in bass driver, one 10in passive radiator, one horn tweeter. Crossover: 2kHz. FR: 40Hz-20kHz. HC: 50W. Impedance: 8 ohms. Size: 25½ × 14½ × 11½in. Finish: walnut. Weight: 52lb. Price: £65 (plus VAT).

**891A Bookshelf**

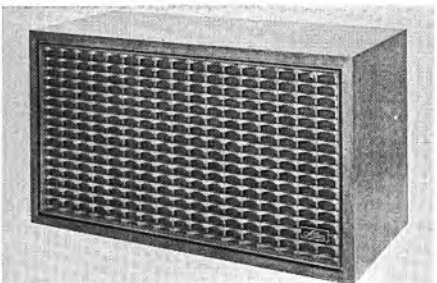
Infinite baffle enclosure with units and crossover. One 12in bass driver, one 3in tweeter. Cross-



Alpha HT17 Mk II



Altec Lansing 893B Corona



Altec Lansing 890C Bolero



Altec-Lansing 1205



Amstrad Acaustra 2500

over: 1.6kHz. FR: 35Hz-20kHz. HC: 50W. Impedance: 8 ohms. Size:  $25\frac{1}{2} \times 14\frac{1}{2} \times 12\frac{3}{8}$  in. Weight: 38lb. Finish: walnut. Price: £65 (plus VAT).

#### 874A Segovia

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 4in mid-range unit and one dome tweeter. Crossover: 500Hz, 4kHz. HC: 50W. Impedance: 8 ohms. FR: 30Hz-20kHz. Size:  $26 \times 15 \times 12$  in. Finish: walnut. Price: £140 (plus VAT).

#### ALTEC LANSING (professional)

Ling Dynamic Systems Ltd,  
Baldock Road, Royston, Herts, SG8 5BQ.  
Tel: Royston 42424. Telex: 81174.

#### 1205AX ★

Reflex enclosure with units and built-in amplifier. 15in bass driver, 808-4Z HF driver, 25in sectoral horn. Crossover: 500Hz. HC: 85W. Input impedance to amplifier: 18K. Speaker system: 4 ohms. FR: 35Hz-20kHz. Size:  $45 \times 28 \times 25$  in. Weight: 137lb. Finish: black vinyl. Price: on application.

#### 1208A

Altec 23in sectoral horn for middle and high frequencies. 15in bass driver mounted in separate wood horn. Supplied in separate components for assembly as required, i.e. horn on top or inside the cabinet. HC: 50W. Impedance: 8 ohms. Size:  $42 \times 30 \times 24$  in. Weight: 160lb. Price: on application.

#### AMSTRAD

AMS Trading (Amstrad) Ltd,  
89 Ridley Road, London, E8.  
Tel: 01-249 5237.

#### Apollo 138

Infinite baffle enclosure with unit. One twin cone  $13 \times 8$  in driver. FR: 40Hz-16kHz. HC: 10W RMS. Impedance: 8 ohms. Size:  $18 \times 11 \times 7\frac{1}{2}$  in. Weight: 7lb. Finish: teak cabinet with padded front and silver trim. Price: £27 per pair (plus VAT).

#### Acoustra 1500

Infinite baffle enclosure with units. One  $6\frac{1}{2}$  in long-throw bass driver, one  $3\frac{3}{8}$  in tweeter. Crossover: four-element unit 1.2kHz. FR: 45Hz-17kHz. HC: 15W RMS. Impedance: 8 ohms. Size:  $14\frac{1}{2} \times 10\frac{1}{4} \times 8\frac{3}{4}$  in. Weight: 15lb. Finish: teak cabinet with black front and silver trim. Special vacuum formed front panel. Price: £20 each (plus VAT).

#### Acoustra 2500 ★

Infinite baffle enclosure with units. One 8in long-throw bass driver, one  $3\frac{3}{8}$  in tweeter. Crossover: four-element unit 1.2kHz. FR: 35Hz-17kHz. HC: 20W. Impedance: 8 ohms. Size:  $19\frac{1}{4} \times 10\frac{3}{8} \times 9\frac{1}{2}$  in. Weight: 20lb. Finish: teak cabinet with silver trim. Special front panel design. Price: £25 each (plus VAT).

#### ARISTON

Distributors: C. W. & J. Walker Ltd,  
Brentwood, Red Lane, Frodsham,  
Warrington, WA6 6RA.  
Tel: Frodsham (0928) 33326.

#### SR90

Infinite baffle enclosure with units and crossover. Enclosure said to have isothermal behaviour. One 13in triple-suspension bass driver, one  $7 \times 5$  in elliptical mid-range unit, one modified Decca-Kelly DK30 ribbon tweeter. Crossover: 500Hz, 3kHz. FR: 20Hz-25kHz. Dispersion: over arc of  $60^\circ \pm 5$  dB. HC: suitable for amplifiers having outputs of 20-90W RMS. Impedance: 8-10 ohms. Size:  $34\frac{1}{2} \times 16 \times 15$  in. Weight: 170lb. Finish: teak (left and right-hand versions available). Cabinet walls  $1\frac{1}{2}$  in thick and comprised of special granite/concrete mix, keyed and bonded to enclosure by special process. Price: £125 (plus VAT).

**■ AUDIO DEVELOPMENTS**

B. H. Morris & Co (Radio) Ltd,  
Trio House, The Hyde Industrial Estate,  
The Hyde, London NW9 6JP.  
Tel: 01-205 6441.

**AD15**

Infinite baffle bookshelf speaker with unit. One 7 × 5in full range driver. HC: 10W music. Impedance: 8 ohms. FR: 70Hz-18kHz. Finish: walnut. Size: 15 $\frac{3}{4}$  × 5 $\frac{7}{8}$  × 8 $\frac{1}{4}$ in. Weight: 5lb. Price: £15 per pair (plus VAT).

**AD30**

Three-way bookshelf or free-standing enclosure with units. One 8in bass driver, one 5in mid-range unit, one 2 $\frac{1}{2}$ in tweeter. HC: 20W music. Impedance: 8 ohms. FR: 40Hz-20kHz. Finish: walnut. Size: 18 $\frac{3}{4}$  × 9 $\frac{7}{8}$  × 9 $\frac{7}{8}$ in. Price: £32 per pair (plus VAT).

**■ AUDIO SERVICES LTD**

82 East Barnet Road, New Barnet, Herts.  
Tel: 01-449 6605.

**Dynasonic Monitor**

Reflex enclosure with units and crossover. One 12in bass driver, one 4in mid-range unit, one 3in tweeter. Crossover: 2kHz and 8kHz. FR: 35Hz-20kHz. HC: 25W. Impedance: 8 ohms. Height: 27in. Finish: teak or walnut. Weight: 55lb. Price: £39.60 (including VAT).

**Dynastic AS1**

Reflex enclosure with units and crossover. One 12in bass driver, one electrostatic mid-range and HF unit. Crossover: 1kHz  $\frac{1}{2}$ -section. FR: 35Hz-20kHz. HC: 25W. Impedance: 8 ohms. Height: 27in. Weight: 60lb. Finish: teak or walnut. Feature: arcuated electrostatic unit. Price: £59.40 (including VAT).

**Dynastatic AS100**

Reflex enclosure with units and crossover. One 12in bass driver, one electrostatic mid-range and HF unit. Crossover: 600Hz  $\frac{1}{2}$ -section. FR: 35Hz-20kHz. HC: 35W. Impedance: 8 ohms. Height (overall): 35in. Weight: 75lb. Finish: teak or walnut. Feature: arcuated electrostatic unit. Price: £110 (including VAT).

**■ BANG & OLUFSEN (UK) LTD**

Eastbrook Road, Gloucester, GL4 7DE.  
Tel: Gloucester 21591.

**Beovox 1702**

Pressure chamber enclosure with units and crossover. One 6in bass driver, one 1in dome tweeter. Crossover: 5kHz. FR: 50Hz-20kHz. HC: 20W RMS. Impedance: 4 ohms. Spec exceeds DIN 45-500. Size: 13 $\frac{1}{4}$  × 7 $\frac{1}{8}$  × 7 $\frac{1}{8}$ in. Weight: 8 $\frac{3}{4}$ lb. Finish: teak or rosewood. Sold in matched pairs. Price: (per pair) in teak £59.90; in rosewood £62.90 (including VAT).

**Beovox 1802**

Pressure chamber enclosure with units and crossover. One 6in bass driver, one 1in dome tweeter. Crossover: 5kHz. FR: 50Hz-20kHz. HC: 20W RMS. Impedance: 4 ohms. Spec exceeds DIN 45-500. Size: 13 × 7 $\frac{3}{8}$  × 4in. Weight: 13 $\frac{1}{4}$ lb. Finish: teak, rosewood or white. Sold in matched pairs. Price: (teak £65.90; (rosewood or white) £68.90 (including VAT).

**Beovox 2702**

Pressure chamber enclosure with units and crossover. One 7in bass driver, one 1in tweeter. Crossover: 3kHz. FR: 45Hz-20kHz. HC: 25W RMS. Impedance: 4 ohms. Spec exceeds DIN 45-500. Size: 16 $\frac{1}{4}$  × 8 $\frac{1}{8}$  × 8 $\frac{1}{8}$ in. Weight: 12lb 2oz. Finish: teak, rosewood, or white. Sold in matched pairs. Price: (per pair) in teak £69.90; (rosewood or white) £73.90 (including VAT).

**Beovox 3702**

Pressure chamber enclosure with units and crossover. One 8in bass driver, one 3.75in mid-range unit and one 1.5in tweeter. Crossover: 800Hz and 5kHz. FR: 40Hz-20kHz. HC: 40W RMS. Impedance: 4 ohms. Spec exceeds DIN 45-500. Size: 19 $\frac{3}{4}$  × 9 $\frac{7}{8}$  × 9 $\frac{7}{8}$ in. Weight: 18 $\frac{3}{4}$ lb. Finish: teak, rosewood or white. Sold in matched pairs. Price: £92.90 (per pair) in teak, £98.90 (per pair) in rosewood or white (including VAT).

**Beovox 3800**

Pressure chamber enclosure with units and crossover. One 12in bass driver, one 3.5in mid-range unit. One 1.5in tweeter. Crossover: 800Hz and 5kHz. FR: 35Hz-20kHz. HC: 50W RMS. Impedance: 4 ohms. Spec exceeds DIN 45-500. Size: 23 × 11 $\frac{1}{2}$  × 11 $\frac{1}{2}$ in. Weight: 31lb. Finish: teak or rosewood. Sold in matched pairs. Price: (per pair) in teak £109.50; in rosewood £117.50 (including VAT).

**Beovox 5700 Mk II**

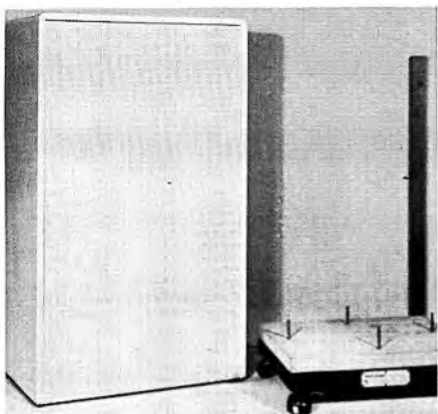
Enclosure incorporating passive radiator, three driver units and crossover. One 10in bass driver, one 2 $\frac{1}{2}$ in mid-range unit, one  $\frac{3}{4}$ in tweeter, one 10in passive radiator. Crossover: 650Hz and 6kHz. FR: 25Hz-20kHz. HC: 60W RMS. Impedance: 4-8 ohms. Spec exceeds DIN 45-500. Size: 26 × 14 $\frac{1}{4}$  × 11 $\frac{3}{8}$ in. Weight: 49 $\frac{1}{2}$ lb. Sold in matched pairs. Finish: teak or rosewood. Price: to be announced.

**■ BLACK KNIGHT RUMBLECURE**

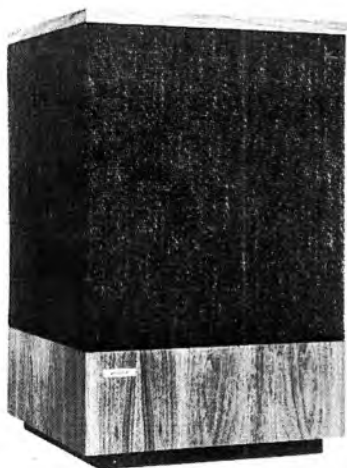
Bank Top, Currier Lane, Ashton-under-Lyne, Lancs, OL6 2TA.  
Tel: 061-330 2836 (open 7 days).

**Black Knight ★**

Speaker enclosure complete with units designed to safeguard against amplifier overload and the problems associated with acoustic feedback.



Black Knight speaker system with anti-vibration trolley



Bose 501



Bose 901

High efficiency system enables speaker to be comfortably driven from 6W per channel, but will accept up to 25W RMS per channel. Impedance: 8 ohms. FR: 20Hz-19kHz. Size: 27in high, 15in wide, 12in deep. Fully cushioned to comply with anti-vibration requirements. Supplied direct only. Price: £59.

#### ■ BOSE CORPORATION

Importers: Expotus Ltd, 10 Museum Street, London, WC1. Tel: 01-836 3747.

Distributors: Acoustico Enterprises Ltd.

#### 501 ★

Infinite baffle enclosure with units and crossover. One forward-facing 10in bass driver, two rear-angled 3½in mid-range and HF units. FR: 40Hz-20kHz. HC: 100W RMS. Impedance: 4 ohms. Size: 14½ × 14½ × 24in. Weight: 38lb. Finish: walnut. Sold in matched pairs. Price: (per pair) £150 (plus VAT).

#### 901 ★

Infinite baffle enclosure with units. Nine 4in high-compliance paper cone speakers (one forward-facing, eight on rear baffles). No crossover network. FR: 25Hz-20kHz. HC: >100W RMS. Impedance: 8 ohms. Active equaliser corrects response shape and adjusts for room acoustics. Size: 20⅝ × 12¾ × 12¾in. Weight: 33lb. Finish: walnut. Sold in matched pairs with equaliser. Price: (per pair) £250 (plus VAT).

#### ■ BRAHMS

Brahms Manufacturing & Development Co, Unit E, Rochester Airport, Maidstone Road, Rochester, Kent, ME1 3QJ.

Tel: Medway (0634) 48816

#### Sandringham

Infinite baffle enclosure with units and crossover. One 8in rubber-edged bass driver, two 2½in HF units. Crossover: 2.5kHz LC unit. FR: 45Hz-20kHz. HC: 20W RMS. Impedance: 8 ohms. Size: 19 × 10½ × 10in. Finish: teak. Front loaded with removable grille cloth. Cabinet mounted on plinth. Price: £22.16 (including VAT)

#### Buckingham

Infinite baffle enclosure with units and crossover. One 8in rubber-edged bass driver, two 2½in HF units. Crossover: 2.5kHz LC unit. FR: 40Hz-20kHz. HC: 40W RMS. Impedance: 8 ohms. Size: 31¼ × 12 × 12in. Finish: teak. Front loaded with removable grille cloth. Cabinet mounted on plinth. Price: £37.40 (including VAT).

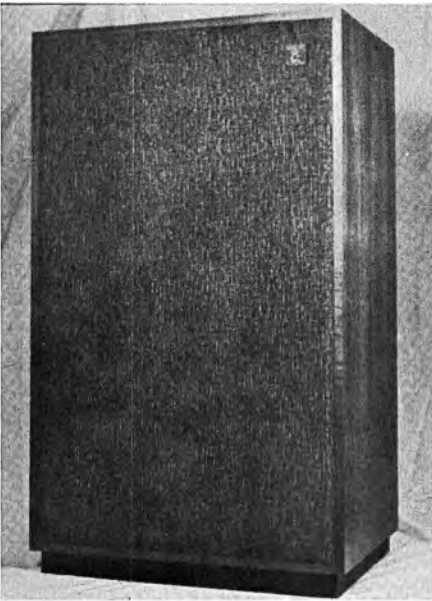
#### Balmoral ★

Infinite baffle enclosure with units and crossover. One 12in rubber-edged bass driver, one 5in mid-range unit, two 2½in tweeters. Crossover: 1.5kHz and 6kHz (LC unit). FR: 35Hz-

20kHz. HC: 35W RMS. Impedance: 8 ohms. Size: 28 × 16 × 12in. Weight: 50lb. Finish: teak. Front loaded with removable grille cloth. Cabinet mounted on plinth. Price: £40.15 (including VAT).

#### Queen Anne

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 5in mid-range unit, two 2½in tweeters. Crossover: 1.5kHz and 6kHz. FR: 35Hz-20kHz. HC: 35W RMS. Impedance: 8 ohms. Size: 28 × 16½ × 12in (plus 6in



Brahms Balmoral



Brahms Regency

legs). Weight: 48lb. Finish: mahogany, walnut or yew. Front loaded with removable sub-baffle. Connector block with DIN and Continental sockets at rear. Price: £59.40 (including VAT).

#### Regency ★

Infinite baffle enclosure with units and crossover. Specification identical to Queen Anne model except cabinet styling. Price: £59.40 (including VAT).

#### Military

Infinite baffle enclosure with units and crossover. Specification identical to Queen Anne model except cabinet styling. Price: £59.40 (including VAT).

#### ■ BRAUN

Hisonic Ltd.

Tovil, Maidstone, Kent. ME15 6QP.

Tel: Maidstone (0622) 57258.

#### L310

Infinite baffle enclosure with units and crossover. One 7in bass driver, one 1in tweeter. FR: 40Hz-25kHz. HC: 20W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Horizontal or vertical wall mounting. Full specification and price on request.

#### L420/1

Infinite baffle enclosure with units and crossover. One 7in bass driver, one 1in tweeter. FR: 35Hz-25kHz. HC: 30W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.

#### L480/1

Infinite baffle enclosure with units and crossover. One 7in bass driver, one 1in tweeter. FR: 33Hz-25kHz. HC: 30W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.

#### L500/1

Infinite baffle enclosure with units and crossover. One 8½in bass driver, one 1in tweeter. FR: 30Hz-25kHz. HC: 30W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.

#### L550

Infinite baffle enclosure with units and crossover. One 8½in bass driver, one 1in tweeter. FR: 30Hz-25kHz. HC: 35W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.

#### L620/1

Infinite baffle enclosure with units and crossover. One 8½in bass driver, one 2in mid-range unit, one 1in tweeter. FR: 28Hz-25kHz. HC: 40W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.



★ Indicates entry is illustrated

### L710

Infinite baffle enclosure with units and crossover. Two 7in bass drivers, one 2in mid-range unit, one 1in tweeter. FR: 25Hz-25kHz. HC: 40W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.

### L810

Infinite baffle enclosure with units and crossover. Two 8 $\frac{1}{4}$ in bass drivers, one 2in mid-range unit, one 1in tweeter. FR: 20Hz-25kHz. HC: 50W. Impedance: 4 ohms. Finish: white lacquer or walnut veneer. Full specification and price on request.

### LV1020

Monitor speaker with built-in amplifier. One 12in bass driver, one 2in mid-range unit, one 1in tweeter. FR: 20Hz-25kHz. Three separate power amplifiers feeding each speaker unit. HC: (bass) 40W, (mid-range) 20W, (tweeter) 15W. Input sensitivity: 0.25V to 1.5V adjustable. Finish: white lacquer or walnut veneer. Full specification and price on request.

### ■ BUSH-ARENA

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

### L810

Infinite baffle shelf-mounting enclosure with units and crossover. One 6 $\frac{3}{4}$ in bass driver, one 4in mid-range unit, one 1 $\frac{1}{8}$ in tweeter. Crossover: 2kHz and 6kHz. Impedance: 4 ohms. HC: 25W (DIN). Size: 14 × 9 $\frac{3}{4}$  × 8 $\frac{3}{4}$ in. Finish: teak veneer. Price: (per pair) £36.72 (including VAT).

### L820

Infinite baffle floor-standing enclosure with units and crossover. One 7 $\frac{7}{8}$ in bass driver, one 4in mid-range unit, one 1 $\frac{1}{8}$ in tweeter. Crossover: 1.8kHz and 7kHz. Impedance: 5 ohms. HC: 25W (DIN). Size: 17 × 11 × 9 $\frac{3}{8}$ in. Finish: teak veneer. Price: (per pair) £56.49 (including VAT).

### ■ RUSH NELSON LTD

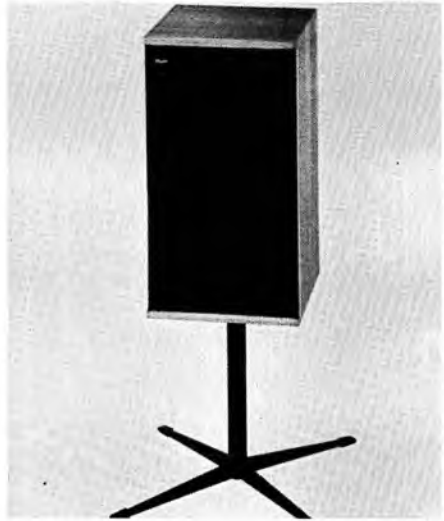
Bush House, 6 Yattendon Road, Horley, Surrey. Tel: Horley 5983.

### 12/8

Pressure chamber system. One 13 × 8in bass unit, one 3in tweeter. Impedance: 8 ohms. FR: 20Hz-20kHz. Power capacity: 20W. Flux density: bass unit 11,000 gauss, HF unit 10,000 gauss. Bass resonance: 20-30Hz. Crossover frequency: 5kHz. Teak. Size: 23 × 12 × 11in. Price: £65 (plus VAT).

### ■ B. & W. ELECTRONICS

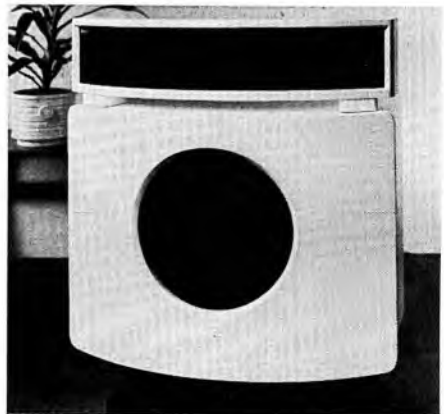
Meadow Road, Worthing, Sussex, BN11 2RX. Tel: 0903 205611. Telex: 87342.



B & W Electronics DM2



B & W Electronics D5



B & W Electronics DM70

**DM2 ★**

Eighth-wave acoustic line enclosure with units and crossover. One 8in bass driver with Bextrene cone, one Celestion HF1300 mid-HF unit, one  $\frac{3}{4}$ in low-mass plastic dome tweeter. Crossover: 3.5kHz, 9kHz. FR: 30Hz-25kHz ( $\pm 2$ dB 300Hz-6kHz,  $\pm 3$ dB 65Hz-20kHz). HC: 50W RMS. Impedance: 8 ohms at 400Hz. Size:  $14 \times 25\frac{1}{2} \times 13\frac{3}{4}$ in. Weight: 52lb. Finish: teak, rosewood, walnut or satin white. Every model individually pen tested and calibration certificate supplied. Price: £59.90 (plus VAT).

**DM4**

Three-unit monitor speaker system suitable for bookshelf or wall mounting. One DW200/4 bass/mid-range driver with Bextrene cone, one Celestion HF1300 upper mid-frequency unit, one  $\frac{3}{4}$ in low-mass plastic dome tweeter. FR: 30Hz-25kHz ( $\pm 3$ dB 140Hz-14kHz,  $\pm 5$ dB 80Hz-20kHz). HC: 30W RMS. Impedance: 8 ohms at 400Hz. Size:  $21 \times 10 \times 10$ in. Weight: 24lb 6oz. Finish: teak, walnut, rosewood or satin white. Every model individually pen tested and calibration certificate supplied. Price: £42.50 (plus VAT).

**DM5 ★**

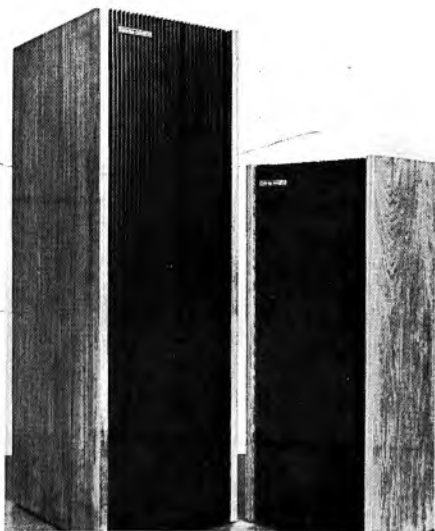
Two-unit bookshelf speaker system. One DW150/5 bass/mid-range driver with Bextrene cone, one 1in upper mid-frequency and HF unit. FR: 40Hz-25kHz ( $\pm 3$ dB 150Hz-3kHz,  $\pm 5$ dB 80Hz-20kHz). HC: 25W RMS. Impedance: 8 ohms at 400Hz. Size:  $18 \times 9 \times 7$ in. Weight: 14lb. Finish: teak, walnut, satin white. Every model individually pen tested and calibration certificate supplied. Price: £25.45 (plus VAT).

**DM70 ★**

Infinite baffle and electrostatic speaker system. One nominal 13in diameter bass radiator with laminated and reinforced cone, one eleven-module wide-dispersion electrostatic HF unit type 701. Power supply unit, high- and low-pass filter assembly mounted on separate board. Infinite baffle loading on bass unit with multiple bracing and synthetic fibre absorbents. Electrostatic unit free-standing plug-in assembly with removable rear polar distribution. Impedance: nominal 8 ohms, not greater than 30 ohms or less than 4 ohms. HC: suitable for high quality amplifiers with outputs of 25-100W RMS. FR: 50Hz-15kHz better than  $\pm 4$ dB, 40Hz-20kHz better than  $\pm 5$ dB. System resonance: 40Hz  $\pm 1\%$ . Finish: oiled American walnut or white. Size:  $32\frac{3}{4} \times 26\frac{3}{4} \times 15\frac{3}{8}$ in. Weight: (with stand) 100lb. Price: £159.50 (plus VAT).

**■ CAMBRIDGE AUDIO**

Cambridge Audio Ltd.  
The River Mill, St Ives, Huntingdon.  
Tel: St Ives (Hunts) 62901. Telex: 32223.



Cambridge Audio R50 (Left) R40 (Right)

**R50 ★**

High quality transmission line enclosure with units and crossover. Bass driver in damped tapered labyrinth, HF driver in damped tapered pipe. Two HF pressure drivers. FR: 25Hz-25kHz. Crossover: 400Hz, 3kHz, 10kHz. HC: 25W RMS, 50W music. Impedance: 8 ohms (nominal). Size:  $41\frac{1}{2} \times 17\frac{3}{8} \times 13$ in. Price: £98 (plus VAT).

**R40 ★**

High quality enclosure incorporating three drive units in a damped tapered labyrinth. HC: 25W RMS, 40W music. Impedance: 8 ohms (nominal). Size:  $31\frac{1}{2} \times 13 \times 12\frac{3}{4}$ in. Price: £68.50 (plus VAT).

**■ CANTERBURY AUDIO**

4 Station Road West, Canterbury, Kent.  
Tel: Canterbury 60431.

**CA215**

Infinite baffle enclosure with units. HC: 15W. FR: 37Hz-19kHz. Impedance: 6 or 15 ohms. Finish: teak veneered bonded chipboard. Size:  $21 \times 13\frac{1}{2} \times 13\frac{1}{4}$ in. Price: £19.60 (plus VAT).

**CA315**

Infinite baffle enclosure with units. HC: 35W. FR: 35Hz-22kHz. Impedance: 6 or 15 ohms. Finish: teak veneered bonded chipboard. Size:  $31 \times 13\frac{1}{2} \times 13\frac{1}{4}$ in. Price: £39.60 (plus VAT).

**■ CELESTION**

Rola-Celestion Ltd, Ditton Works,  
Foxhall Road, Ipswich, Suffolk, IP3 8JP.  
Tel: Ipswich 73131.

★ Indicates entry is illustrated

**County ★**

Infinite baffle shelf mounting enclosure with units. One 8in bass driver, one HF1300 treble unit. HC: 25W RMS. Impedance: 4-8 ohms. Size: 19 × 10 × 9½ in. Finish: teak or walnut. Price: £22.02 (plus VAT).

**Ditton 10 Mk II ★**

Infinite baffle compact system. Long-throw 5in bass unit, HF1300 Mk 2 HF unit. Built-in half-section crossover 3.5kHz. FR: 35Hz-15 kHz. HC: 10W. Size: 12¾ × 6¾ × 8¼ in. Weight: 13lb. Available in teak and walnut. vci: 4-8 ohms. Price: £21.42 (plus VAT).

**Ditton 15 ★**

Compact infinite baffle enclosure incorporating auxiliary bass radiator. Units: 8in middle/bass speaker. HF1300 Mk 2 treble radiator. FR: 30Hz-15kHz. HC: 15W RMS. vci: 4-8 ohms.

Size: 21 × 9½ × 9½ in. Weight: 20lb. Finish: walnut or teak. Price: £33.60 (plus VAT).

**Ditton 25 ★**

Studio monitoring quality speaker enclosure with five drive units. 12in long-throw bass driver, two pressure type mid-range and HF units, pressure type ultra high frequency unit, 12in auxiliary bass radiator. HC: 25W RMS. vci: 4-8 ohms. Size: 32 × 14 × 11 in. Weight: 48lb. Finish: teak or walnut. Price: £65 (plus VAT).

**Ditton 44**

Floor-standing enclosure with units. One 12in bass driver, one 6in HF unit and HF2000 tweeter. HC: 44W RMS. Impedance: 4-8 ohms. Size: 30 × 14½ × 10 in. Finish: teak or walnut. Price: £54 (plus VAT).

**Ditton 66 ★**

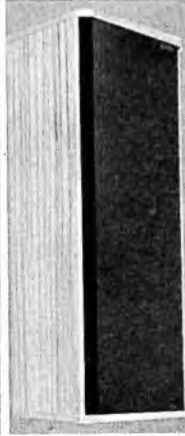
Floor-standing enclosure with units. One 12in



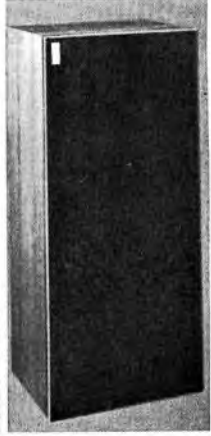
Celestion County



Celestion Ditton 10 11



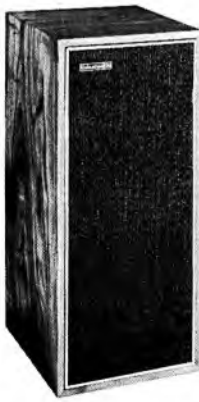
Celestion Ditton 66 monitor



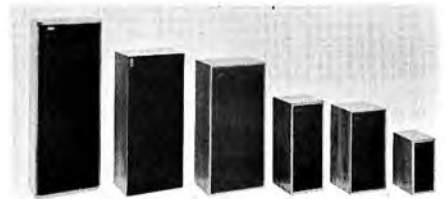
Celestion Ditton 25



Celestion Ditton 15



Celestion Ditton 120



Celestion Dittons 10/County 15/44/25/66



Celestion Ditton 66

bass driver, one 12in passive radiator (ABR), one dome HF unit, one dome tweeter. HC: 80W RMS. Impedance: 4-8 ohms. Size: 40 × 15 × 11½in. Finish: teak or walnut. Price: £99 (plus VAT).

#### Ditton 120 ★

Infinite baffle enclosure with two active units and one passive radiator. One 5in long-throw bass driver, one pressure type 1¾in tweeter, one 5in auxiliary bass radiator. Crossover: low-loss L/C network. FR: 35Hz-15kHz. HC: 20W (DIN). Impedance: 4-8 ohms. Finish: natural teak or walnut. Size: 17¼ × 9 × 7¾in. Price: £22.02 (plus VAT).

#### Hadleigh

Compact shelf-mounting speaker system. Price: £19.70 (plus VAT).

### ■ CITY AUDIO SERVICES LTD

144 Lavender Hill, London, SW11 5RA.  
Tel: 01-223 2496.

#### CA/15 ★

Infinite baffle enclosure with units and crossover. One 13 × 8in bass driver, two 2½in mid-range and HF units. Crossover: half-section 8.5kHz. FR: 50Hz-14kHz. HC: 10W RMS. Impedance: 8 ohms. Size: 18½ × 11½ × 8in. Weight: 14lb. Finish: teak. Price: £18.50 (plus VAT).

#### Super 30

Infinite baffle enclosure with units and crossover. One 8in long-throw bass driver with rubber cone suspension, one 3½in mid-range unit, one 2in tweeter. Crossover: L/C at over 4.5kHz. FR: 40Hz-19kHz. HC: 12W RMS. Impedance: 8 ohms. Size: 18½ × 11½ × 8in. Weight: 16lb. Finish: teak. Price: £23.30 (plus VAT).

### ■ CLARK SPEAKERS

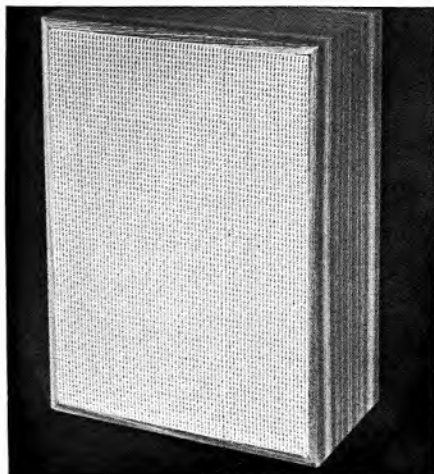
122 Hull Road, Anlaby, Hull, HU10 6UV.  
Tel: Hull (0482) 656706.

#### System A1/1

Transmission line enclosure with units and crossover. One Richard Allan CF8 8in bass/mid-range driver, one Peerless MT25 2½in tweeter. HC: 10W RMS. Impedance: 8 ohms. FR: 25Hz-20kHz. Crossover: 3kHz ¼-section two-element. Size: 30¾ × 18 × 15in. Finish: teak or mahogany. Also available with extension shelf unit to left or right to accommodate equipment, records, etc. Also available in kit form for home assembly. Full details and prices on request. Price: (kit) £26.50 (including VAT); (ready assembled) £32.32 (including VAT).

#### System A1/1 (KEF)

Similar to A1/1 above but fitted with KEF B200 bass driver. HC: 25W RMS. Price: (kit) £28 (including VAT); (ready assembled) £33.82 (including VAT).



City Audio CA/15

#### System A1/2

Transmission line enclosure with units and crossover. One Richard Allan CF8 8in bass driver, one Fane 501 5in mid-range unit, one Peerless MT25 2½in tweeter. HC: 15W RMS. Impedance: 8 ohms. FR: 25Hz-20kHz. Crossover: 500Hz and 3.5kHz, ½-section nine element crossover. Size: 35 × 18 × 15in. Finish: teak or mahogany. Also available with shelf unit to left or right to accommodate equipment, records, etc. Also available in kit form for home assembly. Full details and prices on request. Price: (kit) £39.94 (including VAT); (ready assembled) £46.76 (including VAT).

#### System A1/2 (KEF)

Similar to A1/2 above but fitted with KEF B200 bass driver. HC: 25W RMS. Price: (kit) £41.44 (including VAT); (ready assembled) £48.26 (including VAT).

### ■ CROWN RADIO

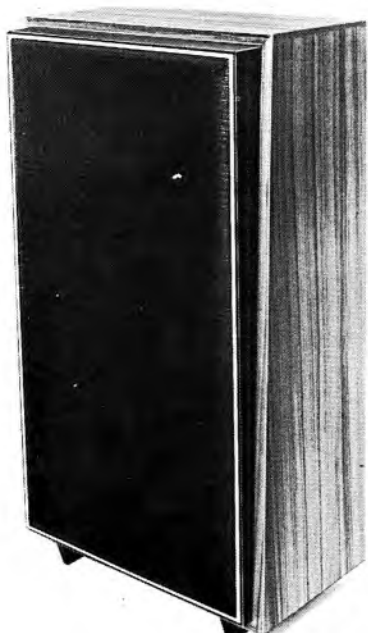
128-129 Shoreditch High Street,  
London, E1 6JE. Tel: 01-739 2382.

#### CSP-12

Infinite baffle enclosure with unit. One 13¼ × 8½in bass driver with integral HF unit. Size: 7¼ × 17½ × 9¾in. Finish: walnut cabinet with black grille. Price: (per pair) £29.50 (plus VAT).

#### CSP-13

Infinite baffle enclosure with unit. One 13¼ × 8½in bass driver with two integral HF units. Impedance: 8 ohms. Size: 10½ × 21 × 9in. Finish: walnut cabinet with black grille. Price: (per pair) £39.50 (plus VAT).



Decca Deram

■ **A. DAVIES & CO**

56 Wellesley Road, London, NW5.  
Tel: 01-485 5775.

**Bass reflex**

Suitable for 12in speakers. Cabinets lined with 1in acoustic felt. Finish: sapele, walnut, oak, teak. Full polish or satin finish. Dimensions:  $34 \times 17\frac{1}{2} \times 15\frac{1}{2}$ in. Price: £18.15 (ex works).

**A.D. Sealed Folded Horn**

Designed to house full-range 12in driver, or 12in bass unit plus middle and tweeter units to choice. Size:  $31\frac{1}{2}$ in high, 18in wide, 18in deep. Finish: teak or veneer to colour of choice. Front baffle sealed with black laminate (other colours to order), with neutral colour open-weave Tygan grille covering. Price: (12in speaker version) £30.25 ex-works; (15in speaker version) £35.75 ex-works.

■ **DECCA**

Decca Special Products, Ingate Place,  
Queenstown Road, London, SW8 3NT.  
Tel: 01-622 6677.

**Decca Deram Enclosure ★**

Two units:  $13 \times 8$ in bass driver, 3in tweeter. HC: 8-10W. Size:  $25 \times 13\frac{1}{2} \times 8$ in. Impedance: 8 ohms. Finish: teak or white. Price: £21 (plus £2.10 VAT).

■ **DERWENT**

Nichols Acoustic Fitments, Church Street,  
Bubwith, Selsby, Yorks. Tel: Bubwith 206.

Manufacturers of a range of competitively priced speaker enclosures to suit most popular drive units. No product information or prices obtainable from the makers as this edition of the Year Book closed for press.

■ **DUAL**

Audiodecks Ltd, Farnell House,  
81 Kirkstall Road, Leeds, LS1 1HR.  
Tel: Leeds 3511.

**CL112**

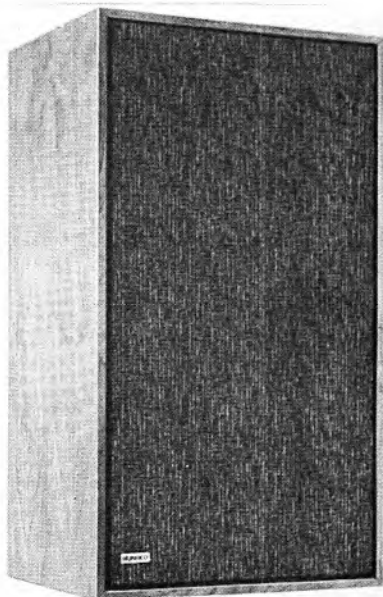
Speaker system in walnut finish. New model and full specification not available as this edition of the Year Book closed for press. Price: £22.64 (including VAT).

**CL142**

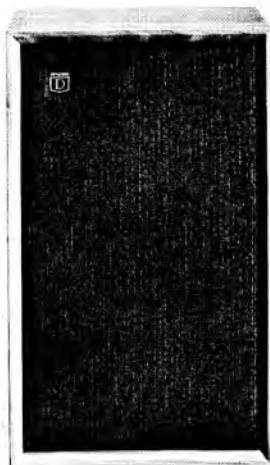
Speaker system in walnut or white finish. New model and full specification not available as this edition of the Year Book closed for press. Price: (walnut) £36.02 (including VAT); (white) £37.49 (including VAT).

■ **DYNACO**

Distributors: Howland-West Ltd,  
3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293/4/5.



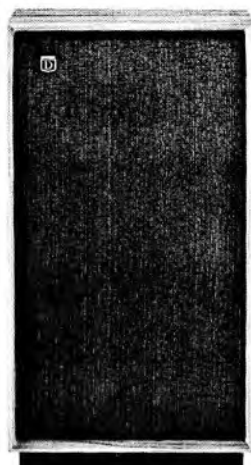
Dynaco A35



Dynatron LS103



Dynatron LS 1434



Dynatron LS3034

**Dynaco A25**

Speaker enclosure with 10in high compliance unit and two 1½in dome tweeters. Crossover: 1500Hz. FR: 32Hz-20kHz. HC: 35W RMS. vci: 8 ohms. Dimensions: 20×11½×10in. Weight: 22lb. Finish: teak, walnut, rosewood. Price: £34 (plus £3.40 VAT).

**A10**

Aperiodic speaker enclosure with units and crossover. One 6½in bass driver, one dome HF unit. Crossover: 2.5kHz. HC: 20-60W RMS. Impedance: 8 ohms. Dimensions: 8×15×8in. Finish: teak. Price: £22 (including VAT).

**A35 ★**

Aperiodic speaker enclosure with units and crossover. One 10in bass driver, one dome HF unit. Crossover: 1.2kHz. HC: 20-60W RMS. Impedance: 8 ohms. Size: 22½×12½×10in. Finish: teak. Five-position HF control. Price: £41.80 (including VAT).

**■ DYNASTATIC**

See Audio Services Ltd.

**■ DYNATRON RADIO LTD**

St Peters Road, Maidenhead, Berks, SL6 7QY.  
Tel: Maidenhead 23331.

**LS1034 ★**

Shelf mounting infinite baffle enclosure with units. One 6½in bass driver, two 3¾in tweeters. Impedance: 4 ohms. Size: 13¾×7½×10¼in. Price: £16.59 (including VAT).

**LS1434 ★**

Shelf mounting infinite baffle enclosure with units. One 8in bass driver, two 3¾in tweeters.

Impedance: 4 ohms. Size: 19¾×11¾×10¼in. Price: £18.48 (including VAT).

**LS1638**

Infinite baffle enclosure with units. One 8in bass driver, one 3in mid-range unit and one 3¾in tweeter. HC: 15W RMS. FR: 30Hz-18kHz. Impedance: 8 ohms. Finish: teak. Size: 19¾×11×9½in. Price: £27.49 (including VAT).

**LS1734**

Infinite baffle enclosure with units and crossover. One 8in bass driver, two 3¾in tweeters. Choke/capacitor crossover. FR: 40Hz-16kHz. HC: 10W RMS. Impedance: 4 ohms. Finish: white spray finish. Matches Dynatron HFC36 and fits stand ST21. Size: 19¾×11¾×10¼in. Price: £18.48 (including VAT).

**LS2034**

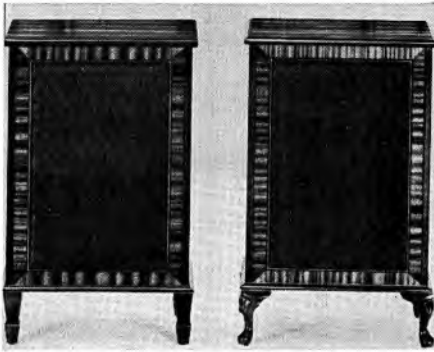
Reflex enclosure with units. One 8in bass driver, two 3¾in tweeters. FR: 35Hz-18kHz. HC: 10W RMS. Impedance: 4 ohms. Floor-standing design in teak with padded front. Size: 26¾×10¼×15½in. Price: £24.64 (including VAT).

**LS3034 ★**

Infinite baffle enclosure with units. One 8in bass driver, two 3¾in tweeters. Impedance: 4 ohms. Size: 26½×14¾×12in. Price: £27.49 (including VAT).

**LS4038**

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 5in mid-range unit, one 1in tweeter. FR: 30Hz-20kHz. HC: 40W RMS. Impedance: 4-8 ohms. Size: 26½×14½×12in. Finish: teak veneer. Designed to match all units in Dynatron audio separates range. Price: £49.50 (including VAT).



Dynatron LS2638

**LS2528**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 3in HF unit. FR: 30Hz-18kHz. HC: 15W RMS. Impedance: 4-8 ohms. Size: 23 × 15½ × 10in. Finish: selected walnut veneers. Period style cabinet to match Dynatron HFC46 combination unit. Price: £36·01 (including VAT).

**LS2638 ★**

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 5in mid-range unit, one 1in tweeter. FR: 30Hz-20kHz. Impedance: 4-8 ohms. Size: 27¼ × 18 × 12¼in. Finish: selected walnut veneer. Period style cabinet to match Dynatron HFC103 combination unit. Price: £60·50 (including VAT).

**LS2828**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 3in HF unit. FR: 30Hz-18kHz. HC: 15W RMS. Impedance: 4-8 ohms. Size: 23 × 14½ × 10in. Finish: selected walnut veneer. Period style cabinet to match Dynatron HFC47. Price: £36·01 (including VAT).

■ **EAGLE INTERNATIONAL**

Heather Park Drive, Wembley, HA0 1SU.

Tel: 01-903 0144.

**DL.42**

Infinite baffle enclosure. FR: 40Hz-20kHz. HC: 5W RMS. One 4in high compliance unit and one horn tweeter. vci: 8 ohms. Size: 10 × 6 × 6½in. Finish: teak and black front. Price: £11·90 (plus VAT).

**DL.67 ★**

Infinite baffle enclosure. FR: 35Hz-20kHz. HC: 10W RMS. One 6½in high compliance unit and one horn tweeter. vci: 8 ohms. Size: 11¾ × 8 × 6¾in. Finish: teak and black front. Price: £15·65 (plus VAT).

**AA16**

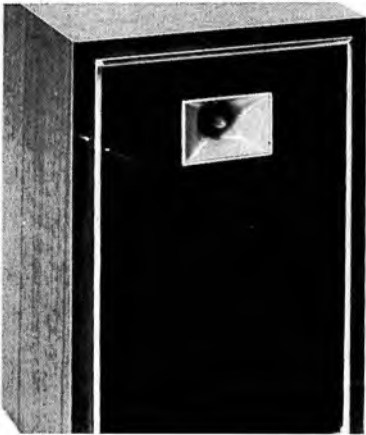
Ported reflex enclosure. FR: 40Hz-19kHz. HC: 8W RMS, 16W peak. Impedance: 8 ohms. Size: 14¼ × 8¾ × 6½in. Finish: oiled teak with charcoal grey grille. Price: (per pair) £23 (plus VAT).

**AA14**

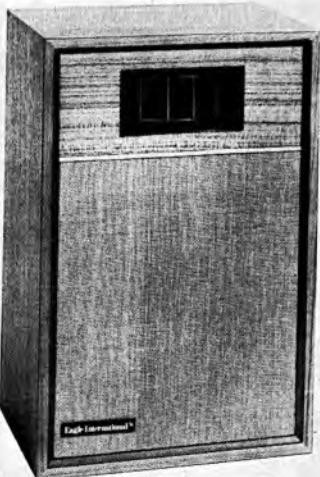
Infinite baffle enclosure with units and crossover. Two 8in bass drivers, two 3¾in mid-range units, two 3¾in tweeters. LC crossover. FR: 30Hz-20kHz. HC: 25W RMS. Impedance: 8 ohms. Price: £39·80 (plus VAT).

**AA22 ★**

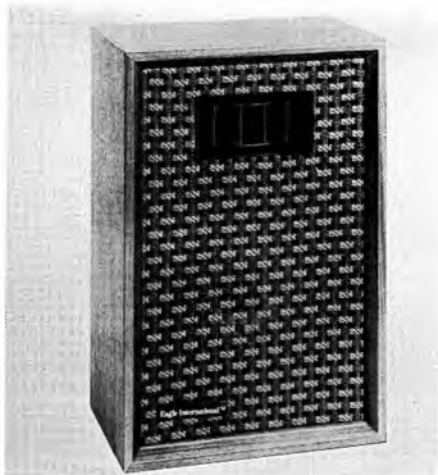
Infinite baffle enclosure with units and crossover. One 8in bass/mid-range driver, one 2in tweeter. Crossover: 2kHz LC network. FR: 35Hz-20kHz. HC: 15W RMS. Impedance: 8 ohms. Size: 15¼ × 10 × 6¾in. Finish: oiled teak with stone colour grille cloth. Price: £16·18 (plus VAT).



Eagle DL67



Eagle AA22



Eagle AA24

**AA24 ★**

Infinite baffle enclosure with units and crossover. One 8in bass/mid-range unit, one 2in tweeter. Crossover: 2kHz LC network. FR: 35Hz-20kHz. HC: 15W RMS. Impedance: 8 ohms. Size:  $15\frac{1}{4} \times 10 \times 6\frac{3}{4}$ in. Finish: oiled teak and woven material grille cloth. Price: £16.18 (plus VAT).

**EATON AUDIO FITMENTS**

Leopold Street, Long Eaton,  
Nottingham, NG10 4QF.  
Tel: Long Eaton 2662/2818.

**Eaton Economy range**

See Constructional Kits section for full details of Economy range of loudspeaker enclosure kits. Also details of kits to Wharfedale specifications, including Pipe kits.

Cabinets and enclosures built to customer's own designs and quotations given. Standard models can be modified to suit individual requirements where such alterations are practical.

**EDWARD MICHELSEN CUSTOM CABINETS**

216 Brampton Road, Bexleyheath, Kent.  
Tel: 01-303 9272.

Manufacturers of hi-fi equipment cabinets and speaker enclosures in ready built or kit versions. Full details on request. No product information or prices obtainable as this edition of the Year Book closed for press.

**ELAC**

Electro Acoustic Industries Ltd,  
Stamford Works, Broad Lane, Tottenham,  
London, N15. Tel: 01-808 0505.

Manufacturers of hi-fi speaker units and enclosures. No product information or prices obtainable as this edition of the Year Book closed for press.

**ELGAR**

English Audio (1970) Ltd, North Station Road,  
Colchester, Essex. Tel: Colchester (0206) 73467.

**Elgar**

Infinite baffle enclosure with units. One 12in bass driver, one 4in HF unit. HC: 25W RMS. Finish: teak. Size:  $14\frac{3}{8} \times 21\frac{3}{4} \times 9\frac{1}{2}$ in. Price: approximately £35 (plus VAT).

**EMI SOUND & VISION**

EMI Pathé Division,  
252 Blyth Road, Hayes, Middlesex, UB3 1HW.  
Tel: 01-573 3888. Telex: 22417.

**LE.1**

Bass reflex enclosure with unit. One 8 × 5in full range driver. Impedance: 8 ohms nominal. HC: 10W RMS. Finish: teak. Price: £33.80 (including VAT).

**LE.2**

Infinite baffle enclosure with units and crossover. One 13 × 8in bass/mid-range driver, one 3½in tweeter. Impedance: 8 ohms. HC: 15W RMS. Finish: teak. Price: £29.50 (including VAT).

**LE.3ss**

Infinite baffle enclosure with units and crossover. Special 13 × 8in bass/mid-range driver incorporating double-wound voice coils for use in surround systems, two 3½in tweeters. Impedance: 8 ohms nominal. HC: 15W RMS. Finish: teak. Price £41.30 (including VAT).

**LE.4**

De luxe infinite baffle enclosure with units and crossover. One 14 × 9in bass driver, one 8 × 5in mid-range unit, two 3½in tweeters. Impedance: 8 ohms nominal. HC: 25W RMS. Price: £63.20 (including VAT).

**EMPHASIS**

50a The Avenue, Kilburn, London, NW6.  
Tel: 01-451 0517.

**DB9**

Matched cube-shaped speaker enclosures. Choice of Tannoy Monitor Gold 12in or Altec Lansing 604E driver units. Size: (each cube) 24 × 24 × 24in on 6in chrome pillar. Finish: teak, rosewood, coloured lacquers or hessian. Prices: according to specification.

**EUROTRONIC**

2 Gerrard Gardens, Eastcote, Pinner,  
Middlesex. Tel: Ruislip 36316.

**RT12**

Swivel mounting enclosure with units and



★ Indicates entry is illustrated

crossover. One 6½in bass driver, one 3¼in tweeter. FR: 65Hz-20kHz. Crossover: half-section with air-cored inductors. Impedance: 8ohms. HC: 12W RMS (20W peak). Finish: spun aluminium in natural finish. Removable front bezel to permit integrating the speaker with any decor by inclusion of materials or finish as required. Price: £16 (plus VAT).

#### RT8

Speaker system with unit. No details of price or specification as this edition of the Year Book closed for press.

#### RT15

Speaker system with units. No details of price or specification as this edition of the Year Book closed for press.

### ■ EXECUTIVE AUDIO

10 Goldsmith Street, Nottingham, NG1 5JR.  
Tel: Nottingham (0602) 44223.

#### Hi-ball 750 ★

Speaker enclosure with unit. One specially developed 4in high-compliance long-throw full-range driver. FR: 38Hz-16.5kHz. Impedance: 8 ohms. Size: 7½in diameter. Finish: spherical glass enclosure, finished in black, white, red, orange, yellow, blue or green with black or silver trim. Various mounting brackets available. Other colours to order to match decor. Price: (per pair) £30 (including VAT).

### ■ FERROGRAPH

The Ferrograph Company Ltd,  
Auriema House, 442 Bath Road, Cippenham,  
Slough, Bucks, SL1 6BB.  
Tel: Burnham (062-86) 62511. Telex: 847297.

#### Model S1 ★

Reflex system enclosure with units and crossover. One LF driver, one mid-range unit and one tweeter. 18-element steep-cutting crossover network. Impedance: 8 ohms nominal. HC: 25W RMS. FR: 45Hz-20kHz ± 3dB. Crossover: 400Hz, 3.5kHz. Size: (cabinet) 25in high, 14in wide, 17½in deep; (stand) 14½in high. Weight: (cabinet) 56lb, (stand) 61b. Finish: satin finish dark grey or simulated walnut with aluminium trim, white surround and folk weave fabric grille. Connections via recessed press terminals in rear. Price: £95 (plus VAT).

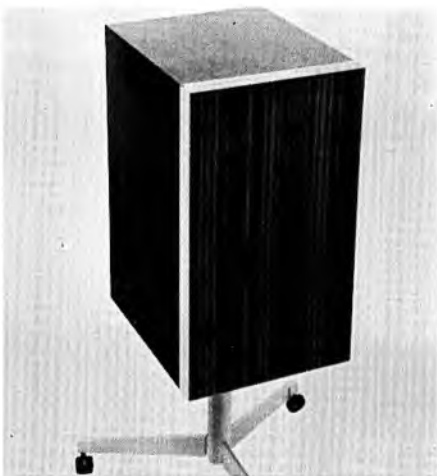
### ■ FISHER

ICP Computer Processors Ltd, Hainault House,  
Hainault Street, New Eltham, London, SE9.  
Tel: 01-850 0828.

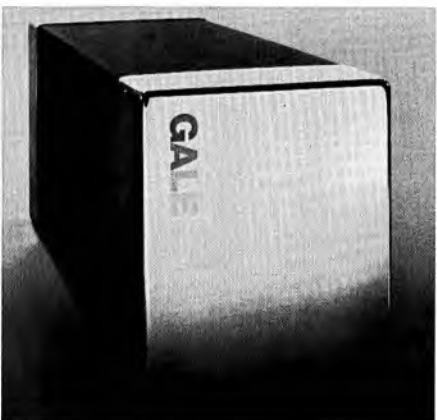
Completely new range of Fisher tuner/amplifiers, amplifiers and speakers being imported for the 1973/1974 season. No product details obtainable at the time this edition of the Year Book closed for press.



Executive Audio Hi-Ball 750



Ferrograph S1



Gale GS401

### ■ GABRAPHONE

Modern Engineering & Technology Ltd,  
4 Station Road, West Canterbury, Kent.  
Tel: Canterbury 60431.

#### 138R

Speaker enclosure with units. HC: 15W RMS. FR: 30Hz-19kHz. Full specification and details of finish not obtainable as this edition of the Year Book closed for press. Price: (per pair) £42.68 (including VAT).

#### 138S

Speaker enclosure with units. HC: 7W RMS. FR: 35Hz-17kHz. Full specification and details of finish not obtainable as this edition of the Year Book closed for press. Price: (per pair) £31.68 (including VAT).

#### 138G2

Speaker enclosure with units. HC: 20W RMS. FR: 25Hz-20kHz. Full specification and details of finish not obtainable as this edition of the Year Book closed for press. Price: (per pair) £66.44 (including VAT).

### ■ GALE ELECTRONICS

Gale Electronics & Design Ltd,  
39 Upper Brook Street, London, W1Y 1PE.  
Tel: 01-499 2030.

#### GS401 ★

Infinite baffle speaker system with units and crossover. Two acoustically-coupled bass drivers, one 4in mid-range unit, one  $\frac{3}{4}$ in tweeter. Crossover: 400Hz, 5kHz. FR: 35Hz-20kHz 5dB. HC: 100W RMS. Impedance: 4 ohms. Recommended for use with amplifiers having output of not less than 30W into 4 ohms. Finish: black and chrome. Guaranteed for seven years. Price: £81 (plus VAT).

### ■ GOODMAN'S LOUDSPEAKERS LTD

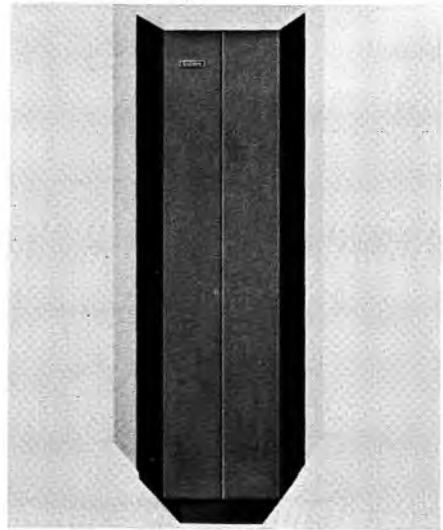
Downley Road, Havant, Hampshire, PO9 2NL.  
Tel: Havant 6344. Telex: 86296.

#### Double Maxim

Infinite baffle enclosure with units and crossover. Two 4in bass drivers, one 1in dome HF tweeter. Crossover: 5kHz. FR: 40Hz-22kHz (DIN 45-500) HC: 30W (DIN) Interior volume: 9 litres. Impedance: 4 ohms. Finish: teak, walnut or white. Size:  $17\frac{3}{4} \times 6\frac{3}{4} \times 7\frac{1}{2}$ in. Weight: 11lb. DIN connector with cable. Price: (teak or walnut) £28.84 (plus VAT); (white) £31.44 (plus VAT).

#### Havant SL

Reflex enclosure with units and crossover. One 8in bass driver, one  $3\frac{3}{4}$ in mid-range unit, one 1in dome tweeter. Crossovers: 2kHz and 8kHz. Interior volume: 18 litres. FR: 45Hz-22kHz (DIN 45:500). HC: 20W (DIN). Impedance: 8 ohms. Finish: teak, walnut or white. Size:



Goodmans Dimension 8

$19 \times 10\frac{1}{2} \times 9\frac{3}{4}$ in. Weight: 18 $\frac{3}{4}$ lb. DIN connector with cable. Price: (teak or walnut) to be announced.

#### Mezzo SL

Reflex enclosure with units and crossover. One 10in bass driver, one 1 $\frac{1}{2}$ in dome tweeter. Crossover: 2kHz. FR: 40Hz-22kHz. HC: 60W (DIN). Impedance: 4-8 ohms. Size:  $24\frac{1}{2} \times 15 \times 11\frac{3}{8}$ in. Finish: teak or walnut. Price: to be announced.

#### Magnum SL

Infinite baffle enclosure with units and crossover. One 12in bass driver, 4in back-loaded mid-range unit, 1in dome tweeter. Crossover: 2kHz and 6kHz. FR: 35Hz-22kHz. HC: 60W (DIN). Impedance: 4-8 ohms. Size:  $24\frac{1}{2} \times 15 \times 11\frac{3}{8}$ in. Finish: teak or walnut. Price: to be announced.

#### Magister

Infinite baffle enclosure with three units and crossovers. One 15in bass driver, one 4in mid-range unit, one 1in dome tweeter. Crossovers: 800Hz and 5kHz. FR: 26Hz-22kHz. HC: 50W (DIN). Impedance: 4-8 ohms. Finish: teak or walnut. Size:  $27 \times 20 \times 14\frac{1}{2}$ in. Price: £65.63 (plus VAT).

#### Minister SL

Bookshelf enclosure with units and crossover. 8in bass driver with plastic coated diaphragm, dome type tweeter. HC: 20W (DIN). Impedance: 4-8 ohms. FR: 45Hz-22kHz. Finish: teak or walnut. Size:  $19 \times 10\frac{1}{2} \times 9\frac{3}{4}$ in. Supplied in matched pairs. Price: to be announced.

#### Dimension 8 ★

Mass-loaded reflex enclosure with units and crossover. One slave radiator, four 5in bass

★ Indicates entry is illustrated

drivers, two 4in mid-range units, two 1in dome tweeters. Crossovers: 80Hz, 800Hz, 4kHz. FR: 30Hz-22kHz (DIN 45:500). HC: 60W. Minimum amplifier power: 10W. Interior volume: 40 litres. Impedance: 4 ohms. Finish: teak, walnut or white. Size:  $30\frac{1}{2} \times 14 \times 12\frac{1}{2}$ in. Weight: 44lb. Price: (teak or walnut) £72.44 (plus VAT); (white) £78.76 (plus VAT).

#### Goodwood ★

Floor-standing infinite baffle enclosure with units and crossover. One 12in bass driver, one 4in mid-range unit, one 1in dome tweeter. Crossover: 600Hz, 4kHz. FR: 40Hz-22kHz. HC: 50W (DIN). Impedance: 4-8 ohms. Size:  $30 \times 14\frac{1}{2} \times 10\frac{3}{4}$ in. Finish: teak, white or walnut. Price: (teak or walnut) £72.44 (plus VAT); (white) £78.76 (plus VAT).

#### ■ GRUNDIG (Great Britain) LTD

Hi-Fi Division, Sydenham, London, SE26 5NQ. Tel: 01-778 2211.

#### Troika 7301 ★

Comprises two separate omni-directional tweeter systems and one bass enclosure. Two drivers in bass enclosure, six tweeters in each

treble cube. HC: 25W RMS. FR: 40Hz-20kHz. vci: 5 ohms. Finish: matt walnut. Sizes: bass enclosure  $21 \times 13\frac{3}{4} \times 5$ in; treble cubes  $5\frac{1}{2} \times 5\frac{1}{2} \times 5\frac{1}{2}$ in. Price: (complete system) £107.07 (including VAT).

#### Troika 3012

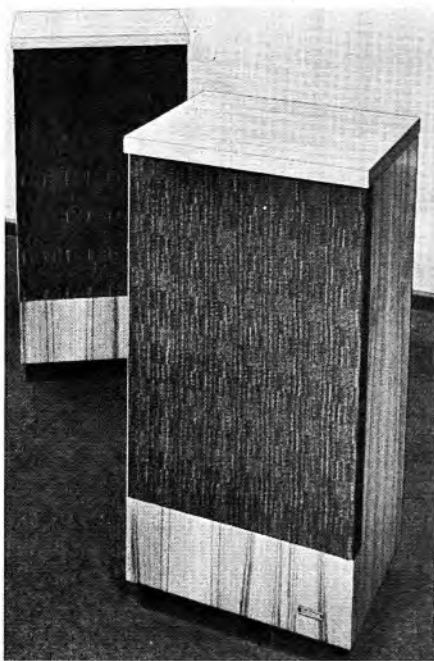
Infinite baffle enclosure with units and crossover. One "Box 301" bass unit, Sphere 300 mid-range and treble unit. Crossover: 400Hz. FR: 40Hz-20kHz. HC: 25W. Impedance: 4-5 ohms. Size: (bass unit)  $21 \times 13\frac{3}{4} \times 5$ in, (HF Sphere)  $5\frac{1}{2}$ in diameter. Weight: (bass unit) 25½lb, (HF Sphere) 3lb. Finish: (bass unit) light matt plus fabric grille, (HF Sphere) black with four circular grilles. Sphere 300 stands on a tripod, total height 10in. Price: £93.96 (including VAT).

#### 106M

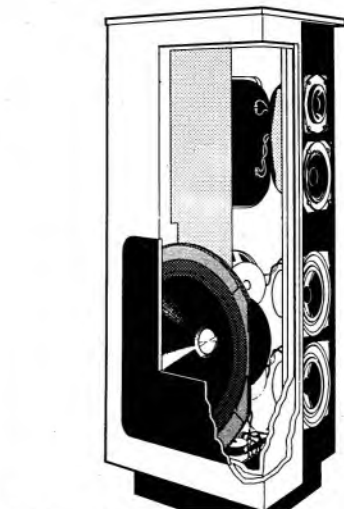
Infinite baffle enclosure with unit. One full-range 5in driver. FR: 70Hz-12kHz. HC: 6W. Impedance: 4 ohms. Size:  $11\frac{7}{8} \times 7\frac{1}{2} \times 4$ in. Weight: 5½lb. Finish: light matt wood effect. Supplied in pairs. Price: £37.66 per pair (including VAT).

#### 210a ★

Infinite baffle enclosure with units and cross-



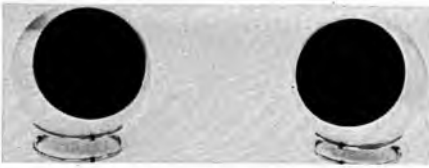
Goodmans Goodwood



Goodmans Dimension 8 (cut-away)



Grundig Troika 7301



Grundig Speaker System 210a



Hacker LS500C, LS1000D, LS1500B

over. One bass/mid-range driver, one tweeter. Crossover: 4.5kHz. FR: 50Hz-20kHz. HC: 15W RMS. Impedance: 4 ohms. Size: 7½ in diameter. Weight: 5½ lb. Finish: satin metal with black grille. Supplied in pairs. Optional free-standing, wall mounting or ceiling suspended. Price: £44.79 per pair (including VAT).

### 303M

Infinite baffle enclosure with units and crossover. Two bass/mid-range drivers, one tweeter. Crossover: 4kHz. FR: 45Hz-20kHz. HC: 25W RMS. Impedance: 4 ohms. Size: 20 × 13⅝ × 3½ in. Weight: 19 lb. Finish: white with fabric front. Slim-line cabinet, ideal for wall mounting. Supplied in pairs. Price: £74.33 per pair (including VAT).

### Audiorama 7000 ★

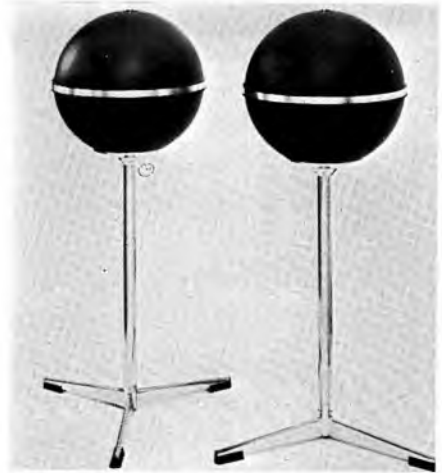
Infinite baffle enclosure with units and crossover. Four bass drivers and eight treble units in each enclosure. Crossover: 3.5kHz. FR: 40Hz-20kHz. HC: 50W RMS. Impedance: 4 ohms. Size: 12¼ in diameter. Weight: 30 lb. Finish: white sphere with chrome stand (black sphere to special order). Omni-directional sound radiation. Supplied in pairs and with optional ceiling suspension chains. Price: £246.49 per pair (including VAT).

### ■ HACKER RADIO LTD

Norreys Drive, Cox Green, Maidenhead, Berks, SL6 4BP. Tel: Maidenhead 22261/5.

#### LS500C ★

Infinite baffle enclosure with units and crossover. One 13 × 8 in elliptical long-throw bass driver, one 3¼ in HF pressure unit. Impedance: 8 ohms. FR: 70Hz-15kHz. HC: 12W sine wave power. L/C crossover unit. Finish: teak veneer.



Grundig Audiorama 7000

Input socket: two-pin DIN. Size: 10¼ × 16½ × 8½ in. Price: £23.65 (including VAT).

#### LS1000D ★

Infinite baffle enclosure with units and crossover. One 13 × 8 in elliptical long-throw bass driver, one 2½ in HF pressure unit. Impedance: (LS1000C) 15 ohms; (LS1000D) 8 ohms. FR: 55Hz-17kHz. HC: 15W sine wave power. L/C crossover unit. Finish: teak veneer. Input socket: two-pin DIN. Size: 13¼ × 20¼ × 11½ in. Price: £29.70 (including VAT); (teak stand ST1000 to raise speaker 8 in from floor) £3.85 (including VAT).

#### LS1500B ★

Infinite baffle enclosure with units and crossover. One 13 × 8 in elliptical long-throw bass driver, one 7 × 5 in mid-range unit in isolated chamber, one 1 in domed tweeter. Impedance: 8 ohms. FR: 50Hz-20kHz. HC: 20W sine wave power. L/C/R crossover unit. Finish: teak veneer. Input socket: two-pin DIN. Incorporates special mid-range control adjustable from rear of cabinet. Pressing a button increases mid-range response at around 2kHz by approximately 5dB. Size: 15½ × 30 × 12 in. Price: £52.80 (including VAT); (teak stand ST1500 to raise speaker 5 in from floor) £4.40 (including VAT).

Also available for Hacker speakers are extension leads fitted with DIN two-pin plugs and DIN two-pin sockets. LD/DD4 four-metre lead 55p (including VAT); LD/DD8 eight-metre lead 88p (including VAT).

### ■ HANIMEX (UK) LTD

Hanimex House, 15-24 Great Dover Street, London SE1. Tel: 01-407 8161.

★ Indicates entry is illustrated

New range of hi-fi speaker systems to be introduced under the Hanimex brand name. No details of models available as this edition of the Year Book closed for press.

### ■ HARMAN KARDON

Highgate Acoustics,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

#### **KH50**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 2½in tweeter. Crossover: L/C 2kHz. FR: 35Hz-20kHz. HC: 40W RMS. Impedance: 8 ohms. Size: 11¾ × 18¼ × 11¾ in. Finish: walnut. High-frequency level control incorporated. Price: £55 (plus VAT).

#### **Citation 13**

Enclosure with units and crossover. Dual-chamber triple-port reflex system. Three 7in bass drivers, one 1½in mid-range unit, two 1in dome tweeters. Crossover: 2.5kHz, 7.5kHz. FR: 30Hz-20kHz. HC: 60W RMS. Impedance: 6 ohms. Size: 20⅝ × 29½ × 4¾ in. Weight: 75lb. Finish: walnut with beige grille cloth. Two level controls for adjusting mid-range and upper-frequency response, mounted on rear panel. Price: £169 (plus VAT).

### ■ HEATHKIT

See Constructional Kits Section.

### ■ HELME

P. F. and A. R. Helme Ltd, Summerbridge,  
Harrogate, HG3 4DR, Yorks. Tel: Darley 279.

Restyled high-fidelity speaker systems finished in teak. All systems also available in kit form. All systems are infinite baffle and have 8 ohms impedance.

#### **Firecrest ★**

Houses 6½in bass driver with two 2in tweeters. Crossover: 2.4kHz. FR: 45Hz-22kHz. HC: 20W RMS. Dimensions: 14 × 9 × 7½ in. Price: £22-20 (plus VAT).

#### **Swallow ★**

Houses an 8in bass unit and two 2½in tweeters. Crossover: 2.5kHz. HC: 50W. FR: 35Hz-22kHz. Dimensions: 20 × 11 × 9in. Price: £30-80 (plus VAT).

#### **Helme S-25**

Houses 8in bass driver and 3in tweeter. Crossover: 3.2kHz. HC: 25W (DIN). FR: 50Hz-35kHz. Dimensions: 22½ × 12½ × 10in. Speaker drive units and crossover also offered as a kit under reference K-25. Prices to be announced.

#### **Helme S-50**

Houses 13 × 8in bass driver with Bextrene cone and 3in tweeter. Crossover: 3kHz. HC: 50W (DIN). FR: 30Hz-42kHz. Dimensions: 22½ ×



*Helme Speaker Systems*

12½ × 10in. Speaker drive units and crossover also offered as a kit under reference K-50. Prices to be announced.

### ■ HITACHI

Hitachi Sales (UK) Ltd, New Century House,  
Coronation Road, Park Royal,  
London NW10 7QN. Tel: 01-965 9861.

#### **HS-220T**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 2½in tweeter. FR: 40Hz-20kHz (-15dB). Crossover: 4kHz. Impedance: 8ohms. HC: 8W RMS. Size: 11 × 19⅝ × 9⅞ in. Weight: 15¼lb. Price: (per pair) £55 (including VAT).

#### **HS-320**

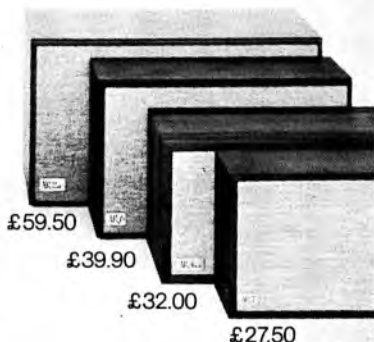
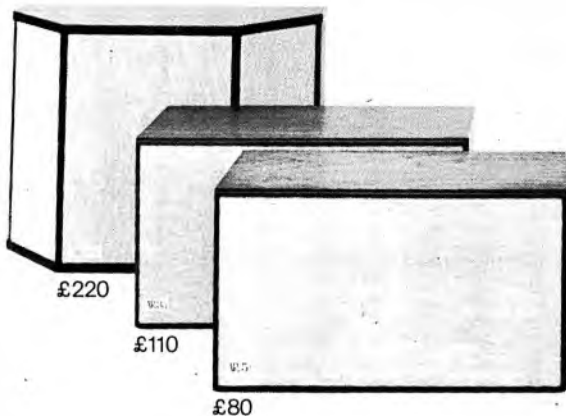
Reflex enclosure with units and crossover. One 8in bass driver, one horn-type tweeter. Crossover: 4kHz. FR: 35Hz-20kHz (-15dB). Impedance: 8ohms. HC: 8W RMS. Size: 12⅝ × 22¼ × 9⅞ in. Weight: 24lb. Price: £39.90 (including VAT).

#### **HS-420**

Reflex enclosure with units and crossover. One 9¾in bass driver, one 5in mid-range unit, one horn-type tweeter. Crossover: 2kHz, 8kHz. FR: 30Hz-20kHz (-15dB). Impedance: 8ohms. HC: 15W RMS. Size: 14½ × 26½ × 9⅞ in. Weight: 33lb. Price: £52 (including VAT).

#### **HS-350**

Ducted port two-way speaker system with units and crossover. One 8in bass driver, one tweeter. Crossover: 3.5kHz. Impedance: 8ohms. FR: 40Hz-20kHz. HC: 20W RMS. Size: 14⅝ × 23⅝ × 9⅞ in. Weight: 33lb. Finish: walnut veneer.



## At Acoustic Research we try to make all our speakers sound alike.

It shouldn't be surprising that there is so little difference between the sound of the £220 AR-LST and the £27.50 AR-7. The similarity is quite intentional, and results from the application of a design philosophy developed by AR over the past 20 years.

Our first aim is to produce the most accurate speaker we can make, regardless of size or cost. This loudspeaker is the AR-3a, and its professional relative the AR-LST. Here the only limiting factors are the state of the art and our own engineering skill.

We have also designed other speakers in which price was a consideration. But the performance standard has remained the same – the natural reproduction of music without exaggeration or artificiality of

sound. And in designing the lower-cost AR speakers, it has been our aim to choose those compromises with cost that would have the least effect on the accuracy of sound reproduction.

This approach has resulted in a number of speakers in various price ranges whose performance often comes surprisingly close to that of the most expensive AR speakers. Or, to look at it another way, the differences in performance among the various AR speakers have been reduced to the point where they may matter less to you than the differences in cost.

You may want the closest approach to the sound of live music that we can offer. Or, you may want some other balance between quality and price. The choices are there and the sounds are remarkably similar.

**Acoustic Research International**  
High Street, Houghton Regis, Beds.  
Phone: (0582) 603151

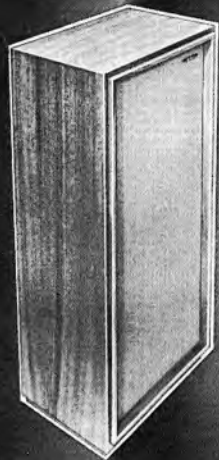


A TELEPHONE COMPANY

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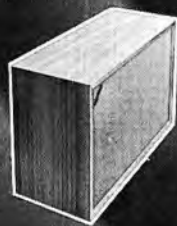
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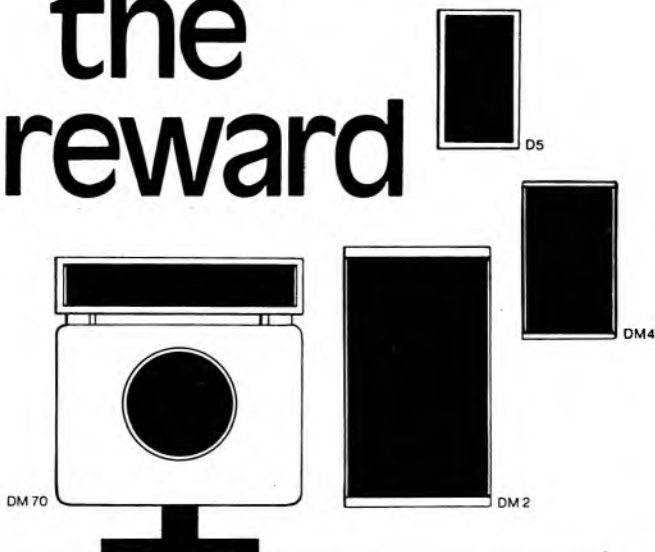
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### HS1400W

Four-way speaker system with units and crossover. One 8in super bass driver, one 8in bass driver, one 5in mid-range unit, one horn type tweeter. Crossover: 100Hz, 1.5kHz, 5kHz. FR: 35Hz-20kHz. Impedance: 8ohms. HC: 8W RMS. High-level three-position attenuator, mid-level two-position attenuator. Size:  $17\frac{1}{2} \times 45\frac{1}{2} \times 14\frac{1}{2}$ in. Weight: 62lb. Finish: walnut veneer. Price: £129 (including VAT).

### HS500

Reflex enclosure with units and crossover. One 8in bass driver, one horn tweeter. Crossover: 3kHz. Impedance: 8ohms. FR: 25Hz-20kHz. HC: 20W RMS. Size:  $14\frac{1}{2} \times 24 \times 13\frac{3}{4}$ in. Weight: 48lb. Price: £139 (including VAT).

## ■ HOWLAND-WEST LTD

3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293.

### Budgetline 12 ★

Infinite baffle enclosure with units. One 12in bass driver, one  $3\frac{3}{8}$ in coaxially mounted tweeter. Crossover: 5kHz. FR: 40Hz-18kHz. HC: 20W RMS. Impedance: 8 ohms. Size:  $20 \times 12 \times 8\frac{1}{2}$ in. Finish: teak. Price: £19.80 (including VAT).

## ■ IMF ELECTRONICS LTD

Westbourne Street, High Wycombe, Bucks.  
Tel: High Wycombe 35166.

### Compact ★

Reflex enclosure with units and crossover. One  $6\frac{1}{2}$ in roll-surround bass driver, one 5in impregnated cone mid-range unit, one 3in damped surround tweeter. Crossover: approximately 500 Hz and 5kHz. FR: 40Hz-20kHz. HC: 18W pink noise for 100dB. Impedance: 8 ohms. Size:  $16\frac{1}{2} \times 10\frac{1}{2} \times 10$ in. Weight: 15lb. Finish: teak or walnut. Price: (per pair) £60 (plus VAT)

### ALS40 ★

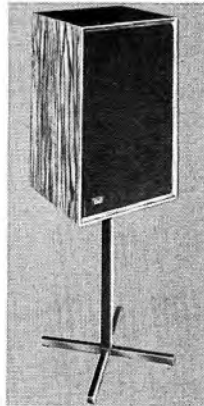
Active line enclosure with units and crossover. One 8in foam-surround bass driver, one 5in impregnated cone mid-range unit, one soft dome tweeter. Crossover: 180Hz, 375Hz and 3kHz. FR: 28Hz-20kHz. HC: 25-60W (40W pink noise for 100dB). Impedance: 8 ohms. Size:  $13\frac{1}{2} \times 13\frac{1}{2} \times 26\frac{1}{2}$ in high. Weight: 46lb. Finish: teak or walnut. Price: (per pair) £124 (plus VAT)

### Studio TLS50 ★

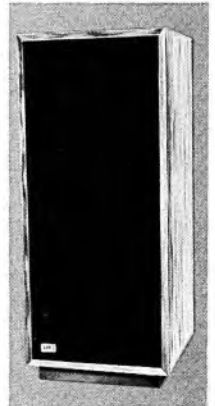
Transmission line enclosure with units and crossover. One 8in foam surround bass driver, one 5in mid-range unit, one  $1\frac{1}{8}$ in soft dome tweeter, one  $\frac{3}{4}$ in chemical dome super tweeter. Crossover: 375Hz, 3kHz, 13kHz. FR: 23Hz to beyond audibility. HC: 25-60W RMS (50W pink noise for 100dB). Impedance: 8 ohms. Size:  $36 \times 14 \times 15$ in. Weight: 72lb. Finish: teak or walnut. Price: (per pair) £168 (plus VAT).



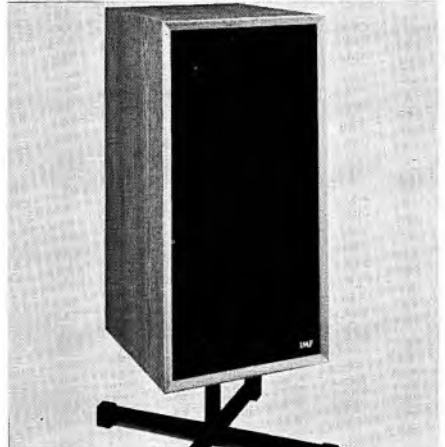
Howland-West Budget line 12



IMF Compact



IMF Studio TLSTO



IMF ALS40

★ Indicates entry is illustrated



*Imhof Junior Mk II*

### Monitor

Transmission line enclosure with units and crossover. One  $13 \times 9\frac{1}{2}$  in flat polystyrene bass driver, one 6in mid-range plastic cone unit, one  $1\frac{1}{8}$  in soft dome tweeter, one  $\frac{3}{4}$  in chemical dome super tweeter. Crossover: 375Hz, 3kHz, 13kHz. FR: 18Hz to beyond audibility. HC: 30-70W (50W pink noise for 100dB). Impedance: 8 ohms. Size:  $40 \times 17\frac{1}{2} \times 19\frac{3}{4}$  in. Weight: 120lb. Finish: teak or walnut. Fitted with castors. Price: (per pair) £275 (plus VAT).

### Professional Monitor

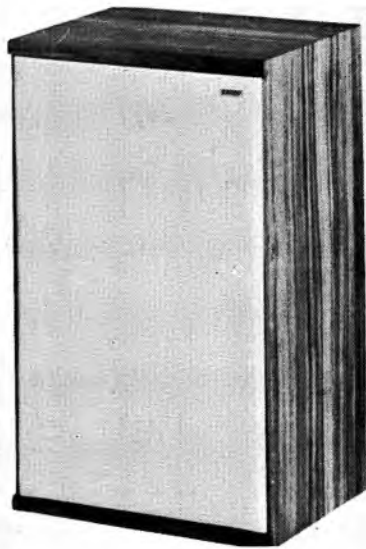
Transmission line enclosure with units and crossover. One  $13 \times 9\frac{1}{2}$  in flat polystyrene bass driver, one 6in plastic cone mid-range unit, one  $1\frac{1}{8}$  in chemical diaphragm tweeter, one  $\frac{3}{4}$  in chemical dome super tweeter. Crossover: 375Hz, 3.5kHz, 13kHz. FR: 17Hz to beyond audibility. HC: 25-100W RMS (25W pink noise for 100dB). Impedance: 8 ohms. Size:  $42 \times 17\frac{1}{2} \times 19\frac{3}{4}$  in. Weight: 140lb. Finish: Formica laminates in woodgrain and plain colours. Fitted with castors. Price: (per pair) £350 (plus VAT).

### ■ IMHOFS LTD

112-116 New Oxford Street, London, WC1A 1HJ. Tel: 01-636 7878.

#### Junior Mk II ★

Infinite baffle enclosure with units.  $13 \times 8$  in bass driver, 3in treble unit. Crossover: 5kHz. FR: 50Hz-20kHz. HC: 10W RMS. Impedance: 8 ohms. Finish: teak veneer with forest green



*Imhof IM.100*

grille. Size:  $12\frac{1}{2} \times 24 \times 9\frac{3}{4}$  in. Weight: 15lb. Price: £18 (including VAT).

### IM.50

Infinite baffle enclosure with unit. One  $6\frac{1}{2}$  in dual-cone full-range driver. FR: 55Hz-16kHz. HC: 10W RMS. Impedance: 8 ohms. Size:  $10\frac{3}{4} \times 8 \times 5\frac{1}{2}$  in. Weight:  $6\frac{1}{2}$  lb. Finish: teak veneer with forest green grille. Price: (per pair) £25 (including VAT).

### IM.100 ★

Infinite baffle enclosure with units.  $13 \times 8$  in bass driver,  $1\frac{1}{2}$  in treble unit. Crossover: 1kHz. FR: 50Hz-20kHz. HC: 25W. Impedance: 8 ohms. Finish: teak veneer with forest green grille. Size:  $11\frac{3}{4} \times 19 \times 7\frac{1}{2}$  in. Weight: 15lb. Price: £27 (including VAT).

### IM.200

Infinite baffle enclosure with units.  $13 \times 9$  in bass driver,  $1\frac{1}{2}$  in treble unit. Crossover: 1kHz. FR: 40Hz-20kHz. HC: 25W. Impedance: 8 ohms. Finish: teak with forest green grille. Size:  $15\frac{1}{4} \times 24\frac{1}{4} \times 10\frac{1}{4}$  in. Weight: 28lb. Price: £40 (including VAT).

### ■ ISOPHON-WERKE

Hayden Laboratories Ltd, Hayden House, 17 Chesham Road, Amersham, Bucks, HP6 5AG. Tel: Amersham (0240-3) 5511.

#### Isonetta ★

Spherical enclosure with unit. One full-range  $2\frac{3}{8}$  in unit. FR: 200Hz-20kHz. HC: 5W. Impedance: 5 ohms. Size:  $3\frac{1}{2}$  in diameter. Weight:

12oz. Finish: white, black, red, orange. Scratch resistant finish. Price: £8.50 (plus VAT).

#### Hi-Fi Ball

Spherical enclosure housing high-frequency unit. Designed for use with other speaker systems. One  $3\frac{1}{2}$ in tweeter unit. FR: 3kHz-20kHz. For use with up to 50W systems. Impedance: 8 ohms. Size:  $3\frac{1}{2}$ in diameter. Weight:  $1\frac{3}{4}$ lb. Finish: white or black with white base. Price: £12.55 (plus VAT).

#### KSBI801 ★

Bookshelf enclosure with units and crossover. One  $5\frac{1}{8}$ in bass driver, one  $3\frac{1}{4}$ in tweeter. FR: 48Hz-20kHz. HC: 10W. Impedance: 5 ohms. Size:  $6\frac{3}{4} \times 9\frac{7}{8} \times 7\frac{3}{4}$ in. Weight: 7lb. Finish: walnut. Price: £18.80 (plus VAT).

#### Luna 2000 ★

Spherical enclosure housing six high-frequency units. Six  $2\frac{3}{8} \times 2\frac{3}{8}$ in tweeters. FR: 2kHz-20kHz. HC: with systems up to 100W. Impedance: 6 ohms. Size:  $6\frac{1}{2}$ in diameter. Weight: 4lb. Finish: white or orange with black metal grille. Works with TMB4501 as part of speaker system. Each half of drum can be rotated for optimum results. Price: £44.88 (plus VAT).

#### HSB2501

Speaker enclosure with units and crossover. One  $6\frac{1}{2}$ in bass driver, one  $5\frac{1}{8} \times 3$ in HF unit. FR: 40Hz-20kHz. HC: 15W. Impedance: 8 ohms. Size:  $19 \times 9\frac{1}{2} \times 7\frac{1}{4}$ in. Weight: 16lb. Finish: walnut with slatted front panel. Price: £37.10 (plus VAT).

#### FSB3001

Speaker enclosure with units and crossover. Two  $5\frac{1}{4}$ in bass drivers, two  $3\frac{1}{4}$ in HF units. FR: 42Hz-20kHz. HC: 20W. Impedance: 8 ohms. Size:  $21\frac{5}{8} \times 12\frac{5}{8} \times 5\frac{1}{4}$ in. Weight: 18lb. Finish: walnut with textile front grille. Price: £39.89 (plus VAT).

#### HSR3504

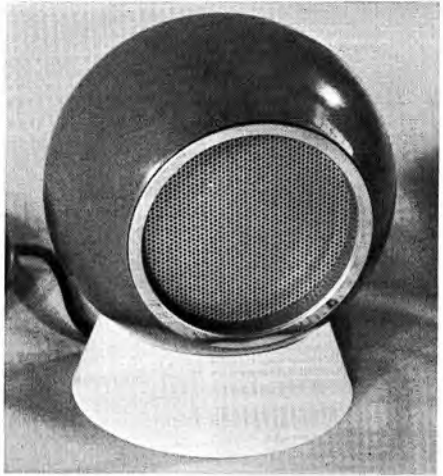
Speaker enclosure with units and crossover. One  $6\frac{1}{2}$ in bass driver, one dome tweeter. FR: 48Hz to over 20kHz. HC: 20W. Impedance: 8 ohms. Size:  $16\frac{1}{2} \times 8\frac{1}{2} \times 8\frac{1}{4}$ in. Weight: 12lb. Finish: walnut with black metal grille. Price: £45.43 (plus VAT).

#### TMR4501

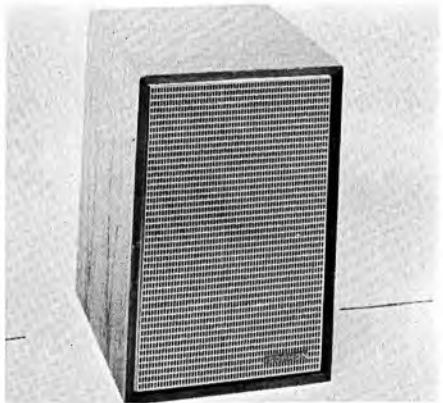
Speaker enclosure with bass driver. One  $9\frac{1}{2}$ in bass driver unit. FR: 35Hz-2kHz. HC: 30W. Impedance: 5 ohms. Size:  $18\frac{1}{4} \times 13\frac{1}{4} \times 8\frac{1}{4}$ in. Weight: 23lb. Finish: white or orange with black metal grille. Works in conjunction with Luna 2000 as part of a complete system. Price: £64.30 (plus VAT).

#### FSB4502

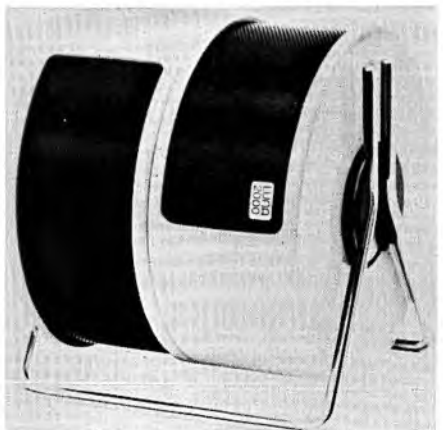
Speaker enclosure with units and crossover. One  $9\frac{1}{2}$ in bass driver, one  $7 \times 5$ in mid-range unit. FR: 40Hz-20kHz. HC: 30W. Impedance: 8



Isophon-Werke Isonetta



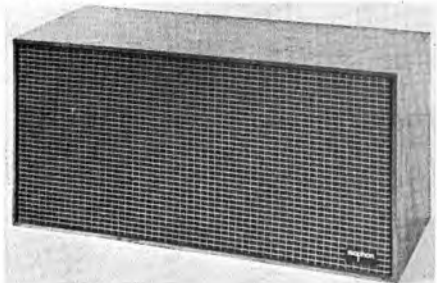
Isophon-Werke KSBI801



Isophon-Werke Luna 2000



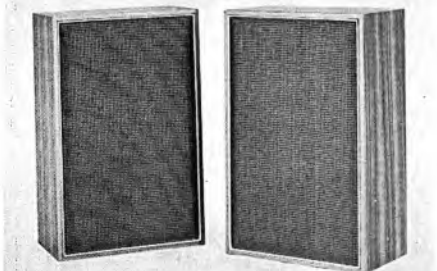
Isophon-Werke HSB5001



Isophon-Werke HSB5003



Isophon-Werke HSB6001



ITT KS658

ohms. Size:  $21\frac{3}{8} \times 12\frac{5}{8} \times 5\frac{1}{2}$  in. Weight: 21lb. Finish: walnut with metal grille. Price: £60.94 (plus VAT).

**HSB5001 ★**

Speaker enclosure with units and crossover. One 8in bass driver, one 4in mid-range unit, one dome tweeter. FR: 35Hz to over 20kHz. HC: 30W. Impedance: 8 ohms. Size:  $18\frac{3}{4} \times 13\frac{1}{4} \times 8\frac{3}{4}$  in. Weight: 23lb. Finish: walnut or white with black metal grille. Price: (walnut) £66.68 (plus VAT); (white) £68.51 (plus VAT).

**FSB5002**

Speaker enclosure with units and crossover. One 8in bass driver, one 4in mid-range unit, one dome tweeter. FR: 45Hz to over 20kHz. HC: 30W. Impedance: 8 ohms. Size:  $18\frac{3}{4} \times 13\frac{1}{4} \times 5\frac{1}{8}$  in. Weight: 19lb. Finish: walnut or white with black metal grille. Price: (walnut) £63.93 (plus VAT); (white) £65.76 (plus VAT).

**HSB5003 ★**

Speaker enclosure with units and crossover. One 8in bass driver, one  $5\frac{1}{8} \times 3$ in mid-range unit, one dome tweeter. FR: 40Hz-20kHz. HC: 30W. Impedance: 8 ohms. Size:  $20\frac{3}{4} \times 9\frac{7}{8} \times 9$  in. Weight: 20lb. Finish: walnut with textile front grille. Price: £56.54 (plus VAT).

**HSB6001 ★**

Speaker enclosure with units and crossover. Three  $5\frac{1}{8}$ in bass drivers, one  $7 \times 5$ in mid-range unit. FR: 35Hz-20kHz. HC: 40W. Impedance: 8 ohms. Size:  $20\frac{3}{4} \times 9\frac{7}{8} \times 9$  in. Weight: 24lb. Finish: walnut or white lacquer, with metal grille. Price: (walnut) £61.65 (plus VAT); (white) £63.08 (plus VAT).

**HSB7501**

Speaker enclosure with units and crossover. One 12in bass driver, one  $7 \times 5$ in mid-range unit, two  $2\frac{1}{2}$ in tweeters. FR: 25Hz to over 20kHz. HC: 50W. Impedance: 8 ohms. Size:  $26\frac{3}{4} \times 13\frac{3}{4} \times 10\frac{3}{8}$  in. Weight: 41lb. Finish: walnut with metal front grille. Price: £97.90 (plus VAT).

■ ITT

ITT Consumer Products (UK) Ltd, Maidstone Road, Sidcup, Kent, DA14 5HT. Tel: 01-300 7733.

**KS658 ★**

Infinite baffle enclosure with units and crossover. One  $6\frac{1}{2}$ in bass driver, one  $3\frac{3}{8}$ in (or  $2\frac{1}{2}$ in) tweeter. Crossover: 3.15kHz. FR: 55Hz-18kHz. HC: 15W peak. Impedance: 8 ohms. Size:  $18 \times 11\frac{1}{2} \times 6\frac{3}{8}$  in. Weight: 12lb. Finish: teak veneer (KS658) or white (KS658W), both with graphite-grey acoustic cloth. Tweeter level control fitted at rear. Price: (per pair) £26.73 (including VAT).

**KS659 ★**

Infinite baffle enclosure with units and crossover.

One  $6\frac{1}{2}$ in high-compliance bass driver, one  $6 \times 4$ in mid-range unit and one  $3\frac{3}{8}$ in tweeter. Crossover: 3.5kHz and 8kHz  $\frac{1}{4}$ -section network. FR: 45Hz-18kHz. HC: 18W peak. Impedance: 4 ohms. Size:  $27\frac{1}{2} \times 11\frac{1}{4} \times 9\frac{5}{8}$ in. Weight: 20lb 6oz. Finish: teak veneer cabinet with matt black plinth and graphite-grey acoustic cloth. Price: (per pair) £46.44 (including VAT).

**KS660**

Infinite baffle enclosure with units and crossover. One 12in high-flux bass driver with roll surround, one  $6 \times 4$ in mid-range unit with plastic roll surround, one  $3\frac{3}{8}$ in tweeter. Crossover: 250 Hz and 8kHz,  $\frac{1}{2}$ -section network. FR: 55Hz-20kHz. HC: 20W peak. Impedance: 4 ohms. Size:  $27\frac{3}{4} \times 16 \times 9\frac{1}{2}$ in deep. Weight: 33lb. Finish: teak veneer cabinet with matt black plinth and grey grille cloth. Price: (per pair) £74.80 (including VAT).

**KS662**

Infinite baffle enclosure with units and crossover. One 4in full-range drive unit. FR: 85Hz-12kHz. HC: 6W peak. Impedance: 16 ohms. Size:  $11\frac{1}{4} \times 7 \times 5$ in. Weight:  $3\frac{1}{2}$ lb. Finish: teak veneer (KS662T) or rosewood veneer (KS662R). Price: (per pair) £11.99 (including VAT).

**KS665**

Infinite baffle enclosure with units and crossover. One  $6\frac{1}{2}$ in bass driver, one  $2\frac{1}{8}$ in (or  $3\frac{3}{8}$ in) tweeter. Crossover: 3.15kHz. FR: 55Hz-18 kHz. HC: 15W peak. Impedance: 8 ohms. Size:  $18 \times 11\frac{1}{2} \times 6\frac{1}{4}$ in. Weight: 12lb. Finish: teak veneer with grey acoustic cloth grille. Tweeter level control on rear of cabinet. Price: to be announced.

**JORDAN-WATTS LTD**

Benlow Works, Silverdale Road, Hayes, Middlesex. Tel: 01-573 6928.

**GT**

Reflex enclosure. One Jordan-watts module and HF dome tweeter. Treble control fitted. FR: 30Hz-22kHz. HC: 15W. Finish: teak. Price: £37.82 (including VAT).

**Jodrell**

Reflex enclosure. Twin Jordan-Watts module. Treble control fitted. FR: 40Hz-22kHz. HC: 30W. Finish: teak. Weight: 56lb. Price: £56.24 (including VAT).

**Jumbo**

Infinite baffle. Power handling 12W. Forward facing. Shelf or wall mounting. Incorporates one Jordan-Watts modular unit. FR: 70Hz-20kHz. Size:  $16\frac{1}{2} \times 8 \times 3\frac{1}{2}$ in. Weight: 13lb. Finish: teak. Price: £23.68 (including VAT).

**Janet**

Infinite baffle. One full-range Jordan-Watts module. FR: 70Hz-20kHz. HC: 12W RMS. Compact shelf-mounting full range speaker system. Finish: teak with green Vynair. Size:  $12 \times 8 \times 6\frac{1}{2}$ in. Weight: 13lb. Price: £23.68 (including VAT).

**Juno ★**

Reflex enclosure. Power handling 12W. Forward facing. Incorporates one Jordan-Watts modular unit. FR: 40Hz-20kHz. Size:  $24\frac{1}{2} \times 12\frac{1}{2} \times 6\frac{1}{2}$ in. Weight: 27lb. Price: £31.57 (including VAT).

**Juliet**

Reflex cabinet. One full-range Jordan-Watts module. FR: 40Hz-20kHz. HC: 12W RMS. Compact shelf-mounting full range speaker system. Finish: teak with green Vynair. Size:  $16 \times 10 \times 9$ in. Weight: 28lb. Price: £30.92 (including VAT).



ITT KS659



Jordan-Watts Juno

★ Indicates entry is illustrated

### Gemini ★

Reflex enclosure. Power handling 25W. Forward facing. Incorporates two Jordan-Watts modular units. FR: 40Hz-20kHz. Size:  $30 \times 13\frac{1}{2} \times 7\frac{1}{2}$  in. Weight: 50lb. Price: £48.68 (including VAT).

### Jupiter

Reflex enclosure. Power handling 25W. Forward facing. Incorporates two Jordan-Watts modular units. FR: 20Hz-20kHz. Size:  $34 \times 15 \times 10\frac{1}{2}$  in. Weight: 70lb. Price: £61.83 (including VAT).

### Jupiter TLS ★

Transmission line speaker system. HC: 30W. Forward-facing. Incorporates two Jordan-Watts modular units. Treble control incorporated. Enclosure lined with sheet lead. FR: 35Hz-29kHz. Size:  $34 \times 15 \times 10\frac{1}{2}$  in. Weight: 90lb. Price: £94.71 (including VAT).

### ■ JVC NIVICO

Denham & Morley Ltd, Denmore House,  
453 Caledonian Road, London, N7 9BA.  
Tel: 01-607 6568.

### GB-1ED

Omni-directional speaker system suitable for suspension from a ceiling or fitted to a floor stand. Infinite baffle enclosure. Four 5 in free-edge bass drivers, four horn tweeters. Crossover: 5kHz. FR: 20 Hz-20kHz. HC: 40W RMS. Impedance: 8 ohms. Dimensions: 13½ in diameter approximately. Weight: 26 ½ lb. Finish: perforated black metal case. Price £75.28 (including VAT).

### SX3

Speaker enclosure with units and crossover. One 10 in bass driver, one tweeter. HC: 25W RMS. Impedance: 8 ohms. Size:  $20\frac{1}{2} \times 12\frac{3}{4} \times 11\frac{1}{2}$  in. Price: £54.81 (including VAT).

### 5399

Speaker enclosure with units and crossover. Four drive units HC: 15W RMS Impedance: 8 ohms. Size:  $27\frac{1}{2} \times 7\frac{7}{8} \times 7\frac{7}{8}$  in. Finish: walnut. Price: £38 (including VAT).

### 5396

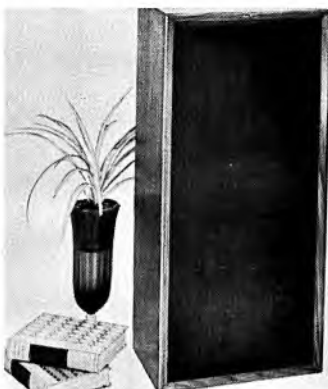
Speaker enclosure with units and crossover. Two drive units HC: 20W RMS Impedance: 8 ohms. Size:  $10\frac{1}{2} \times 8\frac{1}{2} \times 18\frac{1}{2}$  in. Finish: walnut. Price: £36.18 (including VAT).

### 5391

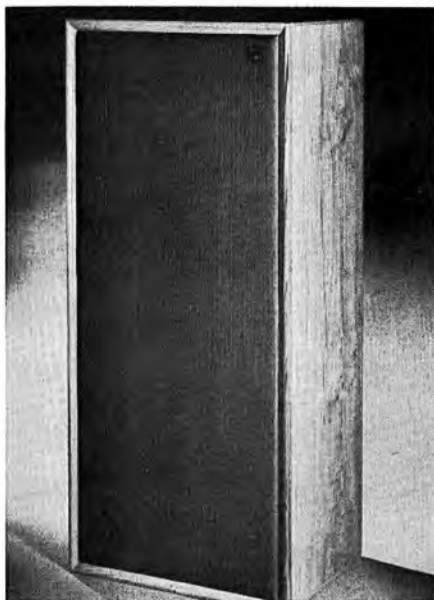
Speaker enclosure with units and crossover. Two drive units. HC: 15W RMS. Impedance: 8 ohms. Size:  $16 \times 9\frac{1}{2} \times 7\frac{1}{2}$  in. Finish: walnut. Price: £31.06 (including VAT).

### ■ KEF ELECTRONICS LTD

Tovil, Maidstone, Kent.  
Tel: Maidstone 57258. Cables: KEF,  
Maidstone.



Jordan-Watts Gemini



Jordan-Watts Jupiter TLS



KEF Coda

**Coda ★**

Two-way miniature bookshelf enclosure. One B110 6in bass unit, one T27 1in tweeter. Crossover: 3.5kHz. FR: 45Hz-30kHz. HC: 15W. Impedance: 8 ohms. Size: 13 × 9 × 5½ in. Weight: 10¾ lb. Finish: teak, walnut or white with brown or grey grille cloth. Price: £18.75 (plus VAT).

**Cantor**

Two-way bookshelf or wall-mounting enclosure. One B200 8in bass unit, one T27 1in tweeter. Crossover: 3.5kHz. FR: 40Hz-30kHz. HC: 20W. Impedance: 8 ohms. Size: 18½ × 4¾ × 11 in. Weight: 13½ lb. Finish: teak, walnut or white with brown or grey grille cloth. Price: £22.25 (plus VAT).

**Chorale**

Compact model in choice of walnut, teak or white. Size: 18½ × 11 × 8½ in. B200 and T27 units. HC: 20W. FR: 35Hz-30kHz. Impedance: 8 ohms. Price: £28.50 (plus VAT).

**Cadenza ★**

Reflex design in walnut, teak or white with brown, grey or beige grille cloth. Size: 24 × 14 × 12 in. B200, D300 and T27 units. HC: 35W. FR: 35Hz-30kHz. Impedance: 8 ohms. Price: £42.50 (plus VAT).

**Concerto ★**

Reflex design in walnut, teak or white. Size: 28 × 17 × 12 in. B139, B110 and T27 units. HC: 30W. FR: 30Hz-30kHz. Impedance: 8 ohms. Price: £58.50 (plus VAT).

See also Constructional Kits section for Kefkits.

**■ KELETRON**

K & K Electronics Ltd, 60 St Mark's Rise, London, E8 2NR. Tel: 01-254 9941/4.

**KS4**

Speaker enclosure with units and crossover. One 5in bass driver, one 2in tweeter. Impedance: 8 ohms. Size: 11 × 6 × 6 in. Finish: teak. HC: 4W. Price: £11.33 (plus VAT).

**KS6**

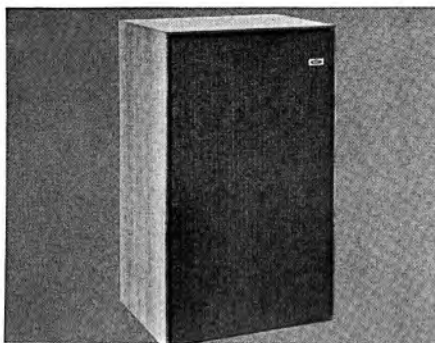
Speaker enclosure with units and crossover. One 6½ in bass driver, two 2in tweeters. HC: 6W. Impedance: 8 ohms. Size: 15 × 7 × 8 in. Finish: teak. Price: £14.08 (plus VAT).

**KS8**

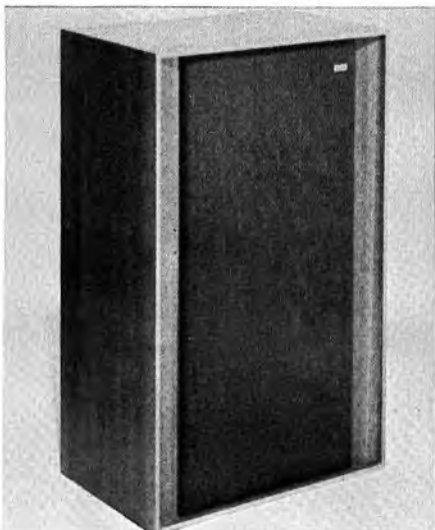
Speaker enclosure with units and crossover. One 8in bass driver, one 3in mid-range unit, one 2in tweeter. HC: 8W. Impedance: 8 ohms. Size: 19 × 9 × 10 in. Finish: teak. Price: £18.15 (plus VAT).

**KS10**

Speaker enclosure with units and crossover. One 10in bass driver, two 3in HF units. HC: 10W. Impedance: 8 ohms. Size: 23 × 11 × 13 in. Finish: teak. Price: £23.43 (plus VAT).



KEF Cadenza



KEF Concerto

**KS15**

Speaker enclosure with units and crossover. One 13 × 8 in bass driver, one 4in mid-range unit. HC: 15W. Impedance: 8 ohms. Size: 27 × 11 × 13 in. Finish: teak. Price: £34.92 (plus VAT).

**KS20**

Speaker enclosure with units and crossover. One 13 × 8 in bass driver, two 4in HF units. HC: 20W. Impedance: 8 ohms. Size: 31 × 11 × 13 in. Finish: teak. Price: £39.38 (plus VAT).

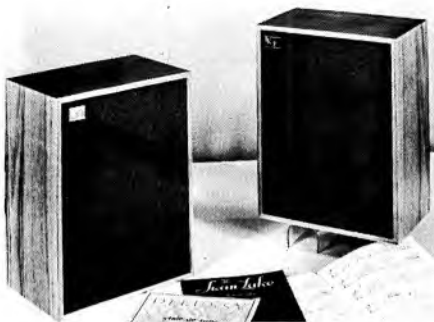
**■ KF PRODUCTS LTD**

Brookfield House, Hopes Carr, Stockport, Cheshire. Tel: 061-480 7428 and 1761.

**PF8-S**

Infinite baffle enclosure with single unit. One 8in dual-cone, high-flux full-range unit with ceramic magnet and long-throw bass driver.

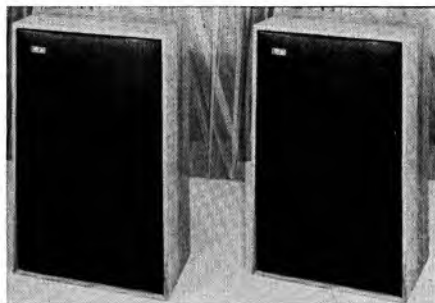




KF Products EI38-S



KF KR8



KF KR20



KF KR25

FR: 80Hz-17kHz. HC: 8W RMS. Impedance: 8 or 15 ohms. Finish: teak veneer with matching Vynair front grille. Size:  $15 \times 10\frac{1}{2} \times 5\frac{3}{4}$ in. Price: £8.04 (plus VAT).

**EI38S ★**

Infinite baffle enclosure with single unit. One EMI 13 × 8in dual-cone driver. FR: 75Hz-13 kHz. HC: 10W RMS. Impedance: 3, 8 or 15 ohms. Finish: teak veneer with matching Vynair front grille. Size:  $18 \times 13\frac{1}{2} \times 9$ in. Packed in matching pairs for stereo. Price: (each speaker) £13.40 (plus VAT).

**KR8 ★**

Infinite baffle enclosure with units and crossover. One  $6\frac{1}{2}$ in dual-cone bass driver, one 4in tweeter. Crossover: 6.5kHz. FR: 65Hz-16kHz. HC: 8W RMS. Impedance: 8 ohms. Size:  $17 \times 10 \times 9$ in. Finish: teak veneer. Sold in pairs with matched veneer. Price: (per speaker) £15.43 (plus VAT).

**KR10**

Infinite baffle enclosure with units and crossover. One 8in bass driver with ceramic magnet, one 4in tweeter. Crossover: 6.5kHz. FR: 55Hz-16kHz. HC: 10W. Impedance: 8 ohms. Size:  $21\frac{1}{2} \times 11\frac{1}{2} \times 10\frac{1}{2}$ in. Finish: teak veneer. Sold in pairs with matched veneer. Price: (per speaker) £18.86 (plus VAT).

**KR20 ★**

Infinite baffle enclosure with units and crossover. One  $13\frac{1}{2} \times 8\frac{1}{4}$ in bass driver with ceramic magnet, one  $3\frac{3}{4}$ in tweeter. Crossover: 5kHz. FR: 40Hz-20kHz. HC: 20W RMS. Impedance: 8 ohms. Size:  $24 \times 15 \times 11\frac{1}{4}$ in. Finish: teak veneer. Aluminium centre to bass driver and curved cone to tweeter. Price: £37.75 (plus VAT).

**KR25 ★**

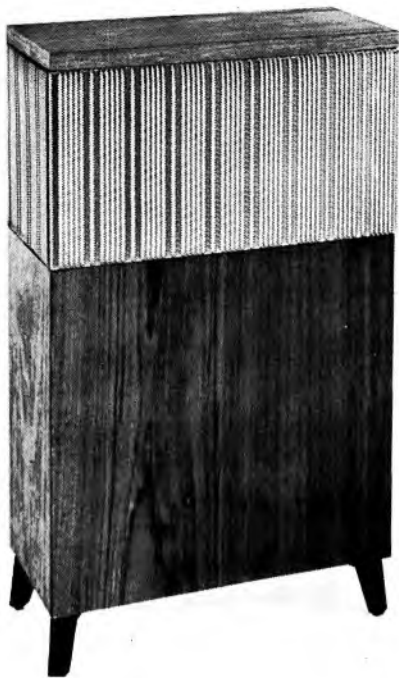
Infinite baffle enclosure with units and crossover. One  $14 \times 9$ in bass driver, two 5in mid-range units, one  $3\frac{3}{4}$ in tweeter. HF response switches on crossover panel. FR: 35Hz-20kHz. HC: 30W. Impedance: 8 ohms. Size:  $28 \times 17 \times 11$ in. Finish: teak veneer. Price: £59.20 (plus VAT).

**■ KIRKMAN (Crawley) LTD**

40 The Broadway, Crawley, Sussex.  
Tel: Crawley 26670.

**Home Concert Hall Mk 2 ★**

Isothermal tapered reflex enclosure with speakers and crossover. Two Richard Allan CR5 bass units and STC 4001E tweeter. Two  $\frac{1}{4}$ -section crossovers at 3kHz and 4kHz. FR: 28Hz -6dB; 20kHz -3dB. HC: 20W music. Omni-directional throughout frequency range in horizontal plane. Inside and outside of encl-



*Kirkman Home Concert Hall Mk 2*

sure employed to maintain non-resonant closely controlled acoustic load. Finish: teak with bronze or black grille. Size:  $31 \times 18 \times 8\frac{1}{2}$  in. Weight: 44lb. Price: £52 (plus VAT).

#### ■ KLEIN & HUMMEL

Sole UK agents: F. W. O. Bauch Ltd,  
49 Theobald Street, Boreham Wood, Herts.  
Tel: 01-953 0091.

#### OY

Studio monitor speaker enclosure comprising two separate built-in 30W solid state bass and treble amplifiers and 3-unit drive system. Input: 0.775V and 1.55V at 4.7K to 500Hz dividing network filter. Speakers: 9in bass unit, one 5in mid-lift unit and a 'top' horn. FR: 30Hz-20kHz. Complete equalisation controls for room and position matching. Dimensions:  $19 \times 12 \times 9$  in. Weight: 45lb. Finish: grey formica or walnut. Psn: mains. Price: on application.

#### OZ

Full-range studio monitoring speaker system including two built-in 30W amplifiers. Two 12in Altec bass drivers, one Altec mid-range and treble pressure system with horn. Inputs: 0 or +6dB for 110 phon at one metre. Size:  $27\frac{3}{4} \times 35\frac{1}{2} \times 16\frac{1}{2}$  in. FR: 30Hz-20kHz (40Hz-16kHz

$\pm 2$ dB). Crossover frequency: 800Hz. Price: on application.

#### ■ KLINGER

Klinger Controls Ltd,  
Spencer Court, 7 Chalcot Road, London,  
NW1 8LU. Tel: 01-586 2922/3.

#### S35

Infinite baffle enclosure with units and crossover. One  $8 \times 5$  in bass driver, one  $2\frac{1}{2}$  in tweeter. Crossover: 5kHz (capacitor). FR: 55Hz-12kHz. HC: 6W RMS. Impedance: 8 ohms. Size:  $13 \times 7 \times 8$  in. Weight: 8lb. Finish: teak with black/gold woven front grille. Price: £9 (plus VAT).

#### S42

Infinite baffle enclosure with units and crossover. One long-throw  $6\frac{1}{2}$  in bass driver with rubber surround, one  $3\frac{1}{2}$  in mid-range unit, one  $2\frac{1}{2}$  in tweeter. Crossover: 5kHz (L/C). FR: 40Hz-18kHz. HC: 12W RMS. Impedance: 8 ohms. Size:  $17\frac{1}{2} \times 10 \times 8$  in. Weight: 11lb. Finish: teak cabinet with gold/black woven grille. Price: £16.65 (plus VAT).

#### S50 Mk II

Infinite baffle enclosure with units and crossover. One 8in long-throw bass driver with rubber surround, two  $3\frac{1}{2}$  in solid-back tweeters. Crossover: 5kHz (L/C). FR: 40Hz-18kHz. HC: 15W. Impedance: 8 ohms. Size:  $18 \times 13 \times 7$  in. Weight: 14lb. Finish: teak cabinet with brown basket weave grille and silver trim. Price: £19.50 (plus VAT).

#### S90

Infinite baffle enclosure with units. One 12in long-throw bass driver, one 5in mid-range unit, one  $2\frac{1}{2}$  in tweeter. Crossover: 1kHz and 5kHz. Output level adjustment for mid-range and tweeter units. FR: 40Hz-20kHz. HC: 50W RMS. Impedance: 8 ohms. Size:  $24 \times 13\frac{1}{2} \times 10$  in. Finish: teak cabinet with brown basket weave front grille and silver trim. Price: (per pair) £81 (plus VAT).

#### ■ KORTING

Europa Electronics Ltd, 9 Howard Place,  
Shelton, Stoke-on-Trent, ST1 4NW.  
Tel: Stoke-on-Trent (0782) 29316.

#### KUBIO

Spherical enclosure with unit. One  $6\frac{1}{2}$  in full-range driver with dual cone. FR: 130Hz-13kHz. HC: 10W DIN. Impedance: 4 ohms. Finish: brushed aluminium. Size:  $9\frac{1}{2}$  in diameter. Price: £21.17 (including VAT).

#### LSB5

Enclosure with unit. One  $6\frac{1}{2}$  in full-range driver. FR: 70Hz-15kHz. HC: 5W approx. Impedance: 4 ohms. Finish: walnut, satin finish or white.

★ Indicates entry is illustrated

Size:  $10 \times 7\frac{1}{2} \times 5\frac{1}{8}$ in. Price: £11.82 (including VAT).

#### **LSB12**

Enclosure with units and crossover. One  $5\frac{1}{8}$ in bass driver, one 4in tweeter. HC: 15W DIN. FR: 50Hz-16kHz. Impedance: 4 ohms. Finish: walnut, satin finish or white. Price: £18.70 (including VAT).

#### **LSB42**

Enclosure with units and crossover. One 8in bass driver, one  $3\frac{3}{4}$ in tweeter. HC: 25W DIN. FR: 30Hz-18kHz. Impedance: 4 ohms. Finish: walnut, satin finish or white. Size:  $21 \times 10\frac{5}{8} \times 6\frac{3}{4}$ in. Price: £29.15 (including VAT).

#### **LSB65**

Enclosure with units and crossover. Two  $9\frac{3}{4}$ in bass drivers, one  $7 \times 5$ in mid-range unit, one  $3\frac{3}{4}$ in tweeter. FR: 18Hz-26kHz. HC: 45W DIN. Impedance: 4.5 ohms at 150Hz. Finish: walnut, satin finish or white. Price: £54.72 (including VAT).

### ■ JAMES B. LANSING

Distributors: Feldon Audio Ltd, 126 Great Portland Street, London, W1N 5PH.  
Tel: 01-580 4314.

#### **JBL L25 Prima ★**

Reflex enclosure with units and crossover. One 10in long throw bass driver, one 1in wide dispersion mid-range/HF unit. Crossover: 1500Hz (12dB/octave variable). FR: 40Hz-18kHz. HC: 20W RMS. Impedance: 8 ohms. Size:  $19 \times 15\frac{1}{2} \times 14\frac{3}{8}$ in. Weight: 35lb. Finish: Acoustiform plastic in red, white, orange, green, blue or black. Available also as complete system with spaces for equipment and record storage. Price: (standard model) £76 (plus VAT).

#### **JBL Decade L26**

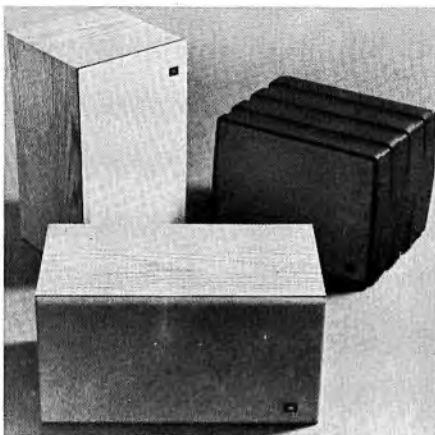
Reflex enclosure with units and crossover. Specification identical to Prima L25 above but with veneered finish. Price: £76 (plus VAT).

#### **JBL Aquarius 4 ★**

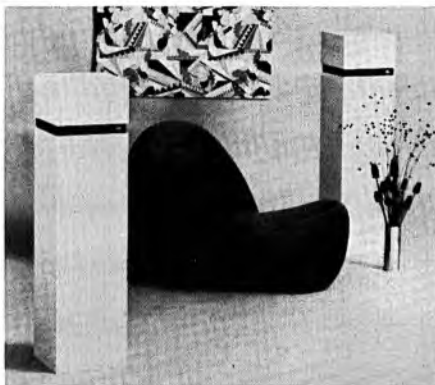
Combination reflex and horn enclosure with units and crossover. One 8in extended range high power main driver, one 2in HF unit. Crossover: 12dB/octave variable. FR: 40Hz-16kHz omni-directional. HC: 35W RMS. Impedance: 8 ohms. Size:  $10 \times 10 \times 40$ in high. Weight: 52lb. Finish: satin white or walnut. Phase corrected omni-directional speaker, said to be particularly suitable for quadraphonic sound systems. Price: £96 (plus VAT).

#### **JBL Century L100**

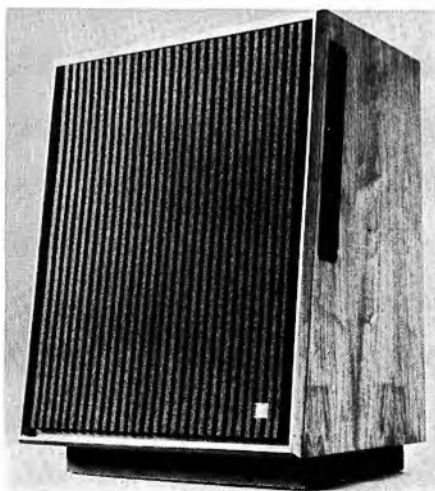
Reflex enclosure with units and crossover. One 12in linear efficiency bass driver, one 5in extended range mid-frequency unit, one 2in wide dispersion HF tweeter. Crossover: 1.5kHz and 6kHz (variable 12dB/octave). FR: 40Hz-16kHz



*JB Lansing Prima L25 and Decade L26*



*JB Lansing Aquarius 4 (white)*



*JB Lansing Studio Master L200*

$\pm 3\text{dB}$ . HC: 50W RMS. Impedance: 8 ohms. Size: 12 $\times$ 24 $\times$ 14in. Weight: 55lb. Finish: walnut with sculptured air grille in orange, blue or brown. This speaker system is acoustically identical to the JBL Professional Control Monitor 4310. Price: £156 (plus VAT).

#### JBL Studio Master L200 ★

Reflex enclosure with units and crossover. One 15in linear efficiency bass driver, one extended range horn loaded compression unit with acoustic lens. Crossover: 1.2kHz 12dB/octave constant impedance, variable. FR: 30Hz-18kHz  $\pm 3\text{dB}$ . HC: 75W RMS. Impedance: 8 ohms. Size: 33 $\times$ 24 $\times$ 21in. Weight: 145lb. Finish: walnut case with sculptured air grille in smoke, black, blue or dark red. This speaker system is acoustically identical to the JBL Studio Monitor 4325. Price: £328 (plus VAT).



Larson Pyramid LP720

#### ■ LARSON

Cole Electronics Ltd, Church Road, Croydon, CR0 1SG. Tel: 01-686 7581.

#### LP720 Pyramid ★

Infinite baffle enclosure with units and crossover. One 10in long-throw bass driver with Neoprene suspension, one 1 $\frac{1}{2}$ in dome tweeter. Both drive units to DIN specification. Crossover: 1kHz. FR: 37Hz-20kHz. HC: 40W RMS. Impedance: 4 ohms. Size: (pyramid shape) 25in high, 12 $\frac{3}{4}$ in square at base, 5in square at top. Weight: 20lb. Finish: teak, whitelac or jacaranda. Design claims to provide omni-directional sound dispersion. Price: £49 (plus VAT).

#### ■ LEAK

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### Sandwich 150 ★

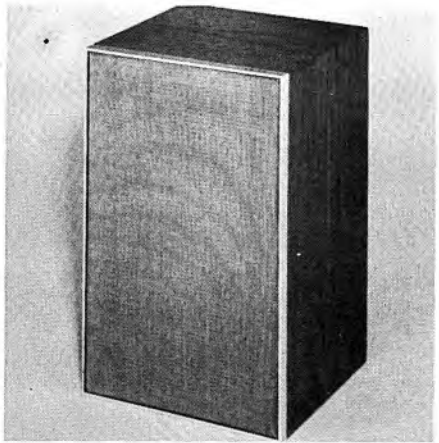
Infinite baffle enclosure with 6 $\frac{1}{2}$ in sandwich bass driver and 2 $\frac{1}{2}$ in cellulose acetate butyrate treble unit. Impedance: 8 ohms nominal. FR: 60Hz-18kHz. HC: 18W DIN. Finish: teak or walnut. Size: 15 $\frac{3}{4}$  $\times$ 10 $\times$ 8 $\frac{1}{2}$ in. Price: £23.41 (including VAT).

#### Sandwich 250

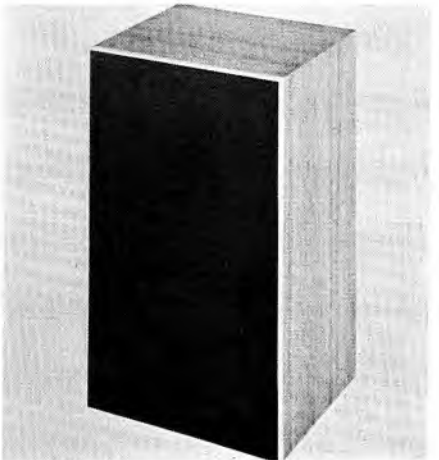
Infinite baffle enclosure with units and crossovers. 8in sandwich bass driver with 2 $\frac{1}{2}$ in multi-directional tweeter. Floor-standing or hook-shelf system. Impedance: 8 ohms nominal. FR: 50Hz-18kHz. HC: 18W DIN. Finish: teak or walnut. Size: 19 $\frac{3}{4}$  $\times$ 11 $\times$ 10in. Price: £30.43 (including VAT).

#### Sandwich 600 ★

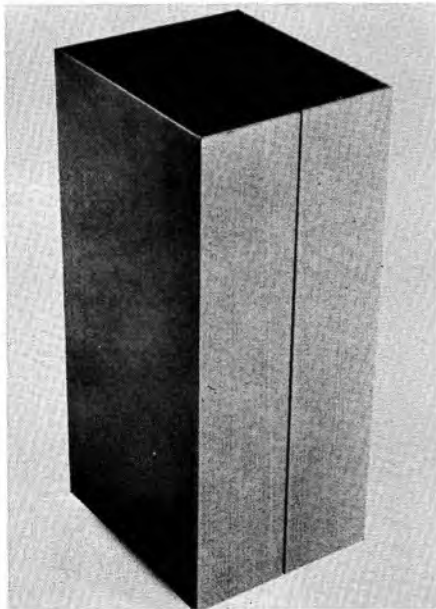
Infinite baffle freestanding speaker with 12in bass driver, 4in sandwich mid-range unit and 1in multi-directional treble unit. Three-way 10-element crossover at 1kHz and 4kHz. FR: 40Hz-20kHz. Impedance: 8 ohms nominal. HC:



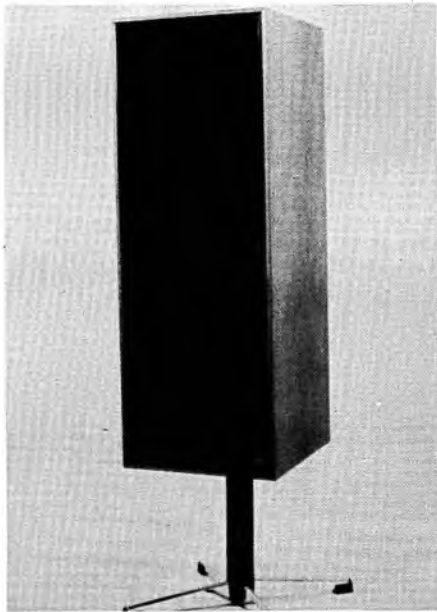
Leak Sandwich 150



Leak Sandwich 600



Lecson HLI



LNB Para-Lab 20 on stand

40W DIN. Finish: teak or walnut. Size:  $26 \times 15 \times 11\frac{3}{4}$ in. Price: £54.45 (including VAT).

#### ■ LECSON AUDIO LTD

Burrell Road, St Ives, Huntingdonshire.  
Tel: St Ives (Hunts) 64124 (STD code 0480).

##### HLI ★

Horn loaded speaker system. Two  $13 \times 8$ in bass drivers, one 5in mid-range unit, one tweeter. Crossover: 380Hz (12dB/octave) and 5kHz (18dB/octave). FR: 30Hz-20kHz. HC: 100W peak programme. Impedance: 8 ohms. Size: 15in wide, 37in high,  $17\frac{1}{2}$ in deep. Weight: 73lb. Designed to stand against a wall or across a corner for correct bass performance. Mid-range horn adjustable for best stereo image. Finish: black or cream fabric with teak or rosewood top panels as standard. Special colours to order. Price: £98 (including VAT).

#### ■ L.N.B. AUDIO LTD

The Factory, Duke Street, Loughborough,  
Leics. Tel: 050-93 61229.

##### Para-Tran 6

Infinite baffle enclosure with speakers and crossover. One special  $6\frac{1}{2}$ in bass driver plus one  $3\frac{1}{2}$ in tweeter. Crossover: 3kHz. FR: 50Hz-17kHz. HC: 15W music. Impedance: 8 ohms. Special membrane compensator. Long fibre wool damping material. Size:  $15\frac{1}{2} \times 11 \times 8$ in. Weight: 15lb.

Finish: teak cabinet with complementary grille. Price: £38.50 per pair (including VAT).

##### Para-Lab Super

Labyrinth enclosure with speakers and crossover. One special  $6\frac{1}{2}$ in bass driver plus KEF T27 tweeter. Crossover:  $\frac{1}{2}$  section at 3kHz. FR: 40Hz-25kHz. HC: 20W music. Impedance: 8 ohms. Size:  $23\frac{1}{2} \times 10\frac{1}{4} \times 9$ in. Weight: 24lb. Finish: teak cabinet with Vynair front and black trim. Labyrinth acoustic line. Price: £66 per pair (including VAT).

##### Para-Lab 20 ★

Labyrinth enclosure with speaker and crossover. One KEF B200 bass driver, one KEF T27 mid-range and HF unit, one STC 4001G super HF tweeter. Crossovers:  $\frac{1}{2}$  section at 3kHz and 9kHz. FR: 30Hz-25kHz. HC: 30W music. Impedance: 8 ohms. Size:  $31 \times 11 \times 11\frac{1}{4}$ in. Weight: 40lb. Finish: teak cabinet with black Vynair front and black trim. Labyrinth acoustic line. Price: £99 per pair (including VAT).

##### Speaker stands

Height approximately 13in. Finish: chrome/black. Will accommodate any speaker with a base larger than 8in square. Price: £11 per pair (including VAT).

#### ■ LOCKWOOD & CO (Woodworkers) LTD

63 Lowlands Road, Harrow, Middx.  
Tel: 01-422 3704/0768.

**Mini-slim**

Reflex, forward facing, 12in units. Rec. Tannoy 12in dual concentric, Tannoy III LZ dual concentric. Size:  $27\frac{1}{2} \times 19 \times 9\frac{3}{8}$  in. Price (with specified units): from approximately £45 (plus VAT).

**Minor Slim**

Reflex, forward facing, 12 or 15in units. Rec. Tannoy 12 or 15in dual concentric, and units listed for Mini-slim. Size:  $33\frac{3}{8} \times 20 \times 11\frac{1}{4}$  in. Price (with specified units): from approximately £50 (plus VAT).

**Major Slim**

Reflex, forward facing, 12 or 15in units. Rec. Tannoy 12 and 15in dual concentric. Size:  $38 \times 24 \times 11\frac{1}{4}$  in. Price: from approximately £64 (plus VAT).



*Lowther Auditorium Acousta*

**LOEWE OPTA**

Distributors: SED Television Ltd, Salisbury, Wilts. Tel: 0722 4201. Hokushin Audio Visual Ltd, 2 Ambleside Avenue, London SW16. Tel: 01-677 9919. New range of speaker systems being introduced under the Loewe Opta brand name. No details of products available as this edition of the Year Book closed for press.

**LOWTHER ACOUSTICS LTD**

Lowther House, St Mark's Road, Bromley, Kent, BR2 9HQ. Tel: 01-460 5225. Cables: Lowther, Bromley.

**Corner Reproducer TP1**

Folded bass horn/direct HF horn type. One specially designed 6in pressure unit PM3. Acoustical crossover. FR: 40Hz-22kHz. Size:  $47 \times 32 \times 31$  in from corner. Weight: 70lb. Price: (Standard Model) £180; (Model B) £200; (Model D) £150. All plus VAT.

**Acousta Cabinet**

Model FH/V. Folded horn type, forward facing, with rear folded horn. Vertical on runners. Designed for use with single 6 or 8in unit. Rec. Lowther PM6. FR: 40Hz-18kHz. Size:  $32 \times 18\frac{1}{2} \times 14\frac{1}{2}$  in. Weight: 60lb. Price (without unit): £32 (plus VAT).

**Mini Acousta**

Model FH/V (vertical). Folded horn type. Forward facing with rear folded horn. Veneered all round. Designed for use with one 6-8in unit. Rec. Lowther PM6 or PM7. FR: 40Hz-20kHz. Size:  $27 \times 15 \times 13$  in. Price (without unit): £32 (plus VAT).

**Audiovector**

Compound horn. Upward facing mid- and high-frequency horn with rear folded horn. Designed for use with single 6in unit. Acoustic crossover. FR: 40Hz-22kHz. Rec. PM2, PM2 Mk II or PM4. Size:  $26\frac{1}{2} \times 19 \times 34$  in. Weight: 75lb. Price

(Model A without unit): £80 (plus VAT); (Model B without unit) £70 (plus VAT).

**Dual Position Acousta**

Folded horn. Rearward facing into corner or along wall at 45°. Bass outlets coupling into corner of room or along wall. Designed for use with single 6in high flux unit. Rec. Lowther PM6 or PM7. FR: 40Hz-18kHz. Size:  $32 \times 9\frac{1}{2} \times 18$  in. Price (without unit): £32 (plus VAT).

**L.I.B. Acousta**

Lowther Ideal Baffle is a special enclosure in the Lowther range of folded rear and compound horn designs. It has closed back with anti-phase slave membrane to overcome resonance. Membrane is coupled to drive unit by compliance and matched via a short labyrinth. Effect is that drive unit frequency response, say 30Hz-20kHz, such as PM6, becomes 25Hz-30kHz. Veneered teak, walnut or sapele finish. Grille cloth: grey. Dimensions:  $19 \times 14 \times 7\frac{1}{2}$  in. Price (without unit): £15 (plus VAT).

**Auditorium Acousta ★**

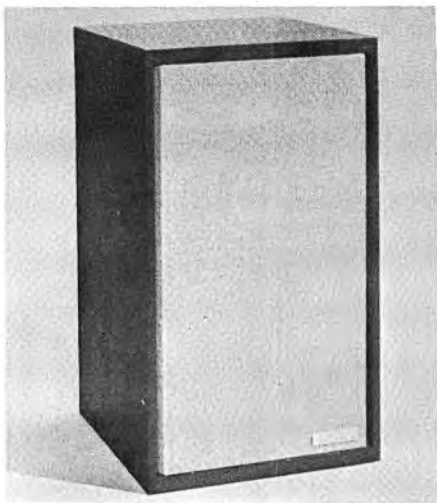
Twin channel enclosure. Based on design of Dual Position Acousta with forward-facing drive unit. Variable preset level control. Rear unit only using folded horn. Design for use with two 6-8in units (Lowther PM6, PM6 Mk I and/or PM7). Size:  $32 \times 9\frac{1}{2} \times 19$  in. Weight: (less units) 39½lb. Price (without units): £50 (plus VAT).

**Auditorium Audiovector**

Twin channel enclosure. Improved version of Audiovector with forward-facing drive unit (PM2 Mk I). Variable preset level control. Size:  $34 \times 25\frac{1}{2} \times 19$  in. Weight: 108lb. Price: (Model A) £185 (plus VAT); (Model B) £175 (plus VAT).

**LUX**

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.



Luxor LX77

**LX77 ★**

Infinite baffle enclosure with units and crossover. One free-edge 12in bass driver, one 1.6in dome HF unit, one 1.3in tweeter. Crossover: 700Hz, 8kHz (12dB/octave). HC: 60W RMS. Impedance: 8 ohms. FR: 30Hz-22kHz. Size:  $26\frac{1}{4} \times 15\frac{3}{8} \times 12\frac{1}{2}$  in. Weight: 50lb. Finish: rosewood. Level controls for mid-range and HF units. Price: £90.20 (including VAT).

■ **LUXOR (Luxor Industri Aktiebolag)**

Highgate Acoustics Ltd, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

**KH520**

Incorporates one 5in bass unit and one  $2\frac{1}{2}$ in tweeter. FR: 45Hz-18kHz. HC: 15W. vci: 4 ohms. Dimensions:  $10 \times 7\frac{1}{2} \times 8\frac{1}{2}$  in. Weight: 7lb. Finish: teak and rosewood. Price: £16.50 (plus VAT).

**SH104**

Infinite baffle enclosure with units. One 10in bass driver, two 2in tweeters. FR: 20Hz-20kHz. HC: 40W RMS. Impedance: 4 ohms. Size:  $12\frac{1}{2} \times 10 \times 22$  in. Finish: teak or rosewood. Price: £32 (plus VAT).

**SH835 ★**

Cylindrical type omni-directional speaker enclosure with units. On stand with cruciform base. Four 5in bass drivers, four  $2\frac{1}{2}$ in tweeters. Crossover: 1.5kHz. FR: 35Hz-20kHz. HC: 40W RMS. Impedance: 4 ohms. Finish: teak with black grille and chrome stand. Price: £55 (plus VAT).



Luxor SH835

**KH501**

Infinite baffle enclosure with unit. One long-throw  $5\frac{1}{2}$ in driver. FR: 50Hz-16kHz. HC: 10W RMS. Impedance: 4 ohms. Size:  $7\frac{1}{2} \times 8\frac{1}{2} \times 4$  in. Finish: teak or rosewood. Price: £9.50 (plus VAT).

**KH821**

Infinite baffle enclosure with units and crossover. One 8in bass driver, two 2in mid-range and tweeter units. Crossover: 3kHz. FR: 40Hz-18kHz. HC: 20W RMS. Impedance: 4 ohms. Size:  $10\frac{3}{4} \times 15\frac{3}{4} \times 7\frac{1}{2}$  in. Finish: teak or rosewood. Price: £19.50 (plus VAT).

■ **MARANTZ**

Pysler-Britex (Swift) Ltd,  
Fircroft Way, Edenbridge, Kent.  
Tel: Edenbridge (0732-71) 4111.

**Imperial 4B**

Enclosure with units and crossover. One  $8\frac{1}{4}$ in bass driver, one  $\frac{3}{4}$ in tweeter. L/C crossover. FR: 60Hz-15kHz  $\pm 5$ dB. HC: 40W music. Impedance: 8 ohms. Size:  $11\frac{1}{4} \times 19\frac{1}{8} \times 8\frac{1}{2}$  in. Weight: 20lb. Finish: oiled walnut. Price: £32.50 (plus £3.25 VAT).

**Imperial 5**

Enclosure with units and crossover. One 8in bass driver, one  $3\frac{1}{2}$ in tweeter. L/C crossover (12dB/octave from 2kHz). FR: 50Hz-15kHz  $\pm 3$ dB. Impedance: 8 ohms. Three-position high-frequency level selector switch. HC: 40W music. Size:  $12 \times 23 \times 9\frac{1}{2}$  in. Finish: oiled walnut. Price: £45 (plus £4.50 VAT).

**Imperial 6**

Enclosure with units and crossover. One 10in bass driver, one 2in dome tweeter. L/C crossover (12dB/octave from 3kHz). FR: 40Hz-18kHz  $\pm$  5dB. HC: 100W music. Impedance: 8 ohms. Size: 14 $\frac{1}{4}$   $\times$  25 $\frac{1}{2}$   $\times$  11 $\frac{1}{2}$ in. Three-position high-frequency level selector switch. Finish: oiled walnut. Price: £60 (plus £6 VAT).

**Imperial 7**

Enclosure with units and crossover. One 12in bass driver, one 3 $\frac{1}{2}$ in mid-range unit, one 1 $\frac{1}{2}$ in tweeter. L/C three-way crossover. FR: 40Hz-20kHz  $\pm$  5dB. HC: 100W RMS music. Impedance: 8 ohms. Controls: three-position high-frequency level selector switch, three-position mid-range level selector switch. Foam grille. Size: 14 $\frac{1}{4}$   $\times$  25 $\frac{1}{2}$   $\times$  11 $\frac{1}{2}$ in. Weight: 45lb. Finish: oiled walnut. Price: £80 (plus £8 VAT).

**MARSDEN HALL**

Marsden Hall Manufacturing Co Ltd, High March, Long March Industrial Estate, Daventry, Northants.  
Tel: Daventry (03272) 4011/3.

**Annexe 100**

Infinite baffle enclosure with units and crossover. One 6 $\frac{1}{2}$ in bass driver, one 2 $\frac{1}{2}$ in tweeter. Crossover: 7kHz L/C network. FR: 50Hz-20kHz. HC: 10W RMS. Impedance: 8 ohms nominal. Size: 16  $\times$  9 $\frac{1}{2}$   $\times$  8in. Weight: 9lb 6oz. Finish: teak or white. Price: £30 per pair (plus VAT).

**Annexe 150**

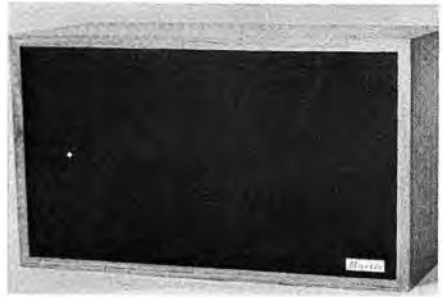
Infinite baffle enclosure with units and crossover. One 8in rubber roll surround bass driver, one 2 $\frac{1}{2}$ in tweeter. Crossover: 7kHz L/C network. FR: 40Hz-20kHz. HC: 15W RMS. Impedance: 8 ohms nominal. Size: 17  $\times$  11  $\times$  8in. Weight: 12lb. Finish: teak or white. Price: £39 each (plus VAT).

**Annexe 200**

Infinite baffle enclosure with units and crossover. One 12 $\frac{3}{4}$   $\times$  8 $\frac{1}{4}$ in rubber roll surround bass driver, two 2 $\frac{1}{4}$ in tweeters. Crossover: 7kHz L/C network. FR: 40Hz-22kHz. HC: 20W. Impedance: 8 ohms nominal. Size: 21 $\frac{1}{2}$   $\times$  12 $\frac{1}{2}$   $\times$  10in. Weight: 14 $\frac{3}{4}$ lb. Finish: teak or white. Price: £49 each (plus VAT).

**Annexe 300**

Infinite baffle enclosure with units and crossover. Two 8in rubber roll surround bass drivers, two 2 $\frac{1}{4}$ in tweeters. Crossover: 4kHz L/C network. FR: 30Hz-20kHz. HC: 30W RMS. Impedance: 8 ohms nominal. Size: 34  $\times$  15  $\times$  12in. Weight: 41lb. Finish: teak or white. Price: £90 each (plus VAT).



*Martin Laboratory Mk II*

**MARTIN**

Manufactured by Eastman Sound of America and distributed by Cosmocord Ltd, Eleanor Cross Road, Waltham Cross, Herts.  
Tel: Waltham Cross 27331. Telex: 24294.

**Signature (Model 1)**

Miniature two-way system with units and crossover. One 6in bass driver, one 4in tweeter. HC: 40W music. FR: 40Hz-18kHz. Size: 12  $\times$  8 $\frac{3}{8}$   $\times$  9in. Weight: 15lb. Price: (per pair) £46.80 (plus VAT).

**Minidan (Model 001) ★**

Miniature two-way infinite baffle system with units. Two 5in long throw drivers. HC: 30W. FR: 60Hz-16kHz. Size: 13  $\times$  6 $\frac{1}{2}$   $\times$  6 $\frac{1}{2}$ in. Weight: 8 $\frac{1}{4}$ lb. Price: (per pair) £56.28 (plus VAT).

**Micro-Max (Model 110)**

Shelf-mounting two-way speaker system with units and crossover. One 8in bass driver, one 2in mid-range and tweeter. HC: 45W. FR: 38Hz-18kHz. Rear-mounted balance control. Size: 18  $\times$  10 $\frac{3}{4}$   $\times$  9 $\frac{3}{4}$ in. Weight: 23lb. Finish: walnut effect laminate on all sides. Price: £32.71 (plus VAT).

**Super Max (Model 120)**

Infinite baffle enclosure system with units and crossover. One 10in bass driver, one 2in tweeter. Rear-mounted control for balance. HC: 50W. FR: 36Hz-18kHz. Size: 21 $\frac{1}{2}$   $\times$  12 $\frac{1}{2}$   $\times$  10in. Weight: 27lb. Price: £45.60 (plus VAT).

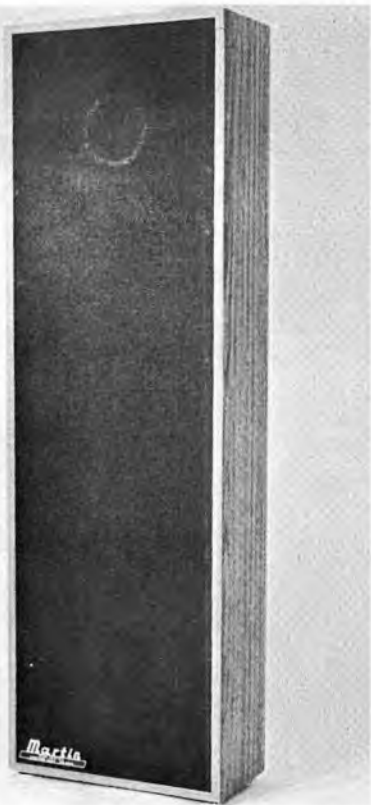
**Laboratory Mk II (Model 230) ★**

Three-way shelf-mounting speaker system with units and crossover. One 10in bass driver, 4in mid-range unit, 2in tweeter. Two balance controls. HC: 50W. FR: 34Hz-18kHz. For use with amplifiers with output of 20W or over. Size: 21 $\frac{1}{2}$   $\times$  12 $\frac{1}{2}$   $\times$  10in. Weight: 30lb. Price: £57.95 (plus VAT).

**Spectrum Slope (Model 330)**

Three-way four-speaker system with units and crossover. Two 8in bass drivers, 3 $\frac{1}{2}$ in mid-range unit and 2in tweeter. HC: 60W. FR: 30Hz-18





*Martin Sound Tower*

kHz. Mid-range and HF balance control. Size:  $21\frac{1}{2} \times 12\frac{1}{2} \times 10$ in. Weight: 35lb. Price: £79.80 (plus VAT).

**Crescendo (Model 430)**

Bookshelf or floor-standing three-way system with units and crossover. One 12in bass driver, one  $3\frac{1}{2}$ in mid-range unit, one  $2\frac{1}{2}$ in tweeter. HC: 60W. FR: 30Hz-18kHz. Two balance controls for mid- and high-frequency levels. Size:  $25\frac{1}{2} \times 15 \times 12$ in. Weight: 45lb. Price: £83.54 (plus VAT).

**Super Spectrum Slope (Model 440)**

No technical details available as this edition of the Year Book closed for press. Price: £104.33 (plus VAT).

**Krypton (Model 470)**

Floor-standing four-way speaker system with units and crossover. One 12in bass driver, one 10in mid-bass unit, one  $3\frac{1}{2}$ in mid-range unit, one 2in tweeter. Two controls for mid-frequency and HF balance. HC: 75W. FR: 30Hz-20kHz. Size:

$25\frac{1}{2} \times 15 \times 12$ in. Weight: 49lb. Price: £131.41 (plus VAT).

**Magnificat (Model 830)**

Floor-standing five-unit speaker system with units and crossover. Two 12in bass units, one 5in mid-range unit, two 2in tweeters. Two controls for mid-frequency and HF balance. HC: 80W. FR: 28Hz-20kHz. Cabinet braced with 14 struts plus patented pre-stressed arrangement. Size:  $37\frac{3}{4}$ in high, 18in wide,  $14\frac{3}{4}$ in deep. Weight: 90lb. Price: £168.06 (plus VAT).

**Sound Tower (Model 840) ★**

Floor-standing seven-unit speaker system with units and crossover. Four 8in bass drivers, one 5in mid-range unit, two  $2\frac{1}{2}$ in tweeters. Two controls provide mid-frequency and HF balance. HC: 100W. FR: 28Hz-20kHz. Size: 52in high,  $16\frac{1}{2}$ in wide,  $7\frac{3}{4}$ in deep. Weight: 85lb. Price: £189.24 (plus VAT).

All Martin-Eastman speaker systems are unconditionally guaranteed for five years.

■ **MEDWAY**

Brahms Manufacturing and Development Co, Unit E, Rochester Airport, Maidstone Road, Rochester, Kent, ME1 3QJ. Tel: Medway (0634) 48816.

**BT50 ★**

Infinite baffle enclosure with unit. One  $6\frac{1}{2}$ in full-range driver. FR: 75Hz-12kHz. HC: 7W RMS. Impedance: 8 ohms. Size:  $12\frac{1}{2} \times 8 \times 5\frac{3}{8}$ in. Weight: 8lb. Finish: teak. Price: £16.50 per pair (including VAT).

**BT75 ★**

Infinite baffle enclosure with unit. One 8in full-range driver. FR: 70Hz-13kHz. HC: 8W RMS. Impedance: 8 ohms. Size:  $13\frac{3}{8} \times 10 \times 6\frac{1}{2}$ in. Weight: 10lb. Finish: teak or walnut. Price: £18.70 per pair (including VAT).

**BT100**

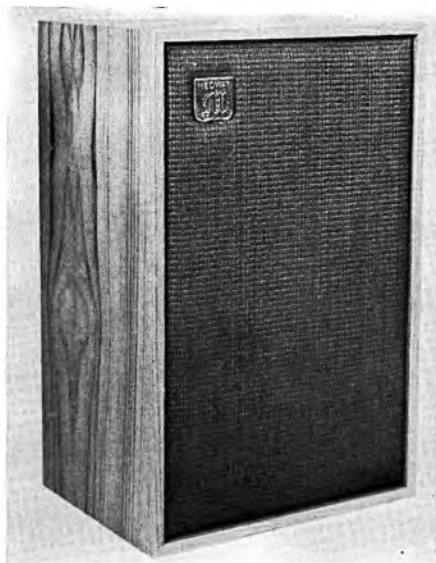
Infinite baffle enclosure with units and crossover. One 8in doped cone bass driver, one 4in HF unit. Crossover: 3.5kHz. FR: 50Hz-20kHz. HC: 10W RMS. Impedance: 8 ohms. Size:  $17 \times 10\frac{1}{2} \times 7\frac{1}{4}$ in. Weight: 14lb. Finish: teak or walnut. Price: £26.40 per pair (including VAT).

**BT150**

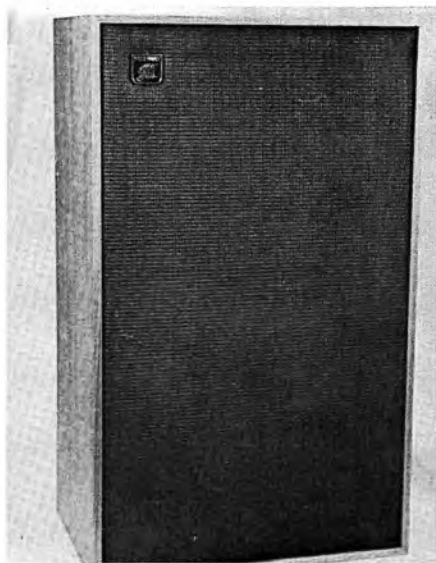
Infinite baffle enclosure with units and crossover. One 8in rubber surround bass driver, one 4in HF unit. Crossover: 3.5kHz. FR: 45Hz-20kHz. HC: 15W RMS. Impedance: 8 ohms. Size:  $20 \times 12 \times 8\frac{1}{2}$ in. Weight: 16lb. Finish: teak or walnut. Price: £34.10 per pair (including VAT).

**BT200**

Infinite baffle enclosure with units and crossover. One 13 x 8in rubber surround bass driver, one 4in HF unit. Crossover: 3.5kHz. FR: 40Hz-



Medway BT50



Medway BT75

20kHz. HC: 20W. Impedance: 8 ohms. Size: 21 × 13 × 11in. Weight: 18lb. Finish: teak. Price: £39.60 per pair (including VAT).

#### ■ METRO SOUND

Metrosound Manufacturing Co Ltd,  
Audio Works, Cartersfield Road,  
Waltham Abbey, Essex, EN9 1JF.  
Tel: Waltham Cross 31933.

#### HFS103

Infinite baffle enclosure with units and crossover. One 10 $\frac{3}{4}$  × 6 $\frac{1}{2}$ in bass driver, two 2 $\frac{1}{2}$ in tweeters. Crossover: 5kHz. FR: 50Hz-15kHz. HC: 10W RMS. Impedance: 8 ohms. Size: 14 × 9 × 7in. Weight: 9lb. Finish: teak veneer cabinet and slatted grille, silver trim. Price: (per pair) £25 (plus VAT).

#### HFS202

Infinite baffle enclosure with units and crossover. One 13 $\frac{1}{2}$  × 8 $\frac{1}{2}$ in bass driver, one 3 $\frac{1}{2}$ in tweeter. Crossover: 5kHz. FR: 40Hz-18kHz. HC: 20W RMS. Impedance: 8 ohms. Size: 23 × 11 $\frac{1}{2}$  × 11in. Weight: 22 $\frac{3}{4}$ lb. Finish: teak veneer cabinet ( $\frac{3}{4}$ in thick) with slatted grille and silver trim. Price: £21.50 (plus VAT).

#### Duplex 25

Duplex electrostatic speaker. HC: 25W. Impedance: 8 ohms. FR: 40Hz-18kHz. Crossover: 2.5kHz. Size: 16 $\frac{1}{2}$  × 27 $\frac{1}{2}$  × 12in. Weight: 40lb. Finish: crown grain teak. Electrostatic unit energised by mains supply 190-250V 50-60Hz. Price: £52 (plus VAT).

■ **MILLBANK ELECTRONICS GROUP**  
Bellbrook Estate, Uckfield, Sussex, TN22 1PS.  
Tel: Uckfield (0825) 4166.

#### MLS1000

Heavy duty infinite baffle speaker enclosure with units and crossover. One 18in bass driver, four horn-loaded pressure units. Crossover: (electrical) 800Hz. FR: 30Hz to above 12kHz. Designed for high quality high level music reproduction. HC: 150W (from built-in amplifier). Impedance: 10K input to amplifier. Size: 42 × 21 $\frac{1}{2}$  × 36in. Weight: 180lb. Finish: vynide-covered wood cabinet, satin chrome speaker grille, matt black anodised aluminium HF unit housing. Preset controls for HF and LF units. Particularly suitable for discotheques. Price: £363.66 (plus VAT).

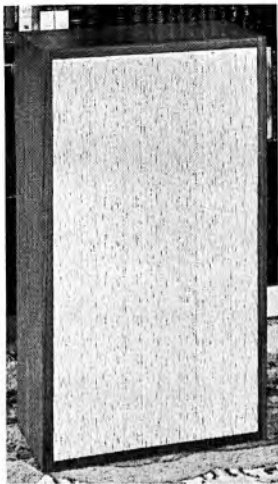
#### ■ MITSUBISHI

Mitsubishi Corporation, Bow Bells House,  
Bread Street, London EC4.  
Tel: 01-248 3292.

Range of six speaker systems but details of specifications and prices not available as this edition of the Year Book closed for press.

#### ■ MMG ASSOCIATES

19 Southfield Road, Flackell Heath,  
Near High Wycombe, Bucks.  
Tel: Bourne End 21048.



MMG Emperor 101, 102

**Emperor 101 ★**

Infinite baffle type enclosure. 13 × 8in elliptical driver with coaxially mounted high frequency unit. Crossover: 5kHz choke-capacitor network. FR: 50Hz-16kHz. HC: 20W. vci: 8 ohms. Adjustable high frequency balance. Finish: teak effect in Melamine plastic, with other finishes to order. Size: 31 × 17 × 9in. Weight: 39½lb. Price: £33 (plus VAT).

**Emperor 102 ★**

As Emperor 101 but vci is 16 ohms. Price: £33 (plus VAT).

**Emperor Mk III**

FR: 50Hz-18kHz. HC: 25W. vci 8 or 16 ohms. Finish: teak, mahogany or to order. Size: 35 × 17 × 19in. Weight: 42lb. Price: £60 (plus VAT).

**Emperor Studio Monitor**

Full specification and prices of the Emperor Studio Monitor systems available on request.

**Emperor Custom Series**

Speaker systems manufactured to customer's own design and specifications. Full details of service on request.

■ **KEITH MONKS (Audio) LTD**

26-30 Reading Road South, Fleet,  
near Aldershot, Hants.  
Tel: Fleet (02514) 7316 and 3566.

**Elf ★**

Bookshelf reflex enclosure with three units. Built-in filter system. 6½in bass driver, two 3in tweeters. HC: 12W RMS. FR: 40Hz-16kHz. Finish: teak, walnut, pine, white, laurel. Price: £23 (plus £2-30 VAT).

**Super Elf ★**

Bookshelf enclosure with units and crossover. One 8in long-throw bass driver, two 4in-high response tweeters. FR: 40Hz-18kHz. Impedance: 8 ohms. HC: 15W RMS. Size: 17½ × 11 × 8½in. Finish: hard waxed teak veneer with Vynair grille. Price: £28-50 (plus £2-85 VAT).

■ **MORDAUNT-SHORT LTD**

The Courtyard, Heath Road, Petersfield,  
Hampshire, GU31 4DX.  
Tel: Petersfield (0730) 4761.

**MS079 ★**

Infinite baffle enclosure with units. One 6½in bass driver, one 1in dome tweeter. Crossover: 4-5kHz. FR: 45Hz-20kHz. HC: 20W music. Impedance: 8 ohms. Finish: teak or walnut veneer (including rear of cabinet), special finishes to order. Size: 15½in high, 9½in wide, 8in deep. Weight: 14lb. Price: £58-30 per pair (including VAT).

**MS235 ★**

Infinite baffle enclosure with units. One 8in bass



Keith Monks Elf



Keith Monks Super Elf



*Mordaunt-Short MS079*



*Mordaunt-Short MS235*



*Mordaunt-Short MS400*

driver, one 1in dome-type mid-range unit, one STC HF tweeter. Crossover: 3.5kHz and 12kHz. FR: 40Hz-25kHz. HC: 25W music. Impedance: 8 ohms. Finish: teak or walnut veneer (including rear of cabinet), special finishes to order. Size: 21in high, 13in wide, 9in deep. Weight: 25lb. Matching stand optional extra. Price: £104.50 per pair (including VAT).

**MS400 ★**

Infinite baffle enclosure with units. One 13 × 8in bass driver, one 1½in dome-type mid-range unit, one STC HF tweeter. Crossover: 2.25kHz and 12kHz. FR: 35Hz-25kHz. HC: 35W music. Impedance: 8 ohms. Finish: teak or walnut veneer (including rear of cabinet), special finishes to order. Size: 27in high, 15in wide, 9in deep, with 1½in plinth. Weight: 36lb. Price: £128.70 per pair (including VAT).

**MS700**

Infinite baffle enclosure with units. One 12in bass driver, one 5in mid-range unit, one Decca-Kelly ribbon tweeter. Crossover: 500Hz and 3.5kHz. FR: 25Hz-25kHz. HC: 40W music. Impedance: 8 ohms. Finish: teak or walnut veneer (including rear of cabinet), special finishes to order. Size: 33in high (with 1½in plinth), 17in wide, 12in deep. Weight: 60lb. Price: £181.50 per pair (including VAT).

■ **NATIONAL PANASONIC (UK) LTD**

Whitby Road, Trading Estate, Slough, Bucks.  
Tel: Slough 34522. Telex: 847652.

**SB30**

Speaker system. Full details on request. Price: £18 (including VAT).

**SB120**

Speaker system. Full details on request. Price: £23 (including VAT).

**SB160**

Speaker system. Full details on request. Price: £28.50 (including VAT).

**SB310**

Speaker system. Full details on request. Price: £72.15 (including VAT).

**SB410**

Speaker system. Full details on request. Price: £85 (including VAT).

**SB610**

Speaker system. Full details on request. Price: £99.95 (including VAT).

■ **NORDMENDE**

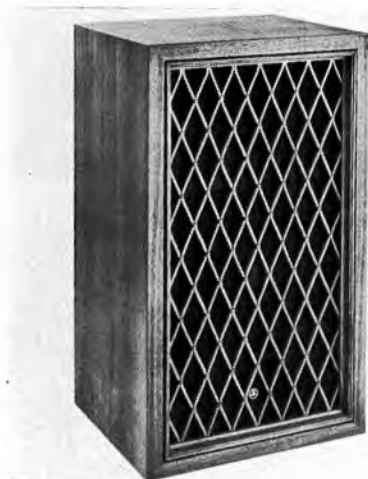
Distributors: H. Vesshof & Co Ltd (Vessco Vision & Sound), 62 Woodbridge Road, Guildford, Surrey, GU1 4RD.  
Tel: Guildford (0483) 77377.



Philips RH426



Philips RH427



Pioneer CS66

**LB31**

Bookshelf type in natural walnut or white. HC: 15W RMS. FR: 45Hz-20kHz. vci: 5 ohms. Dimensions:  $6\frac{1}{4} \times 7 \times 10\frac{1}{2}$  in approx. Price on request.

**LB34**

Enclosure with unit. HC: 5W nominal. FR: 70Hz-14kHz. Impedance: 4 ohms. Size:  $10 \times 6 \times 6\frac{3}{4}$  in approx. Finish: walnut. Price on request.

**LB44**

Enclosure with units and crossovers to DIN specification. Two  $5\frac{1}{8}$  in bass drivers, one dome tweeter. Impedance: 8 ohms. HC: 30W nominal. FR: 45Hz-25kHz. Size:  $12\frac{5}{8} \times 21\frac{1}{2} \times 3\frac{1}{4}$  in approx. Finish: light walnut or white. Price on request.

**LB61**

Enclosure with units and crossover to DIN specification. Three bass drivers, one dome tweeter. Impedance: 8 ohms. HC: 30W nominal. FR: 30Hz-25kHz. Size:  $10 \times 20 \times 7\frac{7}{8}$  in. Finish: white, red, green, dark grey, walnut or teak. Price on request.

**LB62**

Enclosure with units and crossover to DIN specification. Two bass drivers, one tweeter. Impedance: 5 ohms nominal. HC: 25W. FR: 30Hz-25kHz. Size:  $8\frac{3}{4} \times 17 \times 7\frac{7}{8}$  in approximately. Finish: white, teak or walnut. Price on request.

**LB66**

Enclosure with units and crossover to DIN specification. One 12in bass driver, two 4in mid-range units, two dome tweeters. HC: 60W nominal. FR: 35Hz-22kHz. Impedance: 8 ohms. Size:  $14\frac{3}{8} \times 27\frac{5}{8} \times 7\frac{7}{8}$  in. Finish: walnut or white. Price on request.

**LB77**

Enclosure with units and crossover to DIN specification. One 12in bass driver, one  $5\frac{1}{8}$  in mid-range unit, one  $1\frac{1}{2}$  in HF unit, one 1in dome tweeter. HC: 60W nominal. FR: 20Hz-25kHz. Impedance: 8 ohms. Size:  $28\frac{1}{2} \times 14\frac{1}{4} \times 10\frac{3}{4}$  in. Finish: walnut or white. Price on request.

■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue. London. WC2H 8AS.

Tel: 01-437 7777. Cables: Phillamps, London.

**RH402**

Infinite baffle enclosure with units and crossover. One 7in bass driver, one 1in tweeter. Crossover: 1.2kHz. FR: 50Hz-20kHz. HC: 20W RMS. Resonant frequency: 90Hz. Impedance: 4 or 8 ohms. Finish: walnut veneer. Size:  $10\frac{1}{2} \times 10\frac{1}{2} \times 4$  in. Price: £21.04 (including VAT).

**RH426 ★**

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 5in mid-range unit, one 1in tweeter. Crossover: 500Hz, 5kHz. FR: 35Hz-20kHz. HC: 30W RMS. Impedance:

4 ohms. Size:  $13\frac{1}{2} \times 18 \times 9$ in. Weight: 21lb. Finish: walnut. Price: £32-95 (including VAT).

**RH427 ★**

Infinite baffle enclosure with units and crossover. Two 8in bass drivers, one 5in mid-range unit, one 1in tweeter. Crossover: 500Hz, 5kHz. FR: 30Hz-20kHz. HC: 40W. Impedance: 4 ohms. Size:  $16\frac{1}{4} \times 21\frac{1}{4} \times 9$ in. Weight: 29lb. Finish: walnut. Price: £55 (including VAT).

**■ PIONEER**

Distributors: Shriro (UK) Ltd,  
42 Russell Square, London, WC1B 5DF.  
Tel: 01-580 6996.

**CS53**

Reflex enclosure with two units. One 12in bass driver, one  $3\frac{1}{2}$ in tweeter. FR: 45Hz-20kHz. HC: 40W. Impedance: 8 ohms. Size:  $22\frac{1}{2} \times 16\frac{1}{2} \times 11\frac{7}{8}$ in. Weight: 28lb. Finish: walnut. Price: £51-38 (plus VAT).

**CS66 ★**

Infinite baffle enclosure with three units. One 10in bass driver, one  $6\frac{1}{2}$ in mid-range unit, one  $3\frac{1}{2}$ in cone tweeter. Crossover: 1-85kHz, 6-85kHz. FR: 35Hz-20kHz. HC: 40W RMS. Impedance: 8 ohms. Size:  $12\frac{1}{4} \times 22 \times 11\frac{1}{2}$ in. Weight: 29lb. Finish: walnut. Price: £64-53 (plus VAT).

**CSE500**

Infinite baffle enclosure with three units. One 10in bass driver, one 5in mid-range unit, one 3in cone tweeter. Crossover: 650Hz, 5kHz. FR: 37Hz-20kHz. HC: 50W RMS. Impedance: 8 ohms. Size:  $13 \times 22\frac{1}{2} \times 11\frac{7}{8}$ in. Designed for two-channel or three-channel stereo system. Finish: walnut with fabric grille. Price: £71-15 (plus VAT).

**CSE700**

Infinite baffle enclosure with three units. One 12in bass driver, one 5in mid-range unit, one multi-cellular horn tweeter. Crossover: 500Hz, 4-5Hz. FR: 35Hz-20kHz. HC: 60W RMS. Impedance: 8 ohms. Size:  $15 \times 26 \times 11\frac{7}{8}$ in. Weight: 35lb. Designed for use with two or three power amplifiers direct and with electronic crossover independent of crossover in cabinet. Finish: walnut with fabric grille. Price: £97-87 (plus VAT).

**CSE900**

Infinite baffle enclosure with three units. One 12in bass driver, one 5in mid-range unit, one horn type tweeter. Impedance: 8 ohms. FR: 30Hz-28kHz. HC: 75W music. Crossover: 400Hz, 4kHz. Size:  $16 \times 27\frac{1}{2} \times 11\frac{7}{8}$ in. Weight: 55lb. Price: £147-44 (plus VAT).

**CSE400**

Air-suspension enclosure with units. One 8in bass driver, one dome tweeter. Crossover: 2-8

kHz. FR: 35Hz-20kHz. HC: 40W. Impedance: 8 ohms. Price: £52-77 (plus VAT).

**CSE300**

Air-suspension enclosure with units. One 8in bass driver, one cone tweeter. Crossover: 2kHz. FR: 40Hz-20kHz. HC: 30W. Impedance: 4 ohms. Price: £36-95 (plus VAT).

**CSE301**

Air-suspension enclosure with units. One 8in bass driver, one cone tweeter. Crossover: 2kHz. FR: 40Hz-20kHz. HC: 30W. Impedance: 4 ohms. Price: £33-35 (plus VAT).

**CSE200**

Air-suspension enclosure with units. One  $6\frac{3}{8}$ in bass driver, one cone tweeter. Crossover: 2kHz. FR: 50Hz-20kHz. HC: 20W. Impedance: 4 ohms. Price: £23-88 (plus VAT).

**CSE201**

Air-suspension enclosure with units. One  $6\frac{3}{8}$ in bass driver, one cone tweeter. Crossover: 2kHz. FR: 50Hz-20kHz. HC: 20W. Impedance: 4 ohms. Price: £27-53 (plus VAT).

**■ P & S (Pohler & Schilling)**

Lynthorpe Factors, 90 Dragon Parade,  
Harrogate, Yorks, HG1 5DQ.  
Tel: Harrogate 3540.

**201 Baby**

Omni-directional vertical-sound enclosure with units and crossover. One bass driver, one tweeter. HC: 12W RMS. FR: 50Hz-18kHz. Impedance: 4-8 ohms. Size:  $7 \times 7 \times 15$ in. Finish: white or walnut. Price on request.

**202**

Omni-directional vertical-sound enclosure with units and crossover. One bass driver, one tweeter. HC: 25W. FR: 35Hz-22kHz. Impedance: 4-8 ohms. Size:  $10\frac{1}{2} \times 10\frac{1}{2} \times 21$ in. Finish: white or walnut. Price on request.

**302**

Omni-directional vertical-sound enclosure with units and crossover. One bass driver, one mid-range unit, one tweeter. HC: 25W. FR: 35Hz-25kHz. Impedance: 4-8 ohms. Size:  $12 \times 12 \times 23\frac{1}{2}$ in. Finish: white, walnut, oak, teak are standard finishes, other finishes to order. Prices on request.

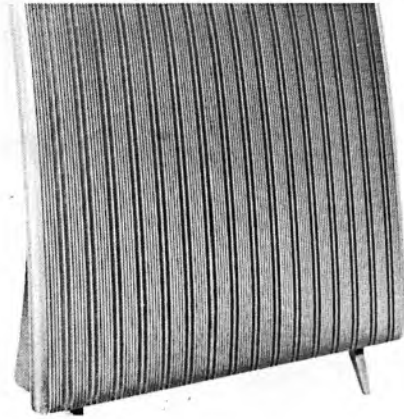
**503**

Omni-directional vertical-sound enclosure with units and crossover. One bass driver, one mid-range unit, one tweeter. HC: 50W. FR: 30Hz-25kHz. Impedance: 4-8 ohms. Size:  $13 \times 13 \times 25\frac{1}{2}$ in. Finish: white, walnut, oak, teak are standard finishes, other finishes to order. Prices on request.

**704**

Omni-directional vertical-sound enclosure with

★ Indicates entry is illustrated



*Quad Electrostatic*

units and crossover. One bass driver, one mid-range unit, one tweeter. HC: 60W. FR: 28Hz-25kHz. Impedance: 4-8 ohms. Size:  $14\frac{1}{4} \times 14\frac{1}{4} \times 28$ in. Finish: white, walnut, oak, teak are standard finishes, other finishes to special order. Prices on request.

#### ■ QUAD

Acoustical Manufacturing Co Ltd,  
St Peter's Road, Huntingdon, PE18 7DB.  
Tel: Huntingdon (0480) 52561.  
Cables: Acoustical.

#### Quad Electrostatic ★

Full range doublet covering 45Hz-18kHz. Attenuation outside band asymptotic to 18dB/8ve. Total integrated radiation at max output equivalent to 95 phons in rooms of up to 5000 cu ft with average reverberation. Dispersion approx 70° horizontal; 15° vertical. Imp 30-15 ohms. 40Hz to 8kHz, falling above 8kHz. Designed for use with standard Quad 303 Amplifier. Suitable for AC supplies 100-120 or 200-250V 50-60Hz. Free-standing unit requires no enclosure or cabinet. Weight: 35lb. Price: £79 (plus VAT) complete.

#### ■ RADON INDUSTRIAL ELECTRONICS CO LTD

Brooklands Trading Estate, Orme Road,  
Worthing, Sussex. Tel: Worthing 34904.

#### Jewel Range

Range of six speakers in hand-built teak enclosures. Finished in satin lacquers and charcoal-coloured fronts. Brass key plates for wall mounting. Impedances: 8 or 15 ohms.

#### Amethyst SC/1

Infinite baffle. HC: 10W maximum. FR: 60Hz-17kHz  $\pm$  6dB. System comprises  $6\frac{1}{2}$ in woofer



*Radon Sapphire*

with ceramic magnet of 10,000 gauss and 1in voice coil; and 4in tweeter with crossover. Size:  $19 \times 10 \times 6$ in. Price: approximately £14 (including VAT).

#### Emerald SC/2

Infinite baffle. HC: 12W maximum. FR: 50Hz-10k Hz  $\pm$  5dB.  $10 \times 6$ in woofer with aluminium centre cone and high compliance PVC suspension; tweeter and crossover. Price: approximately £19 (including VAT).

#### Opal SC/3

Infinite baffle. HC: 15W maximum. FR: 20Hz-20kHz  $\pm$  8dB. Speakers:  $13 \times 8$ in woofer using ceramic magnet of 11,000 gauss, high compliance PVC surround, aluminium centre cone; tweeter with 10,000 gauss ceramic magnet, driven from crossover network at 5kHz. Dimensions:  $23 \times 12 \times 11$ in. Price: approximately £27-50 (including VAT).

#### Sapphire SC/4 ★

Enclosure with 12in woofer using ceramic magnet of 15,500 lines and  $1\frac{3}{4}$ in speech coil.  $4 \times 4$ in tweeter assembly on heavy diecast alloy frame for non-directional sound. HC: 25W maximum. FR: 20Hz-18kHz  $\pm$  2dB. Cabinet size:  $30 \times 16 \times 9$ in. Price: approximately £38-50 (including VAT).

#### Topaz SC/5 ★

Infinite baffle enclosure with units.  $14 \times 9$ in bass driver, 5in mid-range unit,  $3\frac{3}{8}$ in tweeter. FR: 50Hz-20kHz. HC: 20W RMS. Impedance: 8 ohms. Size:  $28 \times 16 \times 13$ in. Weight: 32lb. Finish: natural teak satin lacquer. Special cross-over provides control to mid-range and HF frequencies. Bass unit fitted with laminated glass fibre cone and diecast chassis. Price: approximately £70 (including VAT).

**Pearl SC/6**

Labyrinth enclosure with units. 10in Goodmans Axiom bass driver, two 3 $\frac{3}{8}$ in tweeters. Crossover: LC network. FR: 40Hz-18kHz. HC: 10W RMS. Impedance: 8 or 15 ohms. Size: 25 × 16 $\frac{3}{4}$  × 15 $\frac{5}{8}$ in. Weight: 28 $\frac{1}{2}$ lb. Finish: teak. Cabinet fitted with acoustic resistance and special baffle system for level response. Price: approximately £48-40 (including VAT).

**RGD**

ITT Consumer Products (UK) Ltd, Maidstone Road, Sidcup, Kent DA14 5HT. Tel: 01-300 7733

**KS661**

Infinite baffle enclosure with unit. Single 4in full range driver. Impedance: 4 or 16 ohms (switched). HC: 12W peak. Finish: teak grain appearance. Size: 9 $\frac{1}{4}$  × 7 × 15 $\frac{1}{8}$ in. Price: £22-50 (including VAT).

**KS665**

Infinite baffle enclosure with units and crossover. One 6 $\frac{1}{2}$ in bass driver, one 3 $\frac{3}{8}$ in or 2 $\frac{1}{4}$ in tweeter. Impedance: 8 ohms. HC: 15W peak. Treble control. Finish: teak grain appearance. Size: 18 × 11 $\frac{1}{2}$  × 6 $\frac{3}{4}$ in. Price: £31-50 (including VAT).

**KS659**

Infinite baffle enclosure with units and crossover. One 6 $\frac{1}{2}$ in bass driver, one 6 × 4in mid-range unit, one 3 $\frac{3}{8}$ in treble unit. Impedance: 4 ohms. HC: 18W peak. Finish: teak grain appearance. Size: 27 $\frac{1}{2}$  × 11 $\frac{1}{8}$  × 9 $\frac{7}{8}$ in. Price: £46-44 (including VAT).

**KS660**

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 6 × 4in mid-range unit, one 3 $\frac{3}{8}$ in square tweeter. Impedance: 4 ohms. HC: 20W peak. Finish: teak grain appearance. Size: 27 $\frac{3}{4}$  × 16 × 9 $\frac{1}{2}$ in. Price: £74-80 (including VAT).

**ROGERS DEVELOPMENTS (Electronics) LTD**

4-14 Barmeston Road, Catford, London, SE6 3BN. Tel: 01-698 7424/4340. Cables: Rodevco, London, SE6.

**Wafer System Mk II ★**

Infinite baffle enclosure with two units. One 5in bass driver plus tweeter. FR: 40Hz-20kHz. HC: 15W. Impedance: 15 ohms. Finish: solid afrormosia frame with black fret material. Includes volume control for third or fourth channel use. Size: 13 $\frac{1}{8}$  × 16 $\frac{5}{8}$  × 2 $\frac{1}{2}$ in. Price: (afrormosia) £20 (plus VAT).

**Ravensbourne Compact ★**

Complete system including units. One 8in bass driver, one 2 $\frac{1}{2}$ in tweeter. Crossover: 2-75kHz at 18dB per octave. FR: 40Hz-20kHz. HC: 35W music rating. Impedance: 8-16 ohms. Size: 19 ×

13 × 8 $\frac{3}{4}$ in. Weight: 17 $\frac{1}{2}$ lb. Finish: teak standard, other finishes, including rosewood and walnut, available to order at extra cost. Price: per pair £56 (plus VAT).

**BBC Studio Monitor ★**

Three-way system based on a design by the BBC research department and produced under license. Conforms to BBC specification LS3/6, but with the addition of a third unit. Three drive units comprise bass driver, mid-range unit and tweeter. Bass and tweeter unit efficiencies are matched by low-loss auto transformer with 1dB

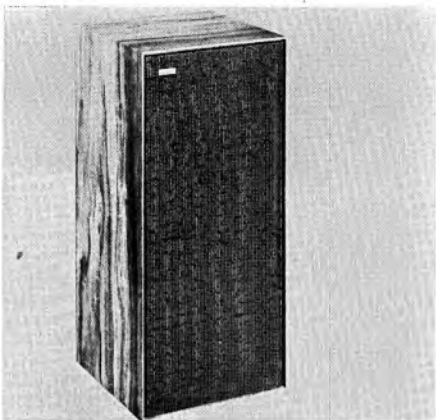


Rogers Wafer



Rogers Ravensbourne Compact





Rogers BBC Studio Monitor

tappings. Sophisticated crossover using 5 per cent tolerance inductors and low loss capacitors. FR: 40Hz-25kHz  $\pm$ 3dB. HC: 25W (makers recommend amplifier having output of at least 20W, but caution is necessary with equipment over 40W output as overheating of the speech coil may occur). Impedance: 15 ohms standard, 8 ohms and 25 ohms made to order. Size: 12  $\times$  25  $\times$  12in deep. Height with stand: 37in. Finish: teak. Price: (Monitor speaker, less stand) £77 (plus VAT); (Monitor speaker, complete with stand) £83.50 (plus VAT); (stand only) £6.50 (plus VAT).

**NOTE:** Distribution of the Rogers BBC Monitor speaker system is through a very limited number of selected audio retailers. Full list of appointed retailers available from the manufacturers.

#### ■ ROLA-CELESTION

See Celestion.

#### ■ SABA TELEVISION LTD

6-12 Cornbrook Park Road, Manchester, M15 4EE. Tel: 061-872 7661.

##### FL15G

Speaker enclosure with units. One bass driver, one HF unit. FR: 50Hz-20kHz. Size: 15 $\frac{3}{4}$   $\times$  9 $\frac{7}{8}$   $\times$  3 $\frac{1}{2}$ in. Finish: light walnut or white. Price: £27.50 (including VAT).

##### 15G

Speaker enclosure with units. One bass driver, one HF unit. FR: 45Hz-20kHz. Size: 15 $\frac{3}{8}$   $\times$  8 $\frac{5}{8}$   $\times$  8 $\frac{1}{8}$ in. Finish: fabric with wood grille. Price: £27.50 (including VAT).

##### FL40G

Speaker enclosure with units. Two bass drivers, one HF unit. FR: 40Hz-20kHz. Size: 20 $\frac{1}{2}$   $\times$  12 $\frac{7}{8}$   $\times$  4 $\frac{5}{8}$ in. Price: £48.50 (including VAT).

##### 40G

Speaker enclosure with units. Two bass drivers, one tweeter. FR: 35Hz-22.5kHz. Size: 19 $\frac{1}{2}$   $\times$  11  $\times$  9 $\frac{7}{8}$ in. Price: £48.50 (including VAT).

##### FL60G

Speaker enclosure with units. One bass driver, one mid-range unit, two tweeters. FR: 30Hz-22.5kHz. Size: 23  $\times$  14 $\frac{1}{4}$   $\times$  4 $\frac{3}{8}$ in. Price: £63.95 (including VAT).

##### 60G

Speaker enclosure with units. One bass driver, one mid-range unit, two tweeters. FR: 25Hz-25kHz. Size: 22 $\frac{3}{4}$   $\times$  12 $\frac{1}{2}$   $\times$  10 $\frac{1}{4}$ in. Price: £63.95 (including VAT).

#### ■ SANSUI

Vernitron Ltd, Thornhill, Southampton, SO9 5QF. Tel: Southampton 444811.

##### SP1700 ★

Enclosure with units and crossover. One 12in bass driver, two 4in mid-range units, two 2in tweeters. HC: 70W music power. Impedance: 8 ohms. FR: 50Hz-20kHz. Crossover: 700Hz, 6.5kHz. Size: 16 $\frac{3}{4}$   $\times$  25 $\frac{1}{4}$   $\times$  10 $\frac{7}{8}$ in. Weight: 46 $\frac{3}{4}$ lb. Finish: walnut cabinet with convex Kumiko fretwork grille. Price: £89.03 (plus VAT).

##### SP2500

Enclosure with units and crossover. One 12in bass driver, two 5in mid-range units, two 2in horn tweeters. HC: 80W music power. Impedance: 8 ohms. FR: 30Hz-20kHz. Crossover: 700Hz, 6.5kHz. Size: 16 $\frac{3}{4}$   $\times$  10 $\frac{7}{8}$   $\times$  25 $\frac{1}{4}$ in. Weight: 56 $\frac{1}{4}$ lb. Finish: walnut cabinet with convex Kumiko fretwork grille. Price: £93.68 (plus VAT).

##### SP3500

Enclosure with units and crossover. One 14in bass driver, two 4in mid-range units, one 4 $\frac{1}{2}$   $\times$  2in HF unit, two 2in horn tweeters. HC: 100W music power. Impedance: 8 ohms. FR: 25Hz-20kHz. Crossover: 700Hz, 2kHz, 6.5kHz. Size: 17 $\frac{3}{4}$   $\times$  11 $\frac{1}{2}$   $\times$  25 $\frac{1}{4}$ in. Weight: 58lb. Finish: walnut cabinet with convex fretwork grille. Price: £113.57 (plus VAT).

##### ES100

Reflex enclosure with units and crossover. One 10in bass driver, one 1 $\frac{3}{8}$ in dome tweeter. Crossover: two-way 18dB/octave at 3kHz. FR: 45Hz-20kHz. HC: 45W RMS. Impedance: 8 ohms. Size: 12 $\frac{1}{4}$   $\times$  20 $\frac{5}{8}$   $\times$  9 $\frac{5}{8}$ in. Weight: 24lb. Finish: walnut. Price: to be announced.

##### ES200

Reflex enclosure with units and crossover. One 10in bass driver, one 1 $\frac{3}{8}$ in dome mid-range unit, one  $\frac{3}{4}$ in dome tweeter. Crossover: three-way 12dB/octave and 18dB/octave at 1.5kHz and 6kHz respectively. FR: 45Hz-20kHz. HC: 50W RMS. Impedance: 8 ohms. Size: 12 $\frac{3}{8}$   $\times$  22 $\frac{1}{2}$   $\times$



Sansui SPI700

11 $\frac{1}{8}$ in. Weight: 32lb. Finish: walnut. Price: to be announced.

#### ■ SCAN-DYNA

Scandinavian Audio Systems Ltd,  
Sun Alliance Building, 65 London Road,  
Gloucester, GL1 3HF.

Tel: Gloucester (0452) 32791/2.

#### M2

Infinite baffle enclosure with unit. One full-range 6x4in unit with double membrane and pneumatic suspension. FR: 70Hz-18kHz. HC: 10W RMS. Impedance: 4 ohms. Size: 9 $\frac{3}{4}$  x 4 $\frac{1}{2}$  x 8 $\frac{1}{2}$ in. Finish: teak or rosewood. Price: £12-90 (including VAT).

#### M5

Infinite baffle enclosure with unit. No specification available. Finish: teak or rosewood. Price: £18-90 (including VAT).

#### A10

Enclosure with units. No specification available. Finish: teak, rosewood or black. Impedance: 4 and 8 ohms. Price: £26-90 (including VAT).

#### A20

Twin chamber enclosure with units and crossover. One 8in bass driver, one 1 $\frac{1}{2}$ in dome tweeter. FR: 32Hz-20kHz. HC: 35W RMS. Impedance: 4 ohms. Finish: teak or rosewood. Size: 17 x 9 $\frac{3}{4}$  x 9 $\frac{3}{4}$ in. Weight: 18lb. Price: £32-90 (including VAT).

#### A25

Reflex enclosure with units and crossover. One 9 $\frac{1}{2}$ in bass driver, one 2in dome tweeter. Crossover: 1.5kHz. FR: 45Hz-20kHz. Impedance: 4 or 8 ohms. HC: 25W RMS. Size: 21 $\frac{1}{2}$  x 12 $\frac{1}{2}$  x 9 $\frac{3}{4}$ in. Finish: teak, rosewood or black. Price: £37-90 (including VAT).

#### A30

Twin chamber enclosure with units and crossover. One 10in bass driver, one 1 $\frac{1}{2}$ in dome

tweeter. FR: 30Hz-20kHz. HC: 45W RMS. Impedance: 4 ohms. Finish: teak or rosewood. Size: 22 $\frac{1}{2}$  x 12 $\frac{1}{2}$  x 9 $\frac{3}{4}$ in. Price: £46-90 (including VAT).

#### ■ SCIENTELEC

35a Beddington Lane, Croydon, Surrey,  
CR0 4TB. Tel: 01-686 9341/4.

#### Mach 202s

Infinite baffle enclosure with units and crossover. One 7in bass driver, one 2in tweeter (Heco units). Crossover: 2.5kHz. FR: 55Hz-20kHz. HC: 25W RMS. Impedance: 8 ohms. Size: 12 x 12 x 17in. Weight: 29lb. Finish: light rosewood with black diffuser grille on top. Omnidirectional. Price: £50-38 (including VAT).

#### Mach 302s

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 2in tweeter (Heco units). Crossover: 2.5kHz. FR: 50Hz-22kHz. HC: 35W RMS. Impedance: 8 ohms. Size: 15 $\frac{1}{2}$  x 15 $\frac{1}{2}$  x 20 $\frac{1}{2}$ in. Weight: 29lb. Finish: light rosewood with black diffuser grille on top. Omnidirectional. Price: £72-01 (including VAT).

#### Mach 503s

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 6in mid-range unit, one 2in tweeter. FR: 20Hz-25kHz. HC: 60W RMS. Impedance: 4 ohms. Size: 15 $\frac{1}{2}$  x 15 $\frac{1}{2}$  x 24 $\frac{1}{2}$ in. Weight: 47lb. Finish: light rosewood with black diffuser grille on top. Omnidirectional. Price: £122-36 (including VAT).

#### ■ S.D.L.

Distributors: Adastra Electronics Ltd, Unit 22,  
Cricklewood Trading Estate, Claremont Road,  
London, NW2 1TU. Tel: 01-452 6288.

Answering service: 01-452 6289.

#### Courier

Infinite baffle enclosure with unit. One 13 x 8in driver with centre tweeter. FR: 40Hz-15kHz. HC: 15W RMS. Impedance: 8 ohms. Size: 15 x 10 $\frac{1}{2}$  x 7 $\frac{1}{4}$ in. Weight: 9 $\frac{3}{4}$ lb. Finish: teak veneer with matching Vynair front. Price: £35-75 per matched pair (including VAT).

#### Envy

Infinite baffle enclosure with units. One 13 x 8in dual-cone bass driver, one 2in HF unit. Crossover: 3kHz L/C unit. FR: 40Hz-20kHz. HC: 15W RMS. Impedance: 8 ohms. Size: 18 x 10 $\frac{1}{2}$  x 7 $\frac{1}{4}$ in. Weight: 10 $\frac{1}{2}$ lb. Finish: teak veneer with matching Vynair front. Price: £46-20 per matched pair (including VAT).

#### Consul

Infinite baffle enclosure with units. One 12in dual-cone bass driver, two 2in tweeters. Crossover: 3kHz L/C unit. FR: 20Hz-20kHz. HC: 20W RMS. Impedance: 8 ohms. Size: 21 x 15 x

★ Indicates entry is illustrated

10½ in. Weight: 25lb. Finish: teak veneer with matching Vynair front. Price: £37 each (including VAT).

### ■ SERVO-SOUND

Lamb House, Church Street, London, W4 2PB.  
Tel: 01-995 4551.

#### SL20 ★

Infinite baffle enclosure incorporating drive unit and power amplifier. One 9½ × 6½ elliptical full-range drive unit. FR: (power amplifier and speaker system) 35Kz-20kHz. HC: 20W RMS. Impedance: 4 ohms. Includes built-in 15W RMS power amplifier incorporating patented 'Cybernetic' circuit to provide servo control of speaker cone. Circuit is designed to monitor speaker cone movement, compare with input to amplifier and apply correction signal to amplifier. Size: 7 × 10 × 11 in. Weight: 12½ lb. Finish: wood cabinet finished in walnut or white, chrome grille. Designed for use with Servo-Sound SC100BEE preamplifier (see Amplifier Section). Price: (speaker and amplifier) £58.90 (plus VAT).

### ■ SHEPPARD AUDIO LTD

275 Watling Street (A5), Radlett, Herts,  
WD7 7LA. Tel: Radlett 5440.

#### Chesham Mini

Infinite baffle enclosure with units and crossover. One 8 in bass driver, one 3 in tweeter. FR: 45Hz-20kHz. HC: 20W RMS. Impedance: 8 ohms. Size: 13 × 7 × 8 in. Finish: teak. Price: £29.50 per pair (plus VAT).

#### Chesham

Infinite baffle three-way system with units and crossover. Two 8 in coupled bass drivers, one 3 in super tweeter. HC: 22W RMS. FR: 40Hz-20 kHz. Impedance: 8 ohms. Finish: teak. Size: 23 × 11 × 10 in. Price: £29.50 each (plus VAT).

#### Chesham Super

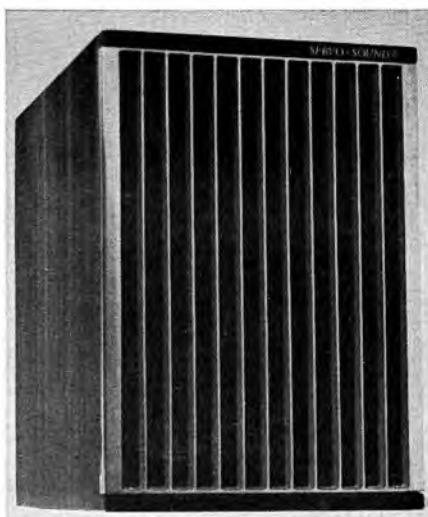
Infinite baffle enclosure with heavy duty units and crossover. One 13 × 8 in bass driver, one 3 in HF unit. Two-way system. HC: 20W RMS. FR: 40Hz-20kHz. Impedance: 8 ohms. Finish: teak, walnut or mahogany. Size: 18 × 11 × 10 in. Price: £30 each (plus VAT).

#### SA4-X

Infinite baffle enclosure with units and crossover. Three-way system. One 13 × 8 in heavy duty magnet bass driver, one 4 in mid-range unit, one 3 in tweeter. FR: 35Hz-20kHz. HC: 25W RMS. Impedance: 8 ohms. Finish: teak. Size: 23½ × 14 × 12 in. Price: £42.50 each (plus VAT).

#### Aldenhams De Luxe

Infinite baffle enclosure with units and crossover. Three-way system. One 13½ × 9 in bass driver, 6½ in mid-range unit and HF tweeter.



Servo-Sound SL20

HC: 25W RMS. FR: 35Hz-30kHz. Impedance: 8 ohms nominal. Size: 23½ × 15 × 10 in. Weight: 42lb. Finish: teak or walnut. Price: £55 each (plus VAT).

#### Aldenhams Super De Luxe

Infinite baffle enclosure with units and crossover. Four-way system. One 13½ × 9 in bass driver, 6½ in mid-range unit, 3 in mid-upper frequency speaker and HF tweeter. HC: 30W RMS. FR: 35Hz-30kHz. Impedance: 8 ohms nominal. Size: 23½ × 15 × 10 in. Weight: 42lb. Finish: teak or walnut. Price: £65 each (plus VAT).

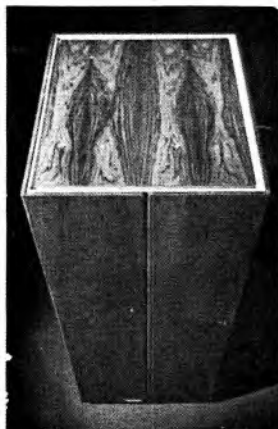
#### Waltham Monitor Elite

Infinite baffle cabinet with speakers and crossover. 13 × 9 in bass driver, 5 in mid-range unit, 3 in mid-upper frequency speaker and T27 tweeter. Crossover: 800Hz, 3.5kHz, 6.5kHz. FR: 20Hz-25kHz. HC: 30W RMS. Impedance: 8 ohms. Size: 29½ × 17½ × 12½ in. Weight: 57lb. Finish: teak or walnut (mahogany to order). Controls on mid-range and upper frequency units. Special BAF loading and rigid construction. Price: £95 each (plus VAT).

#### Waltham Super Elite

Infinite baffle enclosure with speakers and crossover. 14 × 9 in bass driver, two mid-upper frequency units. Specification similar to Waltham Elite but smoother response. Price: £105 each (plus VAT).

NOTE: All Sheppard Audio speaker systems now have plain black grilles.



## never before

has such clarity and fullness of sound been achieved. Startling transient accuracy. A solid and wide stereo image locating precisely all musical detail in the space before the listener. Very high electro-acoustic efficiency and enormous power handling capacity – up to 100 watts.

How are these attributes possible in one design? During a thorough re-examination of loudspeaker principles and practice it became clear that by coupling well designed horns to modern drive units, and being extremely careful about crossover design, it was possible to create a compact, fully horn-loaded wide-range loudspeaker.

The HL1 measures 37 x 15 x 17 1/2 inches and comprises three exponential horns with crossover frequencies of 385Hz and 5kHz. Bass energy is propagated uniquely by the bass-horn enclosure, which operates from two 13 x 8 inch units and loads very conveniently against room boundaries. The mid-range horn is a plane-wave propagator largely responsible for the outstanding performance. The system has a beautiful fabric finish available in any of ten colours.

Monitor loudspeaker HL1, price £98 (black or cream).

# lecron

Lecron Audio Limited  
Burrell Road, St. Ives, Hunts. PE17 4LE  
Telephone St. Ives (0480) 64124



## never before

did a pre-amplifier look or perform like this. Sliding controls form a spectrum of colour in a plane of black glass. A case just over one inch thick houses a miracle of electronic engineering – the silent electronic switching of circuits with virtually no distortion or noise.

The mains powered unit can, by simple additions, decode 4-channel matrixed records and synthesise 'surround-sound' from two-channel material. It can itself be remotely controlled with respect to volume setting and input selection. The specification includes:

signal/noise better than 70dB on each magnetic input stage, and better than 80dB on radio and each of the auxiliary inputs

mid-band distortion typically 0.02%

frequency response 10Hz–25 kHz  $\pm$  0.5dB low-frequency filter 12dB/octave below 35Hz, high filters ultimately 18dB/octave starting at 4, 8 and 12kHz

outputs 500mV or 1.2V rms, 100mV rms (tape) at Aux 1 and 2 DIN standard, and 2W into 8 $\Omega$  (from power amp) for headphones

Control unit AC1, price £110

# lecron

Lecron Audio Limited  
Burrell Road, St. Ives, Hunts. PE17 4LE  
Telephone St. Ives (0480) 64124



## never before

has a stereo amplifier been housed in a black anodised aluminium cylinder one foot tall.

This directly coupled amplifier design is unique in its elegant simplicity, and produces very low harmonic and intermodulation distortion with no transient distortion effects.

The black cylinder combines chassis and heat sink in one rugged and attractive assembly.

The amplifiers are unconditionally stable and have two switched loudspeaker outlets.

The specification includes:

rated output power 35W per channel (AP1) and 70W (AP2) into 4 or 8  $\Omega$  for the rated input

noise 90dB and hum 80dB below full output

distortion typically 0.005% from 200Hz to 15kHz for the rated outputs

frequency response 5Hz–30kHz, determined by built-in filters.

Prices: AP1 £82.50, AP2 £104.50

# lecron

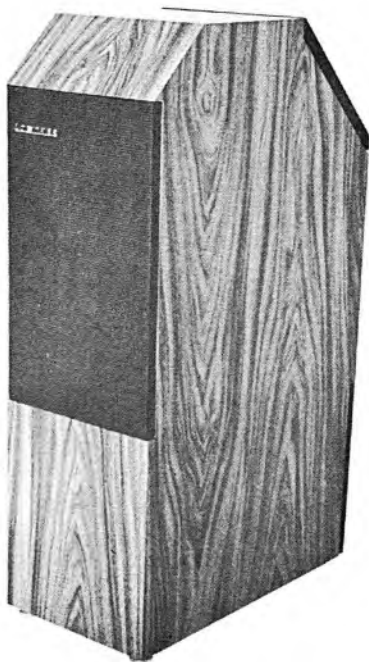
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# LOWTHER



towards perfection

- THE AUDITORIUM-ACOUSTA OFFERS an entirely new conception of sound from your existing amplifying system whether it be mono or stereo. Complete absence of point source.
- LOWTHER the first name for:
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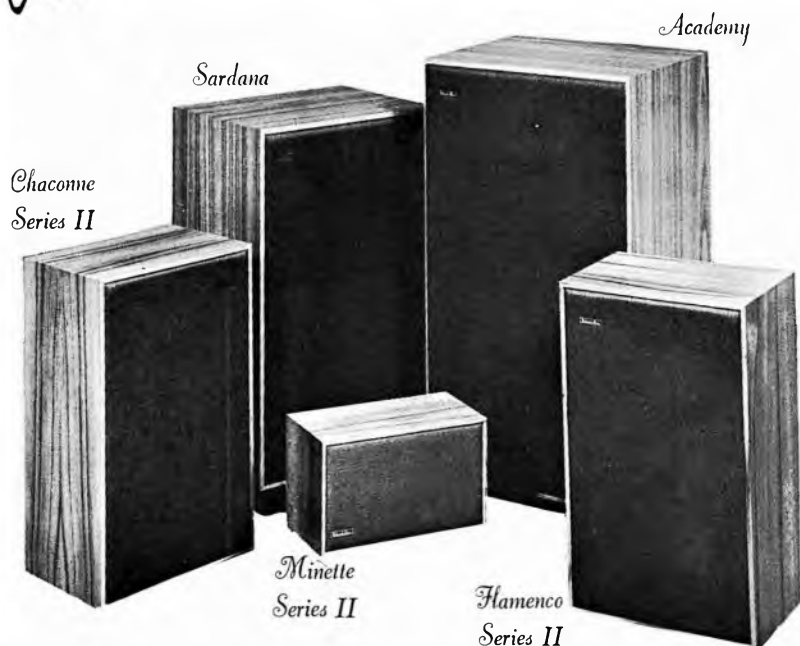
Our Service Shop on the second floor has just been completely modernised and here, besides selling our famous IM styli and other accessories, they will look after servicing of all equipment purchased from us. A point worth remembering is that any new item bought from us is covered by the Imhofs Sales Charter which includes the first 12 months service completely free of charge. So, if you are in town, pop into Imhofs—we feel sure you will enjoy the change.

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**Richard Allan Radio Limited**, Bradford Road, Gomersal,  
Cleckheaton BO19 4AZ Yorkshire, England.  
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**■ SINCLAIR RADIONICS LTD**

London Road, St Ives,  
Huntingdonshire, PE17 4HJ.  
Tel: St Ives (Hunts) 4311.

**Q16**

Slim shelf-mounting enclosure with unit. High compliance full-range driver with aluminium speech coil and ceramic magnet. 11,000 gauss. HC: 14W RMS. Impedance: 8 ohms. FR: 60 Hz-16kHz. Infinite baffle construction. Size:  $9\frac{3}{4} \times 9\frac{3}{4} \times 4\frac{3}{4}$  in. Finish: natural solid teak surround with black cellular foam front. Price: £7.25 (plus VAT).

**Q30**

Baffle type speaker system. No data provided. Price: £25 (plus VAT).

**■ SIEMENS**

Interconti Electronics Ltd,  
Albany House, Petty France,  
London, SW1H 9EA.  
Tel: 01-222 2523. Telex: 918770.

**RL122**

Speaker enclosure with unit. One  $6\frac{1}{2}$  in full-range driver. Impedance: 4 ohms. HC: 10W. Finish: white or brown. Designed for use in pairs with pairs of RL131 in quadraphonic systems. Full specification on request. Price: £26.90 (including VAT).

**RL131**

Speaker enclosure with unit. One  $6\frac{1}{2}$  in full-range driver. HC: 10W. Impedance: 4 ohms. Finish: white only. Spherical cabinet with swivel base. Designed for use in pairs with pairs of RL121 in quadraphonic systems. Full specification on request. Price: £25.32 (including VAT).

**RL203**

Three-way speaker system. Volume: 9 litres. HC: 25W. Impedance: 4-5 ohms. Finish: white or brown. Full specification on request. Price: £33.87 (including VAT).

**RL301**

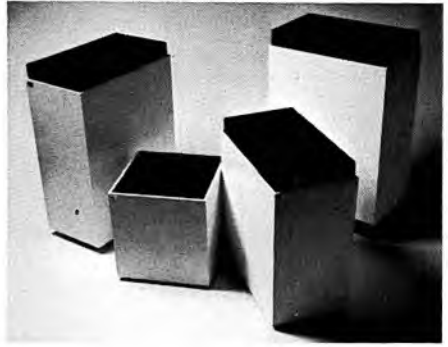
Two-way speaker system. HC: 30W. Impedance: 4-5 ohms. FR: 30Hz-18kHz. Finish: white or brown. Price: £42.73 (including VAT).

**RL164**

Three-way speaker system comprising bass driver, mid-range unit and tweeter in 25-litre enclosure. HC: 55W. Impedance: 4-5 ohms. Full specification on request. Finish: white or brown. Price: £42.73 (including VAT).

**RL171**

Four-way speaker system comprising two bass drivers, one mid-range unit and one tweeter in 45-litre enclosure. Impedance: 4-5 ohms. HC: 60W. Finish: white. Price: £60.14 (including VAT).



Sonab Enclosures



Sonab Enclosures

**■ SONAB LTD**

PO Box 4, Oldfield Road, Hampton, Middlesex,  
TW12 2HN. Tel: 01-979 0134.

**V-1 ★**

Enclosure with one upward-facing  $8\frac{1}{2}$  in unit. FR: 49Hz-17kHz (DIN). HC: 35W (DIN). Impedance: 8 ohms. Size:  $12 \times 12 \times 12\frac{1}{2}$  in. Weight: 10lb. Finish: rosewood, teak, white, red, yellow or blue. Price: £39.10 (plus VAT).

**OA-4 ★**

Enclosure with upward-facing  $8\frac{1}{2}$  in bass/middle driver and three 2in tweeters. Crossover: 3.5 kHz. FR: 44Hz-18kHz (DIN). HC: 35W (DIN). Impedance: about 7 ohms. Size:  $11\frac{1}{2} \times 17 \times 17\frac{1}{2}$  in. Weight: 20lb. Finish: rosewood, teak, walnut, oak or white. Price: £58.65 (plus VAT).

**OA-5 ★**

Enclosure with  $8\frac{1}{2}$  in upward-facing bass/middle driver and four 2in tweeters. Crossover: 2.7 kHz. HC: 40W (DIN). FR: 37Hz-18kHz (DIN). Impedance: about 7 ohms. Size:  $9\frac{1}{2} \times 17 \times 24$  in. Weight: 22lb. Finish: rosewood, teak, walnut, oak, pine, white (also red, blue or green stain on pine). Price: £68.20 (plus VAT).

**OA-6 Monitor ★**

Enclosure with six units and built-in bass



★ Indicates entry is illustrated

amplifier. Units:  $8\frac{1}{2}$ in bass driver,  $8\frac{1}{2}$ in mid-range unit, four 2in tweeters. Bass speaker driven by 26W RMS built-in amplifier. Adjustable environmental controls on mid-range and bass frequencies. Distortion 0.1%. Crossover: 200Hz and 2.7kHz. FR: 26Hz-18kHz (DIN). HC: 50W (DIN). Impedance: about 7 ohms. Size:  $9\frac{1}{2} \times 17 \times 27$ in. Weight: 44lb. Finish: rosewood, walnut, teak, oak, deal or white. Price: £197.75 (plus VAT).

#### ■ SONY (UK) LTD

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames.  
Tel: Sunbury-on-Thames 87644/7.

#### SS510

Two-unit speaker system. One 8in bass driver, one 2in tweeter. FR: 70Hz-15kHz. HC: 10W RMS. Size:  $10\frac{3}{8} \times 17\frac{3}{8} \times 9\frac{1}{2}$ in. Weight:  $11\frac{1}{2}$ lb. Finish: oiled walnut. Price: £14.50 (plus VAT).

#### SS1005

Infinite baffle enclosure with units and crossover. One  $5\frac{1}{4}$ in bass driver, one  $2\frac{3}{4}$ in tweeter. FR: 75Hz-18kHz. HC: 15W RMS. Impedance: 8 ohms. Size:  $18\frac{3}{8} \times 9\frac{1}{2} \times 7\frac{1}{8}$ in. Weight: 16lb. Finish: walnut grain. Price: £30 (plus VAT).

#### SS7100

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 1in tweeter, with ultra linear magnetic circuits TM. Crossover: 3500Hz. FR: 60-20kHz. HC: 50W. Impedance: 6 ohms. Size:  $11\frac{1}{2} \times 20 \times \frac{7}{16}$ in. Weight: 18lb 1oz. Finish: walnut with detachable front grille. Rear-mounted tweeter control. Spring-loaded terminals. Price: £37.50 (plus VAT).

#### SS7200

Infinite baffle enclosure with units and crossover. One 10in bass driver, one 5in mid-range, one 1in tweeter, with ultra linear magnetic circuits TM. Crossover: 450Hz, 4500Hz. FR: 50-20kHz. HC: 70W. Impedance: 6 ohms. Size:  $13\frac{3}{4} \times 23\frac{1}{16} \times 11\frac{3}{8}$ in. Weight: 35lb 5oz. Finish: walnut with detachable front grille. Front mounted mid-range and tweeter controls. Spring loaded terminals. Price: £52.50 (plus VAT).

#### SS5088

Infinite baffle enclosure with units and crossover. One  $6\frac{1}{2}$ in bass driver, one 2in tweeter. Crossover: 6.5kHz. FR: 80-20kHz. HC: 12W. Impedance: 8 ohms. Size:  $9\frac{1}{16} \times 15 \times 5\frac{5}{16}$ in. Weight: 7lb 11oz. Finish: walnut with front grille cloth. Price: £20 (plus VAT).

#### SS70

Infinite baffle enclosure with two units. One  $5\frac{1}{4}$ in bass driver, one  $2\frac{1}{2}$ in tweeter. FR: 95-18kHz DIN. HC: 10W. Impedance: 8 ohms. Size:  $6\frac{7}{8} \times 10\frac{5}{16} \times 9\frac{1}{16}$ in. Weight: 4lb 3oz. Finish: teak

cabinet with front grille cloth. Price: £8 (plus VAT).

#### ■ SOUND STUDIO LTD

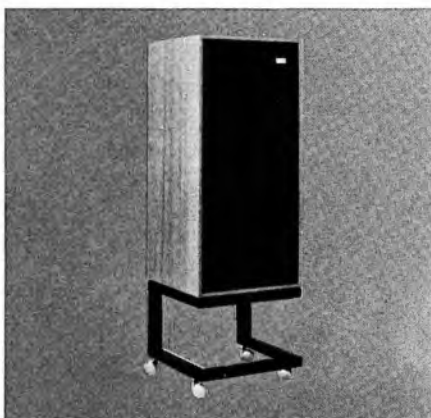
33-35 Camden Road, Tunbridge Wells, Kent.  
Tel: Tunbridge Wells 32153/30314.

#### Cavalier SSC-15

Enclosure with units and crossover. One  $6\frac{5}{8}$ in bass driver, one 2in tweeter. HC: 15W DIN. FR: 60Hz-18kHz. Size:  $13\frac{3}{4} \times 7\frac{5}{8} \times 8\frac{3}{8}$ in. Price: £14.95 (plus VAT).

#### Cavalier SSC-20

Enclosure with units and crossover. One  $11 \times 6\frac{5}{8}$ in bass driver, one 2in tweeter. HC: 20W DIN. FR: 50Hz-18kHz. Size:  $15\frac{5}{8} \times 9\frac{3}{8} \times 9\frac{3}{4}$ in. Price: £21.95 (plus VAT).



Spendor BC I



Spendor BC111

**Cavalier SSC-25**

Enclosure with units and crossover. One 11 × 6½in bass driver, one 2½in tweeter. HC: 25W DIN. FR: 45Hz-20kHz. Size: 21½ × 12½ × 9½in. Price: £24.95 (plus VAT).

**■ SPENDOR**

Spendor Audio Systems Ltd,  
Kings Mill, Kings Mill Lane, South Nutfield,  
Redhill, Surrey, RH1 5NF.  
Tel: Nutfield Ridge 2554.

**BCI ★**

Reflex enclosure with units and crossover. One 8in plastic cone bass driver, one Celestion HF1300 mid-range unit, one STC 4001G tweeter. Crossover: 3kHz and 13kHz. FR: 45 Hz-25kHz (±3dB 60Hz-14kHz). HC: 40W peak programme. Impedance: 8 ohms. Main driver based on BBC design with resin-bonded voice coil. Size: 25 × 11½ × 12in. Weight: 31lb. Finish: teak standard (rosewood, walnut or white to order). Price: from £66 (plus VAT). Trolley optional extra.

**BCII**

Reflex enclosure with units and crossover. One 8in plastic cone bass driver, one Celestion HF1300 mid-range unit, one STC 4001G tweeter. Crossover: 3kHz, 13kHz. FR: 45Hz-25kHz (60Hz-14kHz ±3dB). HC: 50W peak

programme. Impedance: 8 ohms. Bass driver developed by Spendor with 1½in diameter resin-bonded voice coil. Size: 25 × 11½ × 12in. Weight: 33lb. Finish: teak standard (rosewood, walnut or white to order). Price: from £73.50 (plus VAT). Trolley optional extra.

**BC111 ★**

Reflex enclosure with units and crossover. One Spendor 12in bass driver, one 8in mid-frequency unit, one Celestion HF1300 HF unit, one Celestion HF2000 tweeter. Crossover: 700 Hz, 3kHz and 13kHz. FR: 30Hz-20kHz (50Hz-14kHz ±2½dB). HC: 70W peak programme. Impedance: 8 ohms nominal. Size: 31½ × 15½ × 15½in. Weight: 75lb. Finish: teak (white, walnut, rosewood to order). Price: £136 (plus VAT). Trolley optional extra.

Spendor speakers also supplied with 20W or 50W power amplifier built-in (Models BCIA and BCIIA). Amplifier inputs balanced or unbalanced. Designed for professional market. Prices and specifications on request.

**■ STEEPLETONE**

Steepletone Products Ltd, Cinema House,  
Middle Barton, Oxford, OX5 4DA.  
Tel: Steeple Aston 7116.

**S42**

Infinite baffle enclosure with units and cross-



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## TECHNIQUES

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over. One 6½in bass driver, one 3in mid-range unit, one 2½in tweeter. FR: 40Hz-18kHz. HC: 12W RMS. Impedance: 8 ohms. Size: 10 × 17½ × 8in. Finish: teak veneer with golden brown grille material. Price: (per pair) £38.15 (including VAT).

#### ■ STE-MA

K & K Electronics Ltd, 60 St Mark's Rise, London, E8 2NR. Tel: 01-254 9941/4.

Range of Danish speaker enclosures imported and distributed by K & K Electronics Ltd. No details of latest models available as this edition of the Year Book closed for press.

#### ■ STENTORIAN

Whiteley Electrical (Radio) Co Ltd, Victoria Street, Mansfield, Notts, NG18 5RW. Tel: Mansfield (0623) 24762.

##### LC93

Infinite baffle enclosure with unit. One 9in HF912-67 speaker unit. FR: 60Hz-20kHz. HC: 10W RMS. Impedance: 15 ohms. Acoustically loaded cabinet. Speaker has graded melaminated cone with silicon rubber-over-cambric suspension. Size: 19 × 12½ × 8½in. Weight: 20lb. Finish: teak or rosewood veneer. Price: (teak) £17.67 (plus VAT); (rosewood) £19.04 (plus VAT).

##### LC94

Labyrinth enclosure with unit. One 9in HF912-67 speaker unit. FR: 45Hz-20kHz. HC: 10W RMS. Impedance: 15 ohms. Acoustic labyrinth with acoustic resistance incorporated in pipe. Special 9in speaker as fitted in LC93. Size: 29½ × 23¾ × 6⅞in. Weight: 39lb. Finish: oiled teak or rosewood veneer. Price: (teak) £27.20 (plus VAT); (rosewood) £28.98 (plus VAT).

##### LC95

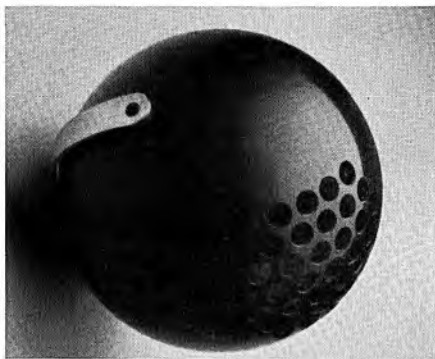
Reflex enclosure with units. One 12in HF1214-67 bass driver, one 8in T812-67 mid- and upper-frequency speaker. Crossover: ¼ section L/C 1kHz. FR: 27Hz-20kHz. HC: 15W RMS. Impedance: 15 ohms. Acoustically loaded bass reflex cabinet. 12in unit melamine treated paper cone with cambric surround, 8in unit melamine treated paper ribbed cone and surround. Size: 31½ × 20¾ × 13½in. Weight: 62lb. Finish: oiled teak or rosewood veneer. Price: (teak) £61.52 (plus VAT); (rosewood) £64.10 (plus VAT).

#### ■ STEREOSTAGE

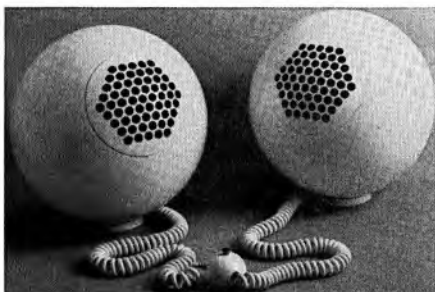
Nucleus, 22 Hyde Green, Marlow, Bucks. Tel: Marlow 3787.

##### Stereostage

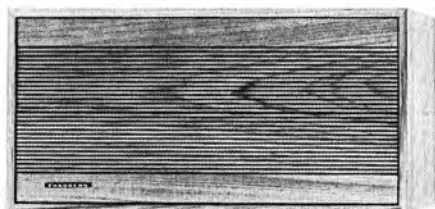
Labyrinth enclosure fitted with drive units. Ten Astec speaker motor units. FR: 30Hz-20kHz. HC: 60W per channel. Impedance: 8 ohms. Comprises phase delay stereo system integrated



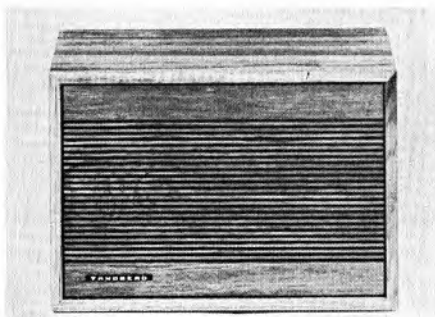
*Sykes + Hirsch Mini Spera*



*Sykes + Hirsch Super Spera*



*Tandberg TAN7*



*Tandberg TANI I*

in long-line enclosure. Size: 9ft long, 31in high, 10in deep. Finish: to order. Weight: 200lb. Price: £295 (plus VAT).

### ■ SYKES + HIRSCH LTD

Templewood House, Templewood Lane,  
Stoke Poges, Slough, SL2 4AP.  
Tel: 01-850 4127.

#### Sphera 10 ★

Spherical enclosure with units and crossover. One 6½in bass/mid-range driver, one tweeter. HC: 10W RMS. Impedance: 8 ohms. Size: 10in diameter. FR: 45Hz-20kHz. Finish: white GRP standard, other colours available to order. Supplied with shelf mount; wall and ceiling mountings extra. Price: £20.10 (including VAT).

#### Sphera 165

Spherical enclosure with units and crossover. One 8in long-throw bass/mid-range driver, one pressure cone tweeter. HC: 15W RMS. FR: 35Hz-20kHz. Impedance: 8 ohms. Size: 16½in diameter. Finish: white GRP standard, other colours to order. Price: £35.50 (including VAT).

#### Sphera 24 ★

Spherical enclosure with units and crossover. One 12in bass/mid-range unit, one high efficiency tweeter. HC: 25W RMS. FR: 25Hz-20kHz. Impedance: 8 ohms. Size: 24in diameter. Finish: white GRP standard, other finishes to order. Price: £70 (including VAT). Also available as cabinet only.

### ■ SYMPHONY

J. W. (Wholesale) Co, 26 Rosoman Street,  
London, EC1. Tel: 01-837 3041.

#### Symphony Monitor

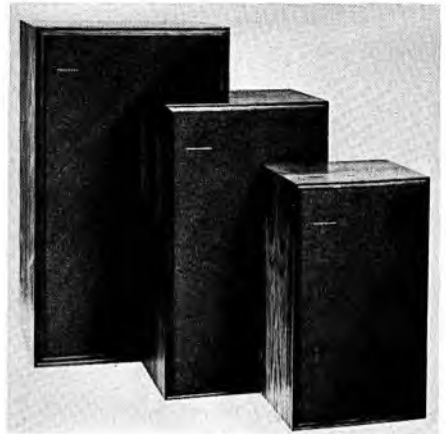
Reflex enclosure with units and crossover. One KEF B139 13 × 9½in bass driver, one KEF B110 5½in mid-range unit, one KEF T27 1in tweeter. Crossover: DN12 (400Hz, 3.5kHz). FR: 30Hz-20kHz. HC: 30W. Impedance: 8 ohms. Size: 30 × 15½ × 12½in. Weight: 58lb. Supplied direct to user and offered on 14-day home trial. Price: £39.60 (plus £3.96 VAT).

### ■ TANDBERG

Farnell-Tandberg Ltd, Farnell House,  
81 Kirkstall Road, Leeds, LS3 1HR.  
Tel: Leeds 35111.

#### TAN7 ★

Infinite baffle enclosure with units and crossover. One 10 × 6in bass driver, one 2in tweeter. LC crossover network. FR: 50Hz-16kHz. HC: 20W music. Impedance: 3.2 ohms. Size: 20½ × 10½ × 10in. Weight: 15½lb. Finish: teak or rosewood. Can be used vertically or horizontally (swivel nameplate). Wall-mounting fittings available. Price: (teak) £29.45 (including VAT); (rosewood) £32.02 (including VAT).



Tandberg TL12, TL25, TL50

#### TAN11 ★

Infinite baffle enclosure with units and crossover. One 6½in bass driver, one 2in tweeter. LC crossover network. FR: 50Hz-26kHz. HC: 20W music power. Impedance: 4 ohms. Size: 12½ × 8¾ × 6in. Weight: 8¼lb. Finish: teak or rosewood. Vertical or horizontal mounting (swivel name plate). Wall mounting fittings available. Price: (teak) £21 (including VAT); (rosewood) £23.11 (including VAT).

#### TL12 ★

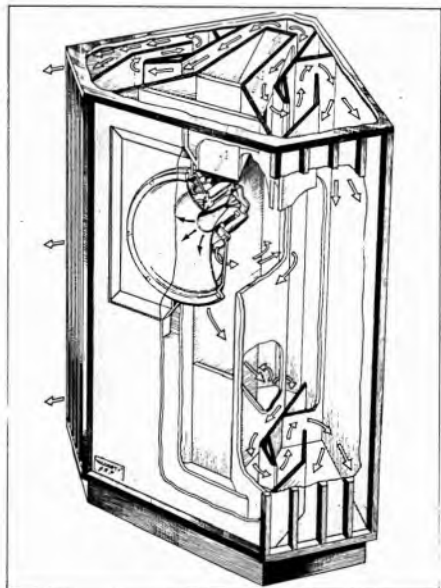
Infinite baffle enclosure with units and crossover. One 6½in bass driver, one 2½in tweeter. LC crossover network. FR: 40Hz-25kHz. HC: 25W RMS. Impedance: 4.8 ohms. Size: 16¾ × 9¼ × 7½in. Weight: 10¾lb. Finish: teak or rosewood. Horizontal or vertical operation (swivel name plate). Wall-mounting fittings available. Price: (teak) £27.90 (including VAT); (rosewood) £29.90 (including VAT).

#### TL25 ★

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 1in dome tweeter. LC crossover network. FR: 30Hz-25kHz. HC: 35W. Impedance: 4.8 ohms. Size: 20¾ × 11½ × 8¾in. Weight: 18lb. Finish: teak or rosewood. Horizontal or vertical operation (swivel nameplate). Wall-mounting fittings available. Price: (teak) £37.58 (including VAT); (rosewood) £39.80 (including VAT).

#### TL50 ★

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 5in mid-range unit, one 1in dome tweeter. LC crossover network. FR: 25Hz-25kHz. HC: 45W RMS. Impedance: 4.8 ohms. Size: 25¾ × 14¾ × 11in. Weight: 39lb. Finish: teak or rosewood. Horizontal or vertical operation (swivel nameplate).



*Tannoy Corner G.R.F.*

Wall-mounting fittings available. Price: (teak) £79-90 (including VAT); (rosewood) £83-75 (including VAT).

## ■ TANNOY

Tannoy Products Ltd, Norwood Road, West Norwood, London, SE27 9AB.  
Tel: 01-670 1131. Cables: Tannoy. London.

### III.LZ Mk II

Infinite baffle forward facing. Monitor Gold III LZ dual concentric unit with crossover network. FR: 30Hz-20kHz. Size:  $14 \times 10\frac{3}{4} \times 23\frac{1}{2}$  in. Price: £41 (plus VAT).

### Lancaster

Reflex (single port) forward facing. Free-standing. One Monitor Gold 12in with crossover network. Size:  $33\frac{1}{2} \times 21\frac{1}{2} \times 12\frac{1}{2}$  in (including 2in plinth) Price: £63 (plus VAT).

### Lancaster

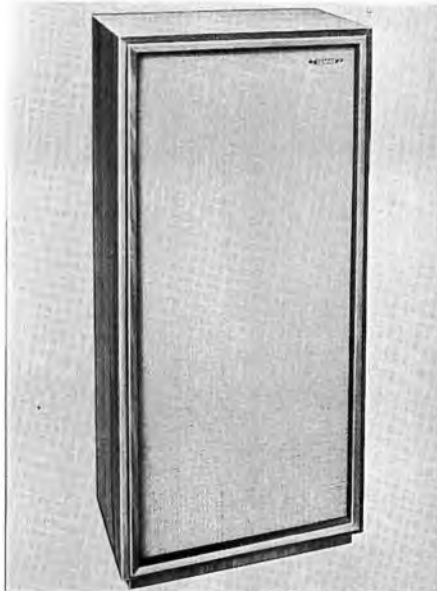
Reflex (single port) forward facing. Corner placing. One Monitor Gold 12in with crossover network. Size:  $33 \times 25 \times 16\frac{3}{4}$  in (including 2in plinth). Price: £63 (plus VAT).

### Lancaster

Aperiodic free-standing enclosure. One Monitor Gold 15in with crossover network. Size:  $13\frac{1}{2} \times 21\frac{1}{2} \times 12\frac{1}{2}$  in (including 2in plinth). Price: £69 (plus VAT).

### Lancaster

Aperiodic corner-standing enclosure. One



*Tannoy Chatsworth RT*

Monitor Gold 15in unit with crossover. Size:  $33 \times 25 \times 16\frac{3}{4}$  in (including 2in plinth). Price: £69 (plus VAT).

### Rectangular York

Reflex (single port) enclosure. Forward facing. Complete with Monitor Gold 15in dual concentric unit with crossover. Crossover: 1kHz. FR: 23Hz-20kHz. Size:  $15 \times 23\frac{1}{2} \times 42$  in. Price: £86 (plus VAT).

### York

Reflex enclosure. Forward facing unit. Dual throated ports. Corner placing. One Monitor Gold 15in dual concentric unit with crossover. FR: 35Hz-20kHz. Size:  $45\frac{1}{2} \times 32 \times 22\frac{1}{2}$  in. Price: £86 (plus VAT).

### Rectangular GRF

Single folded horn. Forward facing with front exits. Complete with one Monitor Gold 15in dual concentric unit. Crossover: 1kHz. FR: 23Hz-20kHz. Size:  $17\frac{1}{4} \times 23\frac{1}{2} \times 42$  in. Price: £123 (plus VAT).

### Corner GRF ★

Folded horn. Rear loaded horn, forward facing unit. Corner placing. One Monitor Gold 15in dual concentric unit. FR: 20Hz-20kHz. Size:  $48 \times 38 \times 29$  in. Price: £140 (plus VAT).

### Guy R. Fountain Autograph

Folded horn. Front and rear horn loaded unit. Corner placing. One monitor Gold 15in unit with crossover. FR: 20Hz-20kHz. Size:  $58\frac{1}{2} \times 43 \times 26\frac{1}{2}$  in. Price: £195 (plus VAT).

**Chatsworth R.T. ★**

Infinite baffle enclosure with dual-concentric unit. One 12in Monitor Gold dual-concentric full-range driver with Tanoplas surround. Eight-section filter with controls for roll-off and level. FR: 30Hz-20kHz. HC: 35W RMS. Impedance: 8 ohms. Designed for domestic high quality where space is limited. Finish: selected teak veneers with melamine finish. Size: 15½in wide, 33½in high, 10¼in deep. Weight: 50lb. Price: £57 (plus VAT).

Tannoy III LZ Mk II and Lancaster speakers are also available in teak and mahogany. York, GRF and Autograph available in teak, mahogany and walnut.

**TEAC**

Acoustico Enterprises Ltd, Unit 7, Space Way, North Feltham Trading Estate, Feltham, Middlesex TW14 OTZ.  
Tel: 01-751 0141.

**LS80**

Infinite baffle enclosure with units and crossover. One 12in bass driver, one 5in mid-range unit, one horn tweeter. Crossover: 600Hz, 5kHz. FR: 30Hz-20kHz. HC: 30W RMS. Impedance: 8 ohms. Size: 26⅜ × 16 × 11½in. Weight: 42lb. Finish: walnut, fretwork front. Price: £69.73 (plus VAT).

**TELEFUNKEN**

Distributors: AEG Telefunken (UK) Ltd, Bath Road, Slough, Bucks.  
Tel: Slough (75) 33311.

**WB60/61**

Enclosure comprising two units: 5½in bass driver and 5 × 3in mid/treble unit. HC: 15W. FR: 45Hz-18kHz. Finish: teak. Dimensions: 18½ × 6½ × 10in. Price: £20.21 (including VAT).

**TL41**

Two-way system with units and crossover. One 5in bass driver, one 5 × 3in mid-range and HF unit. FR: 44Hz-22kHz. HC: 15W RMS. Size: 10½ × 6½ × 8in. Finish: light matt walnut or pearl white. Price: £23.54 (including VAT).

**LS5**

Spherical enclosure with unit. One full-range 5in driver. FR: 50Hz-15kHz. HC: 15W RMS. Impedance: 4 ohms. Size: 8½in diameter. Finish: brushed aluminium. Fitted with special acoustic damping. Stands on plexiglass base or can be suspended. Price: £17.05 (including VAT).

**TL70**

Three-way enclosure with units and crossover. One 8in bass driver, one 5in mid-range unit, one 1¼in tweeter. FR: 25Hz-20kHz. HC: 50W

RMS. Impedance: 4 ohms. Size: 21¼ × 11½ × 9½in. Finish: light matt walnut. Price: £42.46 (including VAT).

**TL90**

Three-way enclosure with units and crossover. One 12in bass driver, one 5in mid-range unit, one 1in tweeter. FR: 25Hz-20kHz. HC: 50W RMS. Impedance: 4 ohms. Size: 13¾ × 27½ × 12in. Finish: light matt walnut. Price: £77.11 (including VAT).

**TRIPLETONE**

K & K Electronics Ltd,  
60 St Mark's Rise, London, E8 2NR.  
Tel: 01-254 9941/4.

**TS100**

Speaker enclosure with units and crossover. One 6½in bass driver, one 5in mid-range unit, one 2in tweeter. HC: 10W. Impedance: 8 ohms. Size: 15 × 7 × 8in. Finish: teak. Price: (per pair) £46.20 (plus VAT).

**TS150**

Speaker enclosure with units and crossover. One 8in bass driver, one 5in mid-range unit, one 3in tweeter. HC: 15W. Impedance: 8 ohms. Size: 19 × 9 × 10in. Finish: teak. Price: (per pair) £64.90 (plus VAT).

**TS200**

Speaker enclosure with units and crossover. One 13 × 8in bass driver, one 5in HF unit. HC: 20W. Impedance: 8 ohms. Size: 23 × 11 × 13in. Finish: teak. Price: (per pair) £82.50 (plus VAT).

**TS250**

Speaker enclosure with units and crossover. One 13 × 8in bass driver, one 6½in mid-range unit, two 4in tweeters. HC: 25W. Impedance: 8 ohms. Size: 27 × 11 × 13in. Finish: teak. Price: (per pair) £113.30 (plus VAT).

**T.T.C.**

Sole distributor: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288 (answering service 01-452 6289).

**System 3**

Three-way speaker system with units and crossover. One 8in bass driver, one 5in mid-range unit, one 2½in tweeter. Cabinet lined with glass wool. HC: 20W RMS. FR: 40Hz-20kHz. Impedance: 8 ohms. Size: 18⅞ × 10 × 10in approximately. Weight: 11lb. Finish: oiled walnut. Price: £23.10 (including VAT).

**VAN DER MOLEN LTD**

1 Mildmay Road, Romford, Essex, RM7 7DA.  
Tel: Romford 41904.

★ Indicates entry is illustrated

#### **S10**

Shell-mounting enclosure with unit. One full-range dual cone driver. FR: 80Hz-18kHz. Size: 16 × 10 × 4½ in. Impedance: 4 or 8 ohms. Price: (per pair) £14 (including VAT).

#### **S20**

Picture frame enclosure with unit. One full-range drive unit. Impedance: 4 ohms. HC: 10W. FR: 70Hz-18kHz. Size: 11½ × 11½ × 3½ in deep. Price: (per pair) £18.50 (including VAT).

#### **S40**

Floor or shelf enclosure with units. One bass driver, one HF unit. Impedance: 4 ohms. HC: 10W. FR: 60Hz-18kHz. Price: £31.89 (including VAT).

#### **S50**

Floor-standing enclosure with units. One 6½ in bass driver, one 2½ in tweeter. Four-element crossover. FR: 50Hz-18kHz. Impedance: 8 ohms. Size: 16 × 10 × 7½ in. Price: (per pair) £45 (including VAT).

### **VIDEOTON**

Distributors: Oscar Radio Company, 55-63 Goswell Road, London, E.C.1. Tel: 01-253 1802.

#### **D131E Minimax 1**

Bookshelf enclosure with unit. One 5in full-range driver. HC: 20W RMS. FR: 50Hz-12.5kHz. Impedance: 8 ohms. Finish: teak. Size: 10½ × 8¾ × 6in. Weight: 8½ lb. Price: £13.10 (plus VAT).

#### **D132E Minimax 2**

Bookshelf enclosure with units. One 5½ in bass driver, one 4in tweeter. HC: 15W RMS. FR: 45Hz-20kHz. Impedance: 8 ohms. Finish: teak. Size: 10½ × 8¾ × 6in. Weight: 9lb. Price: £16.87 (plus VAT).

#### **DP202E Saphir 1**

Bookshelf enclosure with units. One 8in bass driver, one 4in tweeter. HC: 20W RMS. FR: 40Hz-20kHz. Impedance: 8 ohms. Finish: teak. Size: 14 × 9½ × 8¾ in. Weight: 17lb. Price: £21.38 (plus VAT).

#### **DF202E Saphir 2**

Wall mounting enclosure with units. One 8in bass driver, one 4in tweeter. HC: 20W RMS. FR: 45Hz-20kHz. Impedance: 8 ohms. Finish: teak. Size: 21 × 13 × 4¾ in. Weight: 17lb. Price: £22.37 (plus VAT).

#### **D252E Brilliant**

Floor-standing enclosure with units. Screw-on legs. One 10in bass driver, one 4in tweeter. HC: 20W RMS. FR: 35Hz-20kHz. Impedance: 8 ohms. Finish: teak. Size: 23½ × 13¾ × 12¾ in. Weight: 35lb. Price: £38.94 (plus VAT).

#### **D253E Diadem**

Floor-standing enclosure with units. Screw-on legs. One 10in bass driver, two 4in tweeters. HC: 25W RMS. FR: 35Hz-20kHz. Impedance: 8 ohms. Finish: teak. Size: 23½ × 13¾ × 12¾ in. Weight: 35lb. Price: £44.49 (plus VAT).

### **VICEROY**

Viceroy Acoustical Manufacturing Group Ltd, PO Box 102, Watford, Herts, WD1 4EE. Tel: 01-229 7743.

#### **TP15**

Infinite baffle enclosure with units and crossover. One 6½ in bass driver, one 2in tweeter. Crossover: 1.4kHz. FR: 55Hz-20kHz. HC: 12W RMS. Impedance: 8 ohms. Size: 18½ × 9 × 7⅞ in. Finish: teak or palisander. Shelf or wall mounting (special brackets fitted). Interchangeable grille covers in various colours. Price: to be announced.

#### **TP20**

Infinite baffle enclosure with units and crossover. One 11 × 6¾ in bass driver, one 2in tweeter. Crossover: 1.5kHz. FR: 45Hz-20kHz. HC: 20W RMS. Impedance: 8 ohms. Size: 18½ × 11 × 7⅞ in. Weight: 16lb. Finish: teak or palisander. Floor standing, or wall mounting with built-in brackets. Interchangeable grille covers in various colours. Price: to be announced.

#### **TP30**

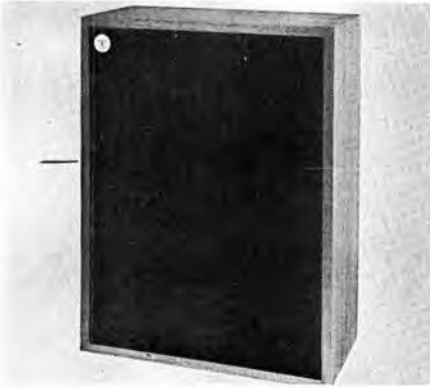
Infinite baffle enclosure with units and crossover. One 8½ in bass driver, one 4in tweeter. Crossover: 1.2kHz. FR: 30Hz-20kHz. HC: 30W. Impedance: 8 ohms. Size: 21¾ × 11 × 7⅞ in. Weight: 20lb. Floor standing or wall mounting with fitted brackets. Interchangeable grille covers in various colours. Price: to be announced.

#### **TP50**

Infinite baffle enclosure with units and crossover. Two 8½ in bass drivers, one 4¼ in dome tweeter. Crossover: 1.5kHz. FR: 30Hz-20kHz. HC: 60W. Impedance: 8 ohms. Size: 25¾ × 13¾ × 9⅞ in. Weight: 35lb. Finish: teak or palisander. Floor standing or wall mounting with fitted brackets. Interchangeable grille covers in various colours. Price: to be announced.

#### **TP90**

Infinite baffle enclosure with units and crossover. Four 8½ in bass drivers, two 5in mid-range units, two 4in dome tweeters. Crossover: 700Hz and 3kHz. FR: 30Hz-22kHz. HC: 100W RMS. Impedance: 8 ohms. Size: 29½ × 15¾ × 12in. Finish: teak or palisander. Floor standing or wall mounting with fitted brackets. Interchangeable grille covers in various colours. Price: to be announced.



Vitavox Mini Bitone



Wharfedale Denton 2



Wharfedale Linton 2

## ■ VITAVOX LTD

Westmoreland Road, London, NW9 9RJ.  
Tel: 01-204 4234. Cables: Vitavox, London.

### System 191 Corner Horn

Double channel horn system. Folded LF horn with AK155 drive unit. Forward-facing HF horn with S3 pressure unit. Filter network incorporated. Crossover: 500Hz. FR: 30Hz-15kHz. High translational efficiency. Size: 51 × 30 × 27in. Price: on application.

### Bitone Series 3200

Double channel sound system comprising three-cell horn (distribution 60° wide × 20° high) with 12in LF driver in vented enclosure. Filter network: 1kHz crossover, attenuation 12dB per octave. HF balance control 0-8dB attenuation. HC: 20W. FR: 50Hz-15kHz. Size: 24 × 20 × 19in. Price: on application.

### Bitone Series 6200

Similar specification to 3200 but with six-cell horn giving distribution 60° wide × 40° high. Size: 29 × 20 × 20in. Price: on application.

### Bitone Major

Double channel sound system comprising HF dispersive horn and S3 HF pressure unit (distribution 90° wide × 20° high) with 15in LF driver in special reflex enclosure. Filter network 500kHz. Crossover attenuation 12dB/octave. HF balance control 0-8dB attenuation. HC: 30W. FR: 35Hz-16kHz. Size: 42 × 30 × 24in. Finish: whitewood or studio. Price: on application.

### Mini Bitone ★

Double channel sound system comprising horn and infinite baffle enclosure. 12in AK124 cone type bass driver, GP2 high frequency pressure unit. Crossover: 1kHz. FR: 50Hz-15kHz. HC: 20W RMS. Finish: teak. Size: 24 × 18 × 9in. Price: on application.

## ■ WHARFEDALE

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW.  
Tel: 01-994 9461.

### Denton 2 ★

Two-unit enclosure. 8in bass driver, 2in tweeter. Crossover: 1400Hz. FR: 60Hz-16kHz ± 3dB. vci: 4-8 ohms. HC: 18W DIN. Finish: oiled teak or polished walnut. Size: 14 × 9½ × 8½in. Price: (sold in pairs only) £39-33 (including VAT) per pair.

### Linton 2 ★

Two-unit enclosure. 8in bass driver. 2in tweeter. Crossover: 1200Hz. FR: 55Hz-18kHz ± 3dB. vci: 4-8 ohms. HC: 20W DIN. Finish: oiled teak or polished walnut. Size: 19 × 10 × 9½in. Price: (sold in pairs only) £48-69 (including VAT) per pair.

### Triton 3 ★

Infinite baffle enclosure with units and crossover. One 8in bass driver, one 5in mid-range unit, one 1in CAB dome multi-directional tweeter. All units forward facing. Crossover: Seven-element three-way. FR: 55Hz-20kHz ± 3dB. HC: 25W DIN. Impedance: 4-8 ohms. Finish: teak or walnut. Floorstanding or bookshelf system. Size: 21½ × 9½ × 9in. Price: (sold in pairs only) £60-85 (including VAT) per pair.

### Melton 2

Infinite baffle enclosure. 2in tweeter and 12in bass driver. Crossover: 1500Hz. FR: 45Hz-17kHz ± 3dB. HC: 30W DIN. vci: 4-8 ohms. Size: 21 × 14½ × 10in. Finish: teak or walnut. Price: £38-50 (including VAT).

### Dovedale 3 ★

Infinite baffle enclosure. 1in tweeter, 5in mid-range unit and 12in bass driver. Crossover: 1500Hz. FR: 45Hz-17kHz ± 3dB. HC: 30W



★ Indicates entry is illustrated

DIN. vci: 4-8 ohms. Fitted with attenuator panel to increase or decrease mid-range or treble. Size: 24 × 14 × 12in. Finish: teak or walnut. Electro-mechanical crossover system. Price: £52.25 (including VAT).

■ **WHITELEY ELECTRICAL RADIO**

See Stentorian.

■ **WILKINSON/FORM**

Wilkinson/Form Electronics,  
1-2 Low Quay, Blyth, Northumberland,  
NE24 3AL. Tel: Blyth 3575.

**WF25**

Infinite baffle enclosure with units and crossover. One 6½in bass driver, one 2½in tweeter. Crossover: 5kHz L/C network. FR: 60Hz-18kHz. HC: 14W RMS. Impedance: 8 ohms. Size: 17 × 10 × 9in. Weight: 16lb. Finish: teak with satin aluminium trim and black grille. Price: £25.41 (including VAT).

**WF40**

Resistive reflex enclosure with units and crossover. One 8in bass driver, one 2in tweeter. Crossover: multi-element L/C network at 2.5 kHz. FR: 35Hz-18kHz. HC: suitable for amplifiers of 15-50W RMS. Impedance: 8 ohms. Size: 22 × 12 × 10in. Weight: 30lb. Finish: teak with satin aluminium trim and black grille. Price: £40.30 (including VAT).

■ **WOOLLETT AUDIOSTATICS**

21 Anerley Station Road, London, SE20 8PY.  
Tel: 01-778 9003.

**Claremont** ★

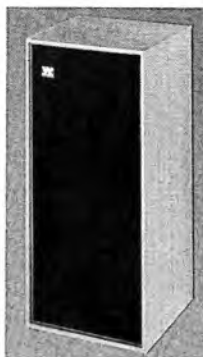
Electrostatic mid-range and HF system. Constant charge push-pull electrostatic unit. Crossover 1.6Hz. -6dB/octave. FR: 1.6kHz-20kHz. HC: 20W RMS. Impedance: 16 ohms. Cabinet contains mains polarising unit, crossover, phase corrector for transistor amplifiers, depolarising circuit, pre-set treble attenuator (12dB range). Mains 200-250V (100-125V to order). Finish: veneered wood, with Vynair. Size: 11½ × 8½ × 8½in. Weight: 4lb 12oz. Price: £26.90 (plus VAT).

**Kelsey Bass**

Infinite baffle frontal-loaded enclosure intended for use as a bass speaker. Small/large room middle switching. Unit 12in foam surround. FR: 20Hz-5kHz. HC: 20W. vci: 16 ohms. Finish: veneered wood. Size: 33½ × 18 × 14in. Weight: 52lb. Price: £48 (plus VAT).

**Frensham Bass**

Similar specification to Kelsey Bass but in horizontal cabinet on 6in legs. Small/large room middle switching. Cabinet size: 31 × 14½ × 16in. Price: £48 (plus VAT).



*Wharfedale Triton 3*



*Wharfedale Dovedale 3*



*Woollett Claremont*



*Woollett Grasmere  
Moderna*



*Woollett Grasmere  
Futuro*

**Leven**

Similar specification to Claremont but in bow-fronted cabinet 10×8½×8½in. Price: £26·90 (plus VAT).

**Grasmere Moderna ★**

Infinite baffle enclosure with frontal-loading. 12in bass driver plus push-pull constant charge electrostatic. Crossover: 1·6kHz (¼-section). FR: 20Hz-20kHz. HC: 20W RMS. Impedance: 16 ohms (8-ohm transformer available). Variable treble and middle range. Size: 34×18×14in. Weight: 52lb. Finish: matt white, wood veneer and black fabric: £66·75 (plus VAT).

**Grasmere Futura ★**

Similar size and specification to the Moderna but with white front, wood veneer and black fabric. Price: £68·75 (plus VAT).

**Como Moderna**

Enclosure with units, 12in low-resonance bass driver, 2in treble, short horn loaded. FR: 60Hz-16kHz. HC: 16W. Finish: wood veneer and black. Size: 19½×14½×12in. Weight: 24lb. Suggested for rear speakers in quadrasonic systems. Equalised duo-dynamic system. Price: £35·75 (plus VAT).

**Como Futura**

As Como Moderna but finished in wood veneer with white front and black fabric. Price: £37·75 (plus VAT).

**Como Futura, Bass**

Standard Como but without treble system. For use with electrostatic treble as central bass speaker in common bass system, or as rear ambience speaker in derived quadrasonic systems. Price: £32·90 (plus VAT).

**Como Moderna, Bass**

As Como Futura Bass but with wood veneer front. Price: £30·90 (plus VAT).

**Addabass**

Add-on bass chamber for use with Como system. Gives large-speaker bass and serves as floor stand. Price: £12·80 (plus VAT).

**Esdyn**

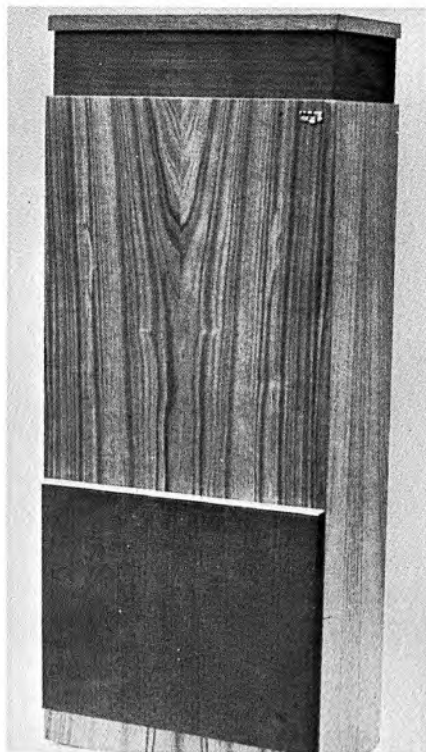
A 'do-it-yourself' constant-charge electrostatic and 12in low-resonance dynamic driver supplied in-the-white for customer to finish to own requirements. FR: 40Hz-20kHz. HC: 20W RMS. Size: 31×18×14½in. Weight: 48lb. Impedance: 16 ohms (transformer available for other impedances). Price: £51 (plus VAT).

**■ WORDEN AUDIO DEVELOPMENTS LTD**

54 Chepstow Road, London, W2.  
Tel: 01-229 4996.

**Panosona Reproducer**

Double horn with diffusing chamber. Corner

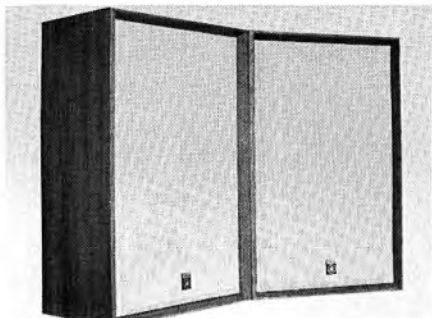


*Wye Electronics 1300 column*

reproducer, designed for near plane-wave distribution from single speaker unit. Available in three versions: (Model A) Size: 54in high, 24in wide, 14½in to corner. FR: (with Lowther PM6 or PM7) 20Hz to over 18kHz. (Model B) Size: 48in high, 21½in wide, 12½in to corner. FR: (with Richard Allan CG8T) 30Hz-17kHz. (Model C) Size: 27in high, 24in wide, 13in to corner. FR: (with Richard Allan CG8T) 30Hz-17kHz. Prices: Model A (speaker enclosure only) £65; Model B (enclosure only) £56; Model C (enclosure only) £44. Lowther PM6 Mk I £26 (plus VAT); PM7 £35 (plus VAT); Richard Allan CG8T £6 (plus VAT).

**Panosona Bookshelf Speaker**

Designed in accordance with the principles of the Panosona Corner Reproducers. Size: 16×9×9½in. Recommended drive unit: Richard Allan CG8T. Standard finish: teak. Other finishes to order. Contrasting Tygan or Vynair front covering. Price: £29·50 complete (including VAT).



Yamaha NS-410

### ■ WYE ELECTRONICS LTD

Queen Street North, Whittington Moor,  
Chesterfield, Derbyshire.

Tel: Chesterfield 51116.

#### Stereo 525

Two-unit enclosure. 13×8in bass with aluminium centre cone and 3 $\frac{3}{8}$ in HF tweeter. FR: 25Hz-18kHz. HC: 10W RMS. vci: 4 ohms. Crossover: 5kHz. Size: 19 $\frac{3}{4}$ ×12×8 $\frac{1}{2}$ in. Price: £21.95 (including VAT).

#### 1300 Hi-Fi ★

Two-unit column enclosure speaker with 12in bass unit and HF 1300 3in tweeter. FR: 25Hz-15kHz. vci: 4, 8, 16 ohms. Crossover: 3kHz. Size: 36×15×7 $\frac{1}{2}$ in. Price: £40.88 (including VAT).

### ■ YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road,  
North Wembley, London, HA9 8QL.

Tel: 01-904 0141.

#### NS-18

Two-way speaker system. One 32×18in bass/mid-range driver, one 2 $\frac{1}{2}$ in tweeter. Plastic and aluminium cone. Impedance: 8 ohms. HC: 18W. FR: 35Hz-18kHz. Price: (per pair) £143.02 (plus VAT).

#### NS-230

Two-way speaker system. One 18×12 $\frac{1}{2}$ in bass/mid-range driver, one 2 $\frac{1}{2}$ in tweeter. Plastic and aluminium cone. Impedance: 8 ohms. HC: 10W. FR: 45Hz-18kHz. Price: (per pair) £70.08 (plus VAT).

#### NS-250

Two-way speaker system. One 20×15in bass/mid-range driver, one 2 $\frac{1}{2}$ in horn tweeter. Plastic and aluminium cone. Impedance: 8 ohms. HC: 15W. FR: 40Hz-18kHz. Price: (per pair) £99.90 (plus VAT).

#### NS-410 ★

Two-way speaker system. One 8in bass/mid-range driver, one 2in horn tweeter. Paper cone. Impedance: 8 ohms. HC: 10W. FR: 45Hz-18kHz. Price: on application.

#### NS-570

Speaker enclosure with units and crossover. One 20×15in bass driver, one 3 $\frac{1}{2}$ in tweeter. Impedance: 8 ohms. HC: 45W. FR: 50Hz-20kHz. Size: 17×13 $\frac{1}{2}$ ×43 $\frac{3}{4}$ in. Price: to be announced.

#### NS-550

Speaker enclosure with units and crossover. One 17 $\frac{3}{4}$ ×12 $\frac{1}{2}$ in bass driver, one 2 $\frac{1}{4}$ in tweeter. Impedance: 8 ohms. HC: 30W. FR: 55Hz-20kHz. Size: 15 $\frac{3}{4}$ ×11 $\frac{3}{4}$ ×12 $\frac{1}{2}$ in. Price: to be announced.

#### NS-600

Speaker enclosure with units and crossover. One 8in bass driver, one 1 $\frac{3}{4}$ in tweeter. Impedance: 8 ohms. HC: 40W RMS. FR: 45Hz-20kHz. Size: 11×10×19 $\frac{3}{4}$ in. Price: to be announced.

#### NS-645

Speaker enclosure with units and crossover. One 10in bass driver, one 1 $\frac{3}{4}$ in tweeter. Impedance: 4ohms. HC: 40W RMS. FR: 45Hz-20kHz. Size: 11 $\frac{3}{4}$ ×10 $\frac{1}{4}$ ×21 $\frac{1}{4}$ in. Price: to be announced.

#### NS-670

Speaker enclosure with units and crossover. One 10in bass driver, one 1 $\frac{5}{8}$ in soft-dome mid-range unit, one 1 $\frac{1}{4}$ in tweeter. Impedance: 8 ohms. HC: 50W RMS. FR: 40Hz-20kHz. Size: 12 $\frac{1}{2}$ ×10 $\frac{3}{4}$ ×22 $\frac{3}{4}$ in. Price: to be announced.

#### NS-690

Speaker enclosure with units and crossover. One 12in bass driver, one 2in mid-range unit, one 1 $\frac{1}{4}$ in tweeter. Impedance: 8ohms. HC: 60W RMS. FR: 35Hz-20kHz. Size: 13 $\frac{3}{4}$ ×11 $\frac{1}{2}$ ×24 $\frac{3}{4}$ in. Price: to be announced.



# You can't believe everything you hear about Sonab, until you've heard it.

Now you can listen for yourself.

Because it's no use telling people Sonab sound is different - we've got to prove it.

That's why we're giving a special audio demonstration. There'll be music to suit everyone.

In fact it's just like a concert.

Because the Sonab system gives you the quality of a live performance.

The speakers are omnidirectional. They fill your entire room with rich, full stereo sound.

No other speakers reproduce sound so faithfully.

In fact no other speakers can give you this sound for the next nine years. Because it's only then that the Sonab World Patents run out.

**Sonab** of Sweden  
Sonab Ltd., P.O. Box No. 4, Oldfield Rd.,  
Hampton, Middlesex, TW12 2HN.  
01-979 0134. Telex: 928384

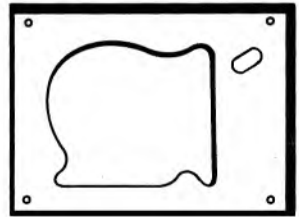


## MODEL 2000 PLINTH SYSTEM

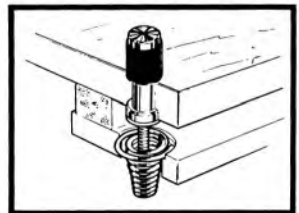
The SME model 2000 plinth system is more than a handsome and convenient housing for your turntable and SME precision pick-up arm. It meets the mechanical requirements under which the best performance will be obtained. High-quality workmanship is combined with ease of assembly. The basic unit is finished in selected veneers of teak, straight-grained walnut, or rosewood. A one-piece hinged lid in heavy acrylic is reinforced with a polished stainless-steel trim.

# SME

Write to SME Limited · Steyning · Sussex · England  
Telephone Steyning (0903) 814321



Motor boards in matching veneers are ready cut and drilled for screw-driver assembly with the appropriate pick-up arm and turntable. An uncut board is also available.



Adjustable four-point spring suspension protects the motor board from acoustic feedback and external vibration.

LTD/S12

# Hi Fi Cabinets

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ABSTRACTA

Abstracta Construction Ltd, Netil House,  
1-7 Westgate Street, London, E8 3RB.  
Tel: 01-986 3131.

### Home Frames

A range of slim-line chromium-plated steel tubular frameworks with white melamine faced shelves to accommodate hi-fi equipment. Twelve suggested layouts for audio storage, including space for records, tapes and books. Can be adapted for most types and makes of equipment. Sizes range from 33in to 71in and system can be extended as required. Supplied in flat packs for easy assembly. Additional shelves can be added if needed. Home Frames hi-fi leaflet available on request from makers. Prices: from about £8.10 to £49.60 for complete systems, additional shelves extra.

## ■ A/R/D

Audio Research and Development Ltd,  
PO Box 73, Hounslow, Middlesex, TW3 1RD.  
Tel: 01-570 0471.

### 2000

Contemporary table-top cabinet designed to accommodate Garrard SP25 Mk III or Dual 1216 or 1218 record decks. Designed to match A/R/D tuner and amplifier units. Lift-up or lift-off lid. Size:  $12\frac{3}{4} \times 16\frac{1}{2} \times 6\frac{3}{4}$  in. Finish: stove enamel silver, solid teak sides, dark grey tinted plastic lid. Available with units ready fitted (see Motor Units Section). Price: (cabinet only) £13 (plus VAT).

## ■ ARNEX PRODUCTS LTD

London Road, Daventry, Northants.  
Tel: Daventry (03272) 2231.

### Hi-Fi Table

Modern style table designed to accommodate hi-fi system or unit audio. Teak finish top, rack beneath to take bookshelf speakers or records, shaped metal legs with silent castors. Comes packed flat in carton for easy home assembly using just a screwdriver. Full details and leaflet on request.

## ■ BLACK KNIGHT RUMBLECURE

Bank Top, Currier Lane, Ashton-under-Lyne,  
Lancs, OL6 2TA.  
Tel: 061-330 2836 (open 7 days).

## Reflectalight Plinth ★

Hand-built in solid teak with lid and automatic strip light. Semi-open play position. Comprises Garrard 401 and SME 9in arm correctly mounted with anti-rumble kit and Bib Groov Kleen. Cartridge not included. Price: (complete assembly, tested, adjusted and delivered) £135.

### Basic wall shelf

Solid teak shelf to suit Reflectalight plinth. Supplied complete with two wrought iron brackets. Size: 19 × 30in. Finish: sprayed gold. Price: £12.50.

### Standard plinth

Hand-built in solid teak. No light fitted. Hinges external to plinth. Supplied with Garrard 401 and SME pickup arm correctly mounted with anti-rumble kit and Bib Groov Kleen. Cartridge not included. Price: (complete assembly, tested, adjusted and delivered) £128.

### Basic wall shelf

Solid teak shelf to suit Standard Plinth. Supplied complete with two wrought iron brackets. Size: 24 × 30in. Finish: sprayed gold. Price: £12.50.

### Trolley

Trolley designed to accept Rumblecure plinth with amplifier or tuner/amplifier on next shelf and tape recorder on sliding shelf below. Fitted with six castors mounted in special acoustic cups. Finish: teak to match Rumblecure plinths. Size: 32in wide, 20in deep, 18in high. Designed for use only on substantial floors. Price: £36.

## ■ BSR McDONALD

(McDonald Division) BSR Ltd, Cradley Heath,  
Warley, Worcs. Tel: Cradley Heath 69272.

### Plinths and covers

Teak veneered wood plinth with aluminium trim. Opaque black brushed satin insert. Designed for BSR 810 and 710 decks. Price: £8.50 (plus VAT). Afrormosia wood plinth with black baseboard. Designed for BSR MP60, HT70 and 610 turntables. Price: £4.03 (plus VAT). Smoke-tinted low-line Perspex dust cover for BSR 810



Black Knight reflectalight plinth



*Calyx Groove 40*

deck. Price: £4 (plus VAT). Smoke coloured styrene dust cover for BSR MP60, HT70 and 610. Price: £2.82 (plus VAT).

### ■ CALYX

Calyx Shelving Systems Ltd, Stanley Works, Belgrave Road, London, SE25 5AN. Tel: 01-771 1221.

#### **Groove 40 ★**

Low line style table with shelf and record storage beneath. Will accommodate most makes and models of tuner, tuner/amplifier, amplifier and record deck. Size: 40in wide, 14in deep, 17in high; also available in mini size measuring 31in wide, 14in-deep and 17in high. Finish: all teak in natural veneers or white with teak trim. The system incorporates two adjustable compressor plates to hold up to 250 records on solid 1½in teak rails. Price: (white) £19.70 (including VAT); (teak) £21.90 (including VAT).

#### **Universal Console Mk II**

Modern style bench type equipment unit comprising top, middle shelf and storage compartment for records with sliding doors at the bottom. Accommodates most combinations of equipment. Size: 36in wide, 19in deep, 30in high (internal shelf is 16½in deep). Finish: white with aluminium trim and smoke tinted doors, or teak veneer with smoke tinted doors. Has spring-loaded compressor plates to provide storage for up to 200 records and prevent warping. Price: (white) £45 (including VAT); (teak) £47 (including VAT).

#### **M5 Audio Cabinet**

Similar style to the Universal console above but smaller and with hinged doors to record storage compartment. Will accommodate most amplifiers or tuner/amplifiers and record deck. Mounted on castors. Size: 24½in wide, 27in high, 19in deep (internal shelf 17½in deep). Finish: white or teak. Price: (white) £32.40 (including VAT); (teak) £33.20 (including VAT).

### **P3 Calyx ★**

Record storage rack system. Made in acrylic and aluminium. Holds up to 50 LPs. Adjustable plates to keep records in good condition. Full details in colour brochure available on request with 6p in stamps (not s.a.e.).

### ■ A. DAVIES & CO

56 Wellesley Road, London, NW5. Tel: 01-485 5775.

#### **Handmade cabinets**

Cabinets for most makes of equipment and speaker units. Standard range of cabinets or individually designed units made to order. Standard finishes: sapele, oak, walnut, teak or veneer to choice. Polished or satin finish.

### ■ DUAL

Audiodecks Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS1 1HR. Tel: Leeds 35111.

#### **PT1**

Hi-fi equipment table with compartments below to accommodate small speaker systems. On castors. Finish: walnut or white. Full details on request. Price: (walnut) £15.81 (including VAT); (white) £18.41 (including VAT).

#### **PT2**

Hi-fi equipment table with shelf for tuner or amplifier and compartments below for speaker units or records, etc. On castors. Finish: walnut or white. Full details on request. Price: (walnut) £22.45 (including VAT); (white) £25.32 (including VAT).

#### **PT3 ★**

Hi-fi equipment table with shelf for tuner or amplifier and compartments below for speaker units, records, etc. On castors. Similar to the PT2 but twice as wide. Finish: walnut or white. Full details on request. Price: to be announced.

### ■ DYNATRON RADIO LTD

St Peters Road, Maidenhead, Berks, SL6 7QY. Tel: Maidenhead 23331.

#### **RSU3**

Walnut-finish Queen Anne period cabinet with shelf for TVR26 tuner/amplifier and space for about 150 LPs. Mounted on castors. Size: 23½ × 21½ × 14½in. Price: £46.17 (including VAT).

#### **RSU2**

Modern-style teak-veneered cabinet with drop-down front for sorting records. Top will accommodate audio units. Space for about 250 LPs. Price: £35.90 (including VAT).

#### **RSU4 ★**

Upright contemporary style record storage unit with doors. Mounted on ball type castors. Two hinged front doors with lock and key. Space for approximately 150 records. Size: 21½ × 23½ ×



Dual PT3



Dynatron RSU 4



Dynatron Stand ST16

16½ in. Finish: teak veneer. Designed to accommodate on top a range of Dynatron Audio Separate units. Price: £28.47 (including VAT).

**ST16 ★**

Metal pedestal stand for use with Dynatron Audio Separates. Black finished pillar with chrome feet and adjustable studs. Price: £5.80 (including VAT).

**ST21**

Metal framed two-tier trolley stand on easy running ball castors. Shelves finished in plastic laminate, white one side and teak the other. Can be fitted to suit the equipment. Top shelf designed to take Dynatron Audio Separates units, lower shelf accommodates speakers. Space for record rack. Price: £15.12 (including VAT).

**ST22**

Teak veneered table stand for Audio Separates. Shelf below. Price: £11.29 (including VAT).

**■ EDWARD MICHELSEN CUSTOM CABINETS**

216 Brampton Road, Bexleyheath, Kent.  
Tel: 01-303 9272.

Manufacturers of hi-fi equipment cabinets and speaker enclosures in ready-built or kit versions. Full details on request. No product information or prices obtainable as this edition of the Year Book closed for press.

**■ EMPHASIS**

50a The Avenue, Kilburn, London, NW6.  
Tel: 01-451 0517.

**Hi-Fi Equipment Cabinets**

Handbuilt custom cabinets to accommodate most hi-fi equipment including record and tape decks, amplifiers and tuner/amplifiers. Space for record and tape storage. Also custom made speaker enclosures.

**DB4**

Modern style cabinet with space for tuner/amplifier and record deck recessed into upper surface under smoke tinted plastic cover. Access doors to tape and record storage open out, down, or gull-wing to order. Finish: teak, rosewood or any combination of colours. Also available in black, white or hessian. Size: (standard version) 72 × 24 × 24in.; (special version with space for tape deck also) 90 × 24 × 24in. Prices according to specification.

**DB6**

Similar accommodation to the DB4 but available with flat or curved upper surface. Finish: teak, rosewood or colours, also lacquer and hessian. Drawers or door to order. Prices according to specification.

**DB5-9**

Matched cube-shaped cabinets on chrome





Hacker T45 (top), TB1000, ST1000 and ST1500



Hacker RST100A



Hacker SR1000



Hampstead HQ1

pillars. One contains tuner, amplifier and record deck with storage below. Two similar cabinets comprise speaker enclosures employing Tannoy Monitor Gold 12 or Altec Lansing 604E driver units. Size: (each cube) 24 × 24 × 24in on 6in pillar. Finish: teak, rosewood, coloured lacquers or hessian. Prices according to specification.

■ **A. R. FRANKLIN**

(Audio engineer) 4 Birch House, Howard Road, Penge, London, SE20 8HJ. Tel: 01-659 0912.

**Custom-built cabinets**

Finished in most veneers. Firm quotations supplied on receipt of rough sketch of requirements, or state facilities desired. Standard cabinets from £20, period cabinets in Regency and Queen Anne style from £80. Please send s.a.e. with enquiries.

■ **HACKER RADIO LTD**

Norrays Drive, Cox Green, Maidenhead, Berks, SL6 4BP. Tel: Maidenhead 22261/5.

**T45 ★**

Teak table with inset top covered in black leather-cloth. Designed specifically for the Hacker Centurion equipment but suitable for other makes. Size: 19½ in wide, 17¾ in deep, 16¼ in high. Price: £6 (including VAT).

**RST1000A ★**

Teak finished record and tape recorder storage cabinet. Front opening doors. Record storage on right, shelf for recorder on left with storage space below. Shelf for recorder slides out on ball-bearing slides for ease of access. Size: 32in wide, 17¾ in deep, 27½ in high. Price: £42.90 (including VAT).

**TB1000 ★**

Low teak table. Size: 32in wide, 16in deep, 15¾ in high. Price: £18.70 (including VAT).

**SR1000 ★**

Teak finished record storage cabinet. Size: 32in wide, 16½ in deep, 24¾ in high. Price: £33 (including VAT).

■ **HAMPSTEAD HIGH FIDELITY**

91 Heath Street, Hampstead, London, NW3. Tel: 01-435 6377 and 0999.

**Hampstead**

Low upright cabinet with split lift-up lids. Takes gram unit and tape deck. Pull-out front hopper for tuner and control unit or integrated amplifier. Accommodates any control unit or integrated amplifier not exceeding 14in in depth. Available with well to hold complete tape recorder not exceeding 9in high. Space to take Ferrograph or Revox with professional spools. Size: (standard model) 40 × 26 × 21in. Finish: teak or mahogany, other finishes to order. Price:



*Hampstead High Fidelity Music bench*

(teak or mahogany) £69 (including VAT). Quotations given for special finishes.

**Heath ★**

Equipment cabinet specially designed to accommodate Quad/Leak units mounted horizontally in top section, together with record deck. Base of cabinet will house 250 records or tape recorder and smaller number of records. Split lids with flap back to expose amplifier control panel only. Size: 34 × 26 × 20in. Finish: teak, larch, mahogany, walnut or other special finishes to order. Price: (teak) £58 (including VAT). Doors (optional extra) £10; dividers (optional extra) £4.

**HQ1 Housing Unit ★**

Designed specifically to house Quad equipment neatly and efficiently. Accommodation for Quad 30, 33, 303 also Quad AM/FM tuner and choice of turntable. Supplied with cut-outs for Quad and Thorens equipment. Size: 24in wide, 20½ in high, 23in deep. Made from high quality birch ply with tinted plastic lid. Desk top permits easy access to controls. Undertray protects equipment and contains all interconnecting wires. Shelf provides space for power unit and accessories. Finish: White or Mexican brown. Price: £58 (including VAT).

**Music Bench ★**

A two-section unit with well to hold either tape recorder or gramophone turntable. Sectional record storage compartments below. Two pull-out drawers. Finish: rosewood, teak or white. Size: approximately 63in wide (extending to 122in wide), 24¾ in high, 19¾ in deep. Price: (teak) £120 (including VAT).

Special cabinets and fittings made to order. Designs and drawings prepared for complete room or house hi-fi schemes.

■ **HOLDER PEARCE LTD**

66 Grove Road, Eastbourne, Sussex, BN21 4UH. Tel: Eastbourne 26565.



*Hampstead High Fidelity Heath cabinet*

Built-in or free-standing equipment cabinets designed and built to meet customers' exact requirements. Lift-up or drop-down lids, accommodation to suit any equipment, all standard finishes and also special finishes to blend with furnishing. Details and prices on application.

■ **HOWLAND-WEST LTD**

3-5 Eden Grove, London, N7 8EQ.  
Tel: 01-609 0293/4/5.

**Clearview HW1**

Cabinet in teak, walnut or rosewood. Takes gram unit or tape deck. Lift-off Perspex lid. Overall size: 18½ × 16½ × 8½ in. Clearance above board 3¾ in, below board 4½ in. Price: £14-30 (including VAT).

**Clearview HW12 ★**

Cabinet in teak. Takes gram unit or tape deck. Lift-off perspex lid. Overall size 23½ × 19 × 8½ in.



Howland-West HW12



New Classic Major 200



Musonic Disc Rack



Pageantry cabinet

Clearance above board  $3\frac{3}{4}$  in, below board  $4\frac{1}{2}$  in. Price: £17.05 (including VAT).

**Clearview HW14**

De luxe turntable or tape deck cabinet with Perspex cover. Teak or rosewood with black base. Size:  $18\frac{3}{4} \times 19\frac{1}{4} \times 9\frac{3}{4}$  in. Space above board 4 in, below top of board  $4\frac{1}{2}$  in. Fully-sprung anti-feedback base, adjustable feet for levelling, fitted with Bulgin mains socket and colour-coded phono sockets; supplied with Clearview lid stay and spirit level for fitting by user. Price: £25.85 (including VAT).

**Clearview HW15LT**

Teak/black turntable cabinet with Perspex cover. Size:  $17\frac{1}{2} \times 16\frac{1}{4} \times 7\frac{1}{4}$  in. Space above board  $3\frac{3}{4}$  in, below top of board  $3\frac{1}{2}$  in. LT version board uncut. 1LT version board cut for Garrard SP25, AT60, 3000 etc., 4LT version cut for Garrard AP75, SL75, SL95 etc. Price: £9.90 (including VAT).

**Clearview HW15HT**

Teak/black turntable cabinet with Perspex cover. Size:  $17\frac{1}{2} \times 16\frac{1}{4} \times 9$  in. Space above board 5 in, below top of board  $3\frac{1}{2}$  in. Cut-board versions. 1HT and 4HT, as above. Price: £10.45 (including VAT).

■ **MUSONIC LTD**

34-38 Verulam Road, St Albans, Herts.  
Tel: St Albans 50611/2.

**DisCase**

Record storage case finished in wood and plastic. Three sizes; for 60 7in records, for 30 12in records, for 60 12in records. Padded. Available in black, blue, brown, green and red. Prices: (60 7in size) £1.58 (plus VAT); (30 12in size) £1.82 (plus VAT); (60 12in size) £2.33 (plus VAT).

**DiscRack ★**

Heavy gauge steel wire rack, welded at all points and with plastic-coated or plated finish. Price: from 54p (plus VAT).

■ **NEW CLASSIC**

J. W. (Wholesale) Co, 26 Rosoman Street, London, EC1. Tel: 01-837 3041.

**Anti-warp record storage**

Features of the New Classic record storage system include spring-loaded panels that keep records flat, upright and easy to withdraw and replace. Also all models have built-in press for dealing with badly warped records.

**Compact 100**

Contemporary style storage unit with accommodation for 100 LP records. Incorporates anti-warp storage equipment as listed above. Size:  $16\frac{1}{2}$  in wide,  $13\frac{3}{4}$  in high,  $13\frac{3}{4}$  in deep. Finish: meranti (to blend with teak finishes). Price: £5.40 (plus 54p VAT).

**Major 200 ★**

Traditional style record storage cabinet on legs. Accommodation for 200 LPs and record press (as described above). Size: 36½in wide, 27½in high (including legs), 15½in deep. Finish: selected teak veneers hand polished to satin finish. Price: £29.50 (plus £2.95 VAT).

■ **PAGEENTRY RADIO & TV CO LTD**

104 Felsham Road, Putney, SW15.  
Tel: 01-788 5588.

**Custom-built cabinets ★**

Hand-made cabinets to house hi-fi systems. Two standard designs. Typical is antique reproduction model in selected walnut veneers hand-finished with traditional French polish. Features include intricate hand-carved mouldings on front side panels. Size: 54in wide, 21in deep, 32in high. Lower centre front houses record storage drawer running on precision runners. Size of drawer: 17in wide, 15½in deep, 13in high. Full details of hi-fi cabinets including prices and delivery available on request.

■ **RECORD HOUSING**

Brook Road, Wood Green, London, N22.  
Tel: 01-888 7487.

**Soundmaster Trolley ★**

Lowline equipment cabinet on wheels. Accommodation for turntable, tuner, amplifier, plus 50 records. Adjustable partitions provide facilities for housing a variety of equipment, including Soundmaster 1266 audio system. Size: 25in wide, 23in high, 17in deep. Finish: afrormosia. Price: £20 (plus VAT).

**Stereo Trolley**

Upright style equipment cabinet on wheels. General purpose equipment/record cabinet. Accommodation for turntable, amplifier (or tuner-amplifier) plus 125 records. Size: (amplifier section) 19in wide, 6in high, 18in deep; (overall) 20in wide, 18in deep, 24in high. Finish: walnut or afrormosia. Price: £20 (plus VAT).

**Capri ★**

Contemporary equipment cabinet on legs. Accommodation for turntable, tuner, amplifier (or records). Front-opening doors. Vertical record partitions slide out and can be replaced in horizontal position as shelves, providing flexible arrangement for housing records and equipment. Size: 32in wide, 16½in deep, 16in high (plus 12in legs). Finish: walnut or afrormosia. Price: £23 (plus VAT).

**Highmaster Trolley**

Lowline equipment and record cabinet on wheels. Two sliding type front-opening doors in lower section holding records. Accommodation for turntable, tape deck, tuner, amplifier and 250 records. Size: (equipment shelf) 35in wide, 6in

high, 16in deep; (overall) 36in wide, 24in high, 16½in deep. Finish: medium walnut or natural afrormosia. Price: £30 (plus VAT).

**Scan record unit**

Contemporary style record storage cabinet. Accommodation for 125 records in each cabinet. Designed as add-on units permitting users to build up a library. Size: 20in long, 15in high, 16½in deep. Finish: walnut or afrormosia. Price: £10.75 (plus VAT).

■ **SME LTD**

Steving, Sussex, BN4 3GY.  
Tel: Steyning (0903) 814321.

**Model 2000 plinth System ★**

Designed to house SME precision pickup arms with leading makes of turntable. Consists of a base with choice of pre-cut motor boards, finished in teak, rosewood or walnut. One-piece lid in heavy acrylic sheet with counter-sprung



Record Housing Soundmaster Trolley



Record Housing Capri

★ Indicates entry is illustrated

hinges. Polished stainless steel trim. Lid can be closed when unit is playing. Adjustable four-point spring suspension protects turntable and arm from external vibration. Size:  $24 \times 19\frac{1}{2} \times 9$ in. Price: (complete with motor board) £39.60 (plus VAT).

#### Plinth System Parts

All parts of the 2000 Plinth System are available separately. See Constructional Kits Section for details and prices.

#### Mounting Boards and Accessories

For Model 3009 Series II Improved and 3009 Series II arms. TD124/3009 for Thorens TD124. Price: £2.88 (plus VAT). TD125/3009 for Thorens TD125. Price: £2.88 (plus VAT). TD150/3009 for Thorens TD150. Price: £2.88 (plus VAT). TD160/3009 mounting kit for fitting Series II Improved arms only to Thorens TD160. Price: £2.88 (plus VAT)

PS2000/TD125 Mounting brackets for fitting Thorens TD125 to motor board. Price: £1.26 (plus VAT). P1 Spacer for use when turntable is more than  $1\frac{1}{8}$ in (41mm) above level of motor board. Price: 84p (plus VAT).

#### ■ SONY (UK) LTD

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames, Middlesex.  
Tel: Sunbury 87644/7.

#### TAC-1

Walnut finished wood case for the following Sony models: TA3200F, ST5000, STR6045, TA1130, TA1140, TA2000F, TA1120, SQD-2020, TA1150, ST5150. Price: £1.50 (plus VAT).

#### TAC-5

Walnut finished wood case for the following Sony models: STR6055, STR6060FW, STR-5050. Price: £8.50 (plus VAT).

#### TAC-6

Walnut finished wood case for the following Sony models: STR6200F, STR6120. Price: £9.50 (plus VAT).

#### ■ STAPLES & CO LTD

Staples Corner, Junction Edgware Road and North Circular Road, London, NW2 6LS.  
Tel: 01 452 1144/7.

#### Ladderax ★

Unit system hi-fi cabinet designed to fit Staples Ladderax assembly. Lift-up main lid giving access to space for tuner, control unit and record or tape deck. Front panel removable to facilitate installation. Will accept most modern equipment. Size: 35in wide, 17in deep,  $18\frac{1}{2}$ in high. Motorboard:  $33\frac{3}{4} \times 16 \times \frac{1}{2}$ in, height above  $5\frac{3}{4}$ in. Finish: teak or rosewood veneer. Full details of other matching units on request. Prices from about £41.



S.M.E. 2000 Plinth



Staples Ladderax Hi-Fi

#### ■ TYSONS SOUND ENGINEERS

(Prop. John E. Barkley), 41 Russell Street,  
Leamington Spa. Tel: Leamington Spa 24935.

#### Hand-made Dower Chests

Reproduction style in oak. Suitable for gram unit, tape deck, tuner, amplifier. Lift-up lid. Generally 36in to 48in long. Price: £55 to £75.

Equipment installed in antique or reproduction furniture to customers' requirements. Dower chests a speciality. Agents for all leading manufacturers of hi-fi equipment.

#### ■ VERO

Vero Electronics Ltd, Industrial Estate,  
Chandler's Ford, Eastleigh, Hants, SO5 3ZR.  
Tel: Chandler's Ford 2952. Telex: 47551.

Wide range of equipment cases suitable for hi-fi units, tuners, power supplies and test gear. Available in various panel heights and with or without anodised aluminium front handles. Made in light gauge steel finished in RAF blue/grey vinyl paint. Integral aluminium trim. Neat slim-line appearance. Ventilation slots incorporated. Full list of sizes, accessories and prices available on request. Ask for catalogue of Vero 'D' series cases.

# YOU DON'T BUY A CAR WITHOUT WHEELS—



## SO WHY BUY A TV OR HI-FI KIT WITHOUT A STAND?

New and chrome Hi-Fi or TV stand with simple thumb screws providing adjustment to accommodate most makes. Rubber vibration mounts, simple assembly, fits in 17" x 17" x 4" box.

Manufacturers of special purpose tubular stands and swivels.

*For further information contact*



## MUNDY MILLS LIMITED

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TELEPHONE: 06072 71427

# DYNATRON MUSIC CENTRE

## with ambiophonic 4-channel sound

Cavalcade HFC60 is a complete home entertainment music centre combining the facilities of a Cassette tape record/playback unit with the new Dynatron 15 watts RMS per channel four waveband Tuner/Amplifier and G101

belt-driven transcription record playing unit fitted with a Shure M75-6s magnetic cartridge and diamond stylus. It is supplied complete with stereo microphone and demonstration cassette.



Record/playback high fidelity cassette tape deck incorporating a Dynamic Noise Limiter.

Socket for stereo headphones and toggle switches for H, Lo and loudness filters.

Slider controls for volume, balance, bass and treble.

Push-button pre-set VHF radio with AFC and multiplex stereo decoder.

Push button selection of LW, MW, SW, VHF wavebands, Tape and Disc

Facilities panel at rear of cabinet providing switch for ambiophonic four channel sound, sockets for loudspeakers and aeriats

G101 belt-driven transcription record playing unit fitted with Shure M75-6s magnetic cartridge and diamond stylus

Flywheel tuning on LW, MW and SW wavebands.

Beautifully designed and constructed slim-line cabinet finished in selected teak veneers.

The Dynatron Cavalcade Music Centre is shown with Table ST26 HFC60 £229.00 Table ST26 £14.00



# DYNATRON

Audio and colour Television

**DYNATRON RADIO LIMITED,**  
St. Peter's Road, Maidenhead, Berks SL6 7QY.  
Telephone: Maidenhead 23331

# Complete Audio Systems

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ALBA (RADIO & TELEVISION) LTD

Tabernacle Street, London, EC2A 4DY.

Tel: 01-253 1322.

### UA100D, UA200 and UA300 ★

Four-unit system comprising UA100D stereo tuner/amplifier, UA200 record deck and two UA300 speaker enclosures. Range: FM 87-108 MHz, MW 183-570m, LW 1100-1900m, SW 16-53m. Variable tuning. Switchable AFC. Switchable quiet tuning. Multiplex decoder fitted. Pushbutton controls for: wavebands, AFC, quiet tuning, gram, tape. Rotary controls for: treble  $\pm 12$ dB at 12kHz, bass  $\pm 12$ dB at 70Hz, volume, tuning (flywheel). Output: 15W RMS per channel. Output impedance: 8 ohms. HD:  $< 0.3\%$  at 15W. Motor unit: Garrard SP25 Mk III. Magnetic cartridge with diamond stylus. Finish: teak cabinets with brushed aluminium trim. Speakers: two UA300 each containing  $6\frac{1}{2}$ in bass driver and 3in tweeter. Size: (UA100D)  $16 \times 6 \times 7$ in; (UA200)  $15\frac{1}{4} \times 6\frac{1}{2} \times 13$ in; (UA300)  $8\frac{3}{8} \times 16\frac{3}{4} \times 7$ in. Price: (complete system) £149.49 (including VAT).

### UA7070D ★

AM/FM stereo tuner/amplifier in shelf mounting cabinet with two separate speakers. Range: VHF, LW, MW. Switched AFC on FM. Variable tuning. Ratio detector. BSR multi-speed player with cueing device. Slider controls for bass, treble, volume and balance. Pushbutton input selection and rotary tuning control. Outlet sockets for tape recorder and headphones. Finish: teak. Stereo decoder fitted. Price: (complete system with decoder) £82.05 (including VAT).

## ■ ALPHA

Highgate Acoustics Ltd,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

### Alpha MR15

Stereo tuner/amplifier in cabinet with record

deck. Range: 88-108MHz, 187-572m. Variable tuning. AFC. Stereo decoder fitted. Controls: (slider) bass, (slider) treble, speaker selector, volume, balance, tuning, input selector, on/off, AFC, high pass filter, loudness, stereo/mono, tape monitor. Output: 18W RMS per channel. FR: 20Hz-35kHz. Output impedance: 8 ohms. HD: 0.5% at 15W. Motor unit: Lenco 75. Magnetic cartridge. Size:  $18\frac{1}{2} \times 18 \times 5\frac{1}{2}$ in. Speakers: Alpha HT20 Mk II with three units in each. Finish: walnut. Price: (complete system with two speakers) £195.50 (plus VAT).

## ■ AMEREX (UK) LTD

96 Piccadilly, London, W1V 9HB.

Tel: 01-499 3537/8.

### ACR404C

Complete music centre comprising AM/FM stereo tuner/amplifier, BSR autochange record deck, eight-track cartridge player and matching speakers. Slider controls for bass, volume, treble and balance. Stereo decoder fitted. Range: VHF, MW. Loudness switch, rumble and scratch filters. Wood grain finish with bright trim. Price: to be announced.

### AU800

Complete audio system comprising AM/FM stereo tuner/amplifier with BSR autochanger record deck and two matching speakers. Range: VHF, MW. Stereo decoder fitted. Slider controls for volume, tone and balance. Loudness switch. Stereo headphone socket. Outlet for tape recorder and input for auxiliary signal source. Speaker systems incorporate  $6\frac{1}{2}$ in bass driver and tweeter in each enclosure. Finish: walnut. Price: £71.95 (including VAT).

### AU801

Complete audio system comprising AM/FM stereo tuner/amplifier with automatic record deck and two matching speakers. Range: VHF,



Alba UA7070D



Alba UA100, UA200, UA300



★ Indicates entry is illustrated

MW. AFC. Stereo decoder fitted. 25 transistors, 15 diodes, one FET. Output: 7W per channel. Finish: walnut grain with bright trim. Input and output jack sockets for tape recorder. Head-phone output. Tuning meter. Separate bass and treble controls. Price: £79.95 (including VAT).

#### AU802

Complete audio system comprising AM/FM stereo tuner/amplifier with BSR single play three-speed record deck and two matching speakers. Range: VHF, MW, AFC. Controls: bass, treble, loudness, volume, tuning, input selectors. Input and output jacks for tape recorder. Stereo decoder fitted. 42 transistors, 23 diodes, four rectifiers. Output: 12W per channel. Three-way speaker systems incorporating 10in bass driver, 6½in mid-range unit, and 2½in tweeter. Finish: walnut. Price: £138 (including VAT).

#### AMC-900

AM/FM stereo tuner/amplifier with cassette tape deck and matching speaker systems. Range: FM 88-108MHz, MW 185-582m, LW 857-2000m, SW 25-84m. Output: 10W (IHF) per channel into 8 ohms. HD: <1%. FR: (normal listening level) 20Hz-15kHz-3dB. Inputs: mag PU 3mV, ceramic PU 250mV, aux 350mV. H and N: (mag PU input) better than 50dB, (aux) better than 60dB. Separation: better than 50dB. Tone controls: bass ±10dB at 100Hz, treble ±10dB at 10kHz. Cassette recorder section. Speed: 1½i/s. W and F: 0.25%. Microphone input: 1mV. Speaker drive units: 6½in. Size: (main unit) 23½ × 14¼ × 5in; (speaker units) 13½ × 8½ × 8½in. Price: to be announced.

### ■ BANG & OLUFSEN (UK) LIMITED

Eastbrook Road, Gloucester, GL4 7DE.

Tel: Gloucester 21591.

#### Beosystem 901

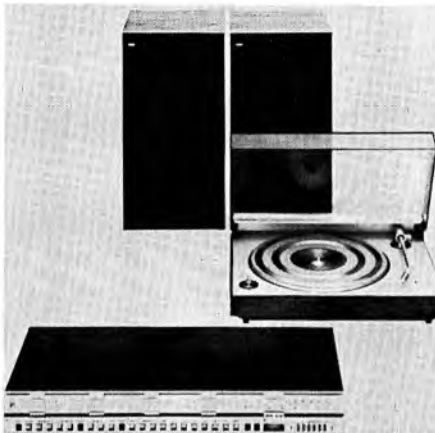
Four-unit system comprising Beomaster 901 tuner/amplifier, Beogram 1202 turntable and two Beovox 1702 loudspeakers. Tuning range: FM 87.5-104MHz, LW 857-2040m, MW 187-578m. Variable tuning. AFC. Sensitivity: FM <1.8µV, LW <15µV, MW <20µV. Output: 20W RMS per channel. FR: 20Hz-30kHz ±1.5dB. HD: <0.5% at 20W. Inputs: mag PU 2.5mV 47K, tape 150mV 470K. Motor unit: 33½ and 45rpm. SP14A cartridge. Rumble: 60dB. W and F: 0.06% RMS. Speakers: (two units) one 6in bass and 1in tweeter. FR: 50Hz-20kHz. HC: 20W RMS. Sizes: (Beomaster 901) 19½ × 9 × 3in; (Beogram 1202) 17½ × 13 × 4½in; (Beovox 1702) 13½ × 7½ × 7½in. Price: (teak) £213.50; (rosewood) £218.50 (including VAT).

#### Beosystem 1001 ★

Four-unit system comprising Beomaster 1001 tuner/amplifier, Beogram 1001 turntable and two Beovox 1001 loudspeakers. Tuning range:



Bang & Olufsen Beosystem 1001



Bang & Olufsen Beosystem 3000

87.5-104MHz. Variable tuning plus three presets. AFC. Sensitivity: <1.8µV. Output: 15W RMS per channel. FR: 20Hz-30kHz ±1.5dB. HD: <0.5% at 15W. Inputs: mag PU. 3.5mV 47K, tape 200mV 470K. Motor unit: 33½ and 45rpm. SP14A cartridge. Rumble: better than 55dB. W and F: 0.06% RMS. Speakers: (two units) one 6½in bass and one 2½in tweeter. FR: 60Hz-18kHz. HC: 20W RMS. Sizes: (Beomaster 1001) 21½ × 8½ × 3½in; (Beogram 1001) 14½ × 12½ × 4½in; (Beovox 1001) 15 × 11 × 5½in. Price: (teak) £189.90; (rosewood or white) £193.90 (including VAT).

#### Beosystem 1400

Three-unit system comprising Beocenter 1400 stereo tuner/amplifier/cassette and two Beovox 1702 loudspeakers. Tuning range: FM 87.5-104MHz, LW 857-2040m, MW 187-578m. Variable tuning. AFC. Sensitivity: FM <1.8µV, LW <15µV, MW <20µV. Cassette section. Speed: 1½i/s. FR: 40Hz-12.5kHz. S/N ratio: 50dB. W and F: 0.35% RMS. Output: 20W RMS. FR: 20Hz-30kHz ±1.5dB. HD: <0.5% at 20W. Inputs: mag PU 2.5mV 47K, tape 300mV 100K. Speakers: (two units) one 6in bass and one 1in tweeter. FR: 50Hz-20kHz. HC: 20W RMS. Sizes: (Beocenter 1400) 26 × 10½ × 3¼in; (Beovox 1702) 13½ × 7½ × 7½in. Price: (teak) £213.50; (rosewood) £217.50 (including VAT).

**Beosystem 1700**

Five-unit system comprising Beolab 1700 stereo amplifier, Beomaster 1700 stereo FM tuner, Beogram 1202 turntable and two Beovox 2702 loudspeakers. Tuning range: 87.5-104MHz. Variable tuning plus three presets. AFC. Sensitivity: <math>2.0\mu\text{V}</math>. Output: 20W RMS per channel. FR: 20Hz-30kHz  $\pm 1.5\text{dB}$ . HD: <math>0.5\%</math> at 20W. Inputs: mag PU 2.5mV 47K, 150mV 1M, tuner 150mV 350K. Motor unit: 33 $\frac{1}{3}$  and 45rpm. Rumble: 60dB. W and F: 0.06% RMS. SP14A cartridge. Speakers: (two units) one 7in bass and one 1 $\frac{1}{2}$ in tweeter. FR: 45Hz-20kHz. HC: 25W RMS. Sizes: (Beolab 1700) 19 $\frac{3}{4}$   $\times$  9 $\frac{1}{8}$   $\times$  3in; (Beomaster 1700) 19 $\frac{3}{4}$   $\times$  9 $\frac{1}{8}$   $\times$  3in; (Beogram 1202) 17 $\frac{1}{2}$   $\times$  13  $\times$  4 $\frac{1}{2}$ in; (Beovox 2702) 16  $\times$  8  $\times$  8in. Price: (teak) £258.50; (rosewood) £263.50 (including VAT).

**Beosystem 3000 ★**

Four-unit system comprising Beomaster 3000 stereo tuner/amplifier, Beogram 3000 turntable and two Beovox 3702 loudspeakers. Tuning range: 87.5-104MHz. Variable tuning plus six presets. AFC. Sensitivity: 2 $\mu\text{V}$ . Output: 40W RMS per channel. FR: 40Hz-20kHz  $\pm 1.5\text{dB}$ . HD: 0.3% at 40W. Inputs: mag PU 3mV 47K adjustable, ceramic PU 250mV 1M adjustable, tape 250mV 1M variable. Motor unit: 33 $\frac{1}{3}$  and 45rpm. SP10A cartridge. Rumble: better than 60dB. W and F: 0.06% RMS. Speakers: (three units) one 8in bass, one 3 $\frac{1}{2}$ in mid-range, one 1 $\frac{1}{2}$ in tweeter. FR: 40Hz-20kHz. HC: 40W RMS. Sizes: (Beomaster 3000) 22 $\frac{3}{4}$   $\times$  10 $\frac{1}{4}$   $\times$  3 $\frac{1}{2}$ in; (Beogram 3000) 17 $\frac{1}{2}$   $\times$  13  $\times$  4 $\frac{1}{2}$ in; (Beovox 3702) 19 $\frac{3}{4}$   $\times$  10  $\times$  10in. Price: (teak) £336; (rosewood) £344 (including VAT).

**Beosystem 3500**

Three-unit system comprising Beocenter 3500 stereo tuner/amplifier/turntable plus two Beovox 3702 loudspeakers. Tuning range: 87.5-104MHz. Variable tuning plus six presets. AFC. Sensitivity: 2 $\mu\text{V}$ . Output: 40 RMS per channel. FR: 40Hz-20kHz  $\pm 1.5\text{dB}$ . HD: 0.3% at 40W. Input: mag PU 3mV 47K adjustable, ceramic PU 250mV 1M adjustable, tape 250mV 1M adjustable. Motor unit: Beogram 3000. Speeds: 33 $\frac{1}{3}$  and 45rpm. SP10A cartridge. Rumble: better than 60dB. W and F: 0.06% RMS. Speakers: (three units) one 8in bass, one 3 $\frac{1}{2}$ in mid-range and 1 $\frac{1}{2}$ in tweeter. FR: 40Hz-20kHz. HC: 40W RMS. Sizes: (Beocenter 3500) 22 $\frac{3}{8}$   $\times$  13 $\frac{3}{8}$   $\times$  5 $\frac{1}{2}$ in; (Beovox 3702) 19 $\frac{3}{4}$   $\times$  10  $\times$  10in. Price: (teak) £331; (rosewood or white) £338 (including VAT).

**■ BIGSTON**

J. Parkar & Co (London) Ltd, Parkar House, Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.

**BHS-100**

Stereo tuner/amplifier with cassette record deck and two separate speakers. Range: FM 88-108 MHz, MW 187-750m. Variable tuning with AFC. Stereo decoder fitted. Controls: tuning, input selector, tone, right-channel volume, left-channel volume, mains on/off, monitor on/off, pushbutton tape recorder controls. Output: 3W RMS per channel. FR: 80Hz-10kHz. Output impedance: 8 ohms. Electronically controlled tape transport motor. 26 transistors, 14 diodes.  $\frac{1}{4}$ -track compact cassette deck. 5in high compliance speakers in infinite baffle cabinets. Jack sockets for two microphones (left and right channel). Outlet for stereo phones. Size: (main unit) 10 $\frac{5}{8}$   $\times$  7 $\frac{1}{8}$   $\times$  5 $\frac{1}{8}$ in. Wood veneered cabinets. Price: approximately £100 (including VAT).

**■ BUSH-ARENA**

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

**System 20**

Stereo tuner/amplifier, record deck in plinth and two separate speakers. Comprises R925 record unit, TA3500 tuner/amplifier and two L810 speakers. See respective sections for full specifications. Price: £139.33 (including VAT).

**System 30**

Stereo tuner/amplifier, record deck in plinth and two separate speakers. Comprises R76 record unit, TA2700 tuner/amplifier and two L820 speakers. See respective sections for full specifications. Price: £183.58 (including VAT).

**System 40**

Stereo tuner/amplifier and record deck in shelf cabinet plus two separate speakers (floor stand optional extra). Comprises RTA Compact unit and two L820 speakers. See respective sections for full specifications. Price: £183.58 (including VAT).

**System 50**

Five-band AM/FM stereo tuner/amplifier, record deck in plinth and two separate speakers. Comprises R76 record unit, TA2800 tuner/amplifier and two L820 speakers. See respective sections for full specifications. Price: £187.34 (including VAT).

**■ COMBERTON**

CHB Supplies Ltd, Oldington Trading Estate, Stourport Road, Kidderminster, Worcs. Tel: Kidderminster (0562) 4861.

Range of stereo audio systems with speakers. No product information obtainable as this edition of the Year Book closed for press.

**■ CROWN RADIO LTD**

128-129 Shoreditch High Street, London, E1 6JE. Tel: 01-739 2382.

★ Indicates entry is illustrated

### SHC-53, CSP-13 (2)

AM/FM stereo radio in cabinet with eight-track cartridge tape player, plus two separate speakers. Range: FM 88-108MHz, MW 182-560m. Switchable AFC. Variable tuning 21 transistors, four ICs, 21 diodes Cartridge deck. Speed:  $3\frac{1}{2}$  i/s. S/N ratio: >40dB. W and F: <0.35%. FR: 80Hz-12kHz. Output: 5W per channel. Automatic head cleaning device. Slider controls. Headphone jack socket. Speakers: infinite baffle enclosures with unit. One  $13\frac{1}{2} \times 8\frac{1}{2}$  in bass driver with two integral HF units. Impedance: 8 ohms. Finish: walnut cabinets. Amplifier/tape unit has black dial and bright trim, speaker enclosures have black grilles. Price: (complete system) £124 (plus VAT).

### SHC-49F

AM/FM radio plus stereo cassette recorder in cabinet, plus two separate speakers. Range: FM 88-108MHz, MW 182-560m. 38 transistors, 24 diodes. Variable tuning. Stereo decoder fitted. AFC. Output: 3W per channel. FR: (tape recorder) 100Hz-10kHz. Tape speed:  $1\frac{7}{8}$  i/s. Compact cassette. Mains: 240V AC. VU meters. Input for PU. Speaker units:  $6\frac{1}{2}$  in full range. Impedance: 8 ohms. Size: (main unit)  $11\frac{1}{2} \times 15\frac{3}{8} \times 5$  in; (speakers)  $11\frac{1}{2} \times 9\frac{7}{8} \times 4\frac{1}{8}$  in. Weight: (main unit) 14lb; (speakers)  $4\frac{1}{2}$  lb. Finish: walnut veneer. Price: (complete system) £133.91 (plus VAT).

### SHC-65F

AM/FM stereo radio plus cassette recorder and record deck in one plinth cabinet, offered with two CSP13 speakers to form complete system. 27 transistors, one FET and six ICs. Range: FM 88-108MHz, MW 182-560m. Variable tuning. AFC. Stereo decoder fitted. Controls: tuning, AFC on-off, muting, waveband selector, input function, high filter, loudness, bass, treble, left-channel record level, right-channel record level, balance, volume. Output: 7.5W RMS per channel. Output impedance: 8 ohms. FR: 50Hz-20kHz. Record deck: Garrard SP25 Mk III or Garrard 2025T. Finish: Walnut veneer and black trim. Speakers: two CSP13 (CSP12 optional at lower cost). Price: (complete system) £236.30 (plus VAT).

### SM110, CSP12 (2) ★

AM/FM stereo tuner/amplifier with record deck in one cabinet, plus two CSP12 speaker systems. Range: FM 88-108MHz, MW 182-560m. Variable tuning. AFC. Stereo decoder fitted. Controls: bass, treble, low filter, high filter, volume, input selector, balance, mains on/off, tuning. Output: 7.5W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-25kHz. HD: <1% at 6W output. Finish: walnut veneer with silver trim. Speakers: two CSP12. Price: (complete system) £129.40 (plus VAT).



Crown Radio SM110, CSP12(2)



Decca Compact 3



Duette S2005W/SX66



Duette SA505



Duette SA707

**■ DECCA RADIO & TELEVISION**

Neachells Lane, Willenhall, Wolverhampton, Staffs. Tel: 0902 67367.

**Deccasound Compact 3 (DS5226) ★**

AM/FM tuner/amplifier in low-profile cabinet on stand, with record deck incorporated and two separate speakers. Range: FM 87.5-102 MHz, MW 185-577m, LW 1200-2000m, SW 16.7-50.4m. Variable tuning. AFC. Stereo decoder optional extra. Controls: bass, treble, balance, volume, input selector, 12kHz filter, AFC on/off. Output: 6W RMS per channel. FR: 35Hz-17kHz  $\pm$  3dB. Motor unit: BSR C141. Finish: teak and silver. Speakers: 5in dual cone full-range drivers in acoustic enclosures. Price: £127.09 (including VAT).

**■ DUETTE**

J. J. Silber Ltd,  
11 Northburgh Street, London, EC1.  
Tel: 01-253 8031.

**SS2005W ★**

AM/FM stereo tuner/amplifier in cabinet with stereo cassette recorder and record deck. Range: FM 88-108MHz, MW 185-565m. Aerial input: 300 ohms balanced. Ferrite rod AM aerial. Stereo decoder fitted. Separation: 30dB at 1kHz. Compact cassettes. Speed: 1 $\frac{7}{8}$ i/s. W and F: 0.25%, H and N: 45dB. Automatic or manual level control. Multiple filter. Four-speed record deck. Ceramic cartridge with diamond stereostylus. 11in platter. Four-pole motor with outer rotor. Audio output: 10W per channel. Output impedance: 8 ohms. FR: 35Hz-30kHz. Tone controls: bass +10dB -12dB at 100Hz, treble +9dB -17dB at 10Hz. Mains: 110, 117, 220, 240V 50/60Hz. Size: 22 $\frac{1}{2}$  × 9 × 17in. Weight: 35lb. This is a provisional specification as full details were not available as this issue of the Year Book closed for press. Designed for use with Duette speakers type 44SX, 66SX, or 88SX. No details of speakers available. Price: (main unit with two speakers) from approximately £220 (including VAT).

**SA505 ★**

AM/FM stereo tuner/amplifier in plinth with record deck, plus two separate speaker enclosures. 19 transistors. Range: FM 88-108MHz, MW 187-560m. Stereo decoder fitted. Separation: >20dB at 1kHz. Output: 5W RMS per channel. HD: 1% at 4W RMS at 1kHz. Tone controls: bass  $\pm$  7dB at 100Hz, treble  $\pm$  7dB at 10kHz. Mains: 200-240V 50Hz. Speaker enclosures: 9 $\frac{3}{8}$  × 11 $\frac{3}{8}$  × 7 $\frac{3}{8}$ in. Size: (main unit) 16 $\frac{1}{2}$  × 4 $\frac{1}{4}$  × 13in. Price: to be announced.

**SA707 ★**

AM/FM stereo tuner/amplifier in plinth with record deck and eight-track cartridge player, plus two separate speaker enclosures. 23 tran-

sistors. Range: FM 88-108MHz, MW 187-560m. Stereo decoder fitted. Separation: >20 dB at 1kHz. Aerial input: 300 ohms balanced twin for FM, ferrite rod for MW. Output: 5W RMS per channel. HD: 1% at 4W RMS at 1kHz. W and F: <0.3%. Crosstalk: -40dB. Mains: 200-240V 50Hz. Speaker enclosures: 9 $\frac{3}{8}$  × 11 $\frac{3}{8}$  × 7 $\frac{3}{8}$ in. Price: to be announced.

**■ DYNATRON RADIO LTD**

St Peters Road, Maidenhead, Berks, SL6 7QY.  
Tel: Maidenhead 23331.

**Cavalcade HFC31A system**

Integrated stereo tuner/amplifier with record deck in cabinet plus matching speakers. Range: FM 87-108MHz, MW 185-570m, LW 1100-2000m. Variable tuning. AFC incorporated. Stereo decoder fitted. Output: 8W RMS per channel. HD: <1% at rated output. FR: 40Hz-16kHz  $\pm$  3dB. Output impedance: 4 ohms for speakers, 8 ohms or greater for phones. Controls: bass, treble, balance, volume, loudness, input selector, tuning, filter, AFC on/off. Motor unit: Garrard 2025TC. Cartridge: Sonotone 9TAHC. Size: 19 × 16 $\frac{1}{2}$  × 9 $\frac{7}{8}$ in. Finish: teak. Suggested speakers: LS1434 (other types available). Price: (complete system including two speakers) £142.65 (including VAT).

**HFC31M**

Integrated stereo tuner/amplifier with record deck in cabinet plus matching speakers. Similar specification to HFC31A but with Garrard SP25S Mk III record deck and Goldring G850 cartridge. Suggested speakers: LS2034 (other types available). Size: (main unit) 19 × 16 $\frac{1}{2}$  × 9 $\frac{7}{8}$ in. Price: (complete system with two suggested speakers) £158.76 (including VAT).

**Cavalcade HFC32 system**

Integrated stereo tuner/amplifier with record deck in cabinet plus matching speakers. Similar specification to HFC31A but with single-play transcription record unit. Record deck: Goldring-Lenco GL75. Cartridge: Goldring G800. Suggested speakers: LS2034 (other types available). Price: (complete system inc. two speakers) £185.31 (including VAT).

**■ EKCO**

Pye Ltd, PO Box 49, St Andrews Road, Cambridge, CB4 1DS. Tel: Cambridge 58985.

**ZU3**

FM stereo tuner/amplifier in plinth cabinet with record deck, plus two separate speakers. Stereo decoder included. Pushbutton tuning. Philips three-speed single-play automatic player. GP200 ceramic cartridge. 7in full-range 10W speakers. Price: (complete system) £111.86 (including VAT).

★ Indicates entry is illustrated

#### ZU4L

FM stereo tuner/amplifier in plinth cabinet with record deck, plus two separate speakers. 40 transistors, 17 diodes. Range: 87.5-104MHz. Four preset tuning buttons. AFC. Stereo decoder fitted. Controls: volume, bass, treble, balance, input selector. Output: 7W RMS per channel. Output impedance: 4-8 ohms. HD: <1% at 7W per channel. FR: 30Hz-18kHz  $\pm 1.5$ dB. Motor unit: Lenco 725. Speakers: 7in full-range drivers in separate enclosures. Finish: teak veneer with matt black control panel. Price: (complete system) £157.37 (including VAT).



Ekco ZU5J

#### ZU5J ★

FM stereo tuner/amplifier in cabinet with record deck, plus two separate speakers. 36 transistors, 14 diodes. Range: FM 87.5-104 MHz. Variable tuning plus four preset stations. Switchable AFC. Ratio detector. Stereo decoder fitted. Stereo beacon. Controls: volume, balance, bass, treble, tuning, input selector. Output: 20W RMS per channel. Output impedance: 4-8 ohms. FR: 30Hz-25kHz  $\pm 1.5$ dB with tone controls flat. Motor unit: Philips GC008 transcription unit with GP400 cartridge. HD: <0.2% at 17W per channel. Speakers: one 8in bass driver and one 1in dome tweeter in each enclosure. Finish: teak and matt black with teak end cheeks. Price: £195 (including VAT).



Ekco ZU7

#### ZU5K

FM stereo tuner/amplifier in cabinet with cassette recorder and record deck, plus two separate speakers. 50 transistors, 17 diodes, one rectifier. Range: 87.5-100MHz. Variable tuning plus four preset stations. AFC. Ratio detector. Stereo decoder fitted. Controls: volume, stereo balance, bass, treble, record level, tuning, DNL over-ride. Output: 20W RMS per channel. Output impedance: 4-8 ohms. FR: 30Hz-25kHz  $\pm 1.5$ dB with tone controls flat. HD: <0.2% at 17W per channel. Motor unit: Philips GC008 with GP400 cartridge. Speakers: one 8in bass driver plus one 1in dome tweeter in each enclosure. Finish: silver and black with teak end cheeks. Price: (complete system) £249 (including VAT).



Ekco ZU9

#### ZU7 ★

AM/FM stereo tuner/amplifier in shelf-mounting cabinet with record deck, plus two separate enclosures. 43 transistors, 30 diodes. Range: FM 87.5-104MHz, MW(1) 211-577m, MW(2) 187-214m, LW 882-2000m, SW 30.7-50.4m. Variable tuning plus five presets on FM/VHF. Switchable AFC. Ratio detector. Stereo decoder fitted. Stereo beacon. Controls: volume, treble, bass, balance, AM tuning, FM tuning buttons, input selectors, AFC on/off, mains on/off. Output: 15W RMS per channel. Output impedance: 4-8 ohms. FR: 20Hz-20kHz  $\pm 1$ dB

with tone controls flat. HD: <0.6% at 12W per channel at 1kHz. Motor unit: GC008 transcription deck with GP400 cartridge. Speakers: one 8in bass driver and one 1in dome tweeter in each enclosure. Finish: teak with black and silver anodised panel and trim. Price: £192.12 (including VAT).

#### ZU9 ★

FM stereo tuner/amplifier in shelf-mounting cabinet with record deck, plus two or four separate speakers. 62 transistors, 48 diodes, two FETs and one IC. Range: FM 87.5-104MHz. Variable tuning plus five presets. Switchable AFC. Ratio detector. Stereo decoder fitted. Stereo beacon. Controls: volume, balance, bass, presence, treble, tuning, ambio level, three-

# Just one beautiful object from the Decca Stereo collection



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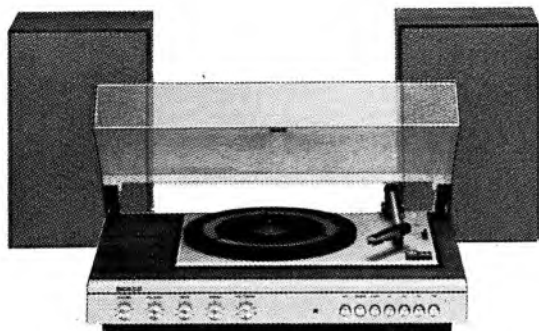
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## DECCA

Decca Radio & Television, Neachells Lane,  
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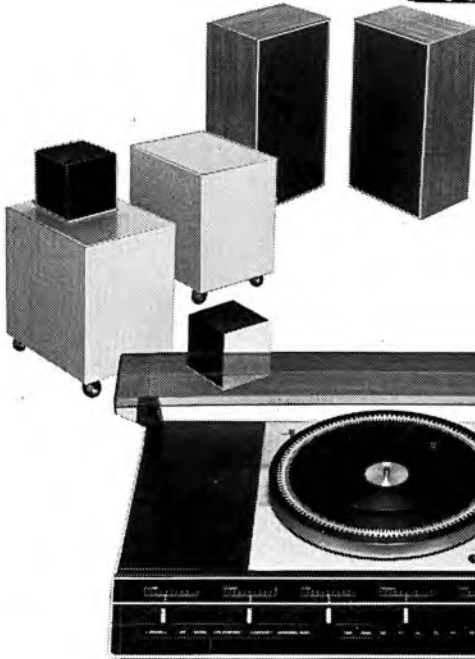


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  - BSR MULTI-SPEED AUTOMATIC CHANGER WITH DUE-ING DEVICE WITH BIAS COMPENSATOR.
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- SIZE: UNIT WITH LID - 7½" X 21" X 16½" (190.5 X 533.3 X 412.7mm,  
SPEAKERS - 10" X 6" X 15" EACH (254 X 152 X 381mm,  
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POWER OUTPUT: 5 WATTS PER CHANNEL SINE WAVE VOLTAGE: 200/250 AC MAINS POWER CONSUMPTION: 60 WATTS
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Manufacturers of: Unit Audios, Tuners & Amplifiers, Transistor Radios, Record Players  
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\*Manufacturers Recommended Retail Price including V.A.T.

position tone contour, rumble/scratch filters, input selectors. Output: 35W RMS per channel. Output impedance: 4-8 ohms. FR: 20Hz-30kHz  $\pm 1.5$ dB. HD:  $< 0.1\%$  at 32W output per channel,  $< 0.03\%$  at 6W output per channel. Motor unit: Philips GC012 electronically controlled transcription deck with GP401 cartridge and elliptical diamond stylus. Finish: silver and matt black, (speakers) white, and black and white. Speakers: (DX321 system) comprises four enclosures, two with 10in bass drivers and two with 5in mid-range units and 1in dome tweeters: (5427 system) comprises two enclosures with 8in drive unit and 1in dome tweeter in each. Price: (complete system with DX321 speaker system) £395 (including VAT); (complete system with 5427 speaker system) £299-50 (including VAT).

#### ■ EXCELSIOR

Oscar Radio Company,  
55-63 Goswell Road, London, EC1.  
Tel: 01-253 1802.

#### Excelsior

Furniture style stereo cassette recorder incorporating AM/FM radio and separate speakers. Range: FM and MW. Stereo decoder on radio. Automatic switching device with timer to record programmes at pre-arranged times. Twin VU meters. Output: 10W RMS. Size: 18in wide, 10in high, 4½in deep. Price: £114-27 (plus VAT).

#### ■ FALCON

John Street (Manufacturers) Ltd,  
Falcon Works, Barmeston Road, Catford,  
London, SE6. Tel: 01-698 1177.

#### JS-TR8S

Stereo tuner/amplifier with record deck and two separate speaker enclosures. Range: FM, MW, SW and LW. Variable tuning. Sensitivity: FM better than 5µV. Controls: bass  $\pm 12$ dB at 40Hz, balance, input selector, mains on/off. Output: 6W RMS per channel. FR: 30Hz-20kHz  $\pm 3$ dB. HD:  $< 1\%$  at all outputs. BSR record deck. 15 transistors, five diodes. Speaker units: 6½in 8 ohms. PU input: 100mV. DIN input and output sockets. Provision for tape record and playback. Headphone socket. Price: £75-07 (including VAT).

#### Falcon 34

AM/FM stereo tuner/amplifier with record deck and two speakers. Range: LW, MW and FM/VHF. 13 transistors, five diodes. Output: 5W per channel. Controls: volume, on/off, tone, balance, tuning, pushbutton waveband selection. Decoder fitted. Headphone socket. BSR autochanger with stereo cartridge. Two speaker enclosures with 8 x 5in units. Price: £56-10 (including VAT).

#### Falcon 35

AM/FM stereo tuner/amplifier with record deck and two speakers. Range: LW, MW, SW and FM/VHF. 15 transistors, five diodes. Output: 10W per channel. Pushbutton selection of gram, and wavebands. Sensitivity: FM better than 5µV. BSR autochanger. Controls: bass  $\pm 12$ dB at 40Hz, treble  $\pm 10$ dB at 15kHz, volume, balance, tuning, on/off. Decoder fitted. Distortion better than 1% at all levels. Two speaker enclosures with ceramic magnet 8 x 5in units. Price: £63-73 (including VAT).

#### ■ FIDELITY RADIO LTD

6 Olaf Street, London, W11. Tel: 01-727 0131.

#### UA1 Unit Audio One

Stereo tuner/amplifier and record deck with two matched speakers. 20 transistors, one integrated circuit, 7 diodes. Range: FM 87.5-108.2MHz. MW 185-555m, LW 1200-2000m. Variable tuning, separate scales and pointers for AM and FM. Multiplex decoder fitted. Stereo beacon. Switchable AFC. Controls: (pushbuttons) gram, LW, MW, FM, auxiliary, AFC; (rotary controls) bass +16dB -13dB at 70Hz, treble +12dB -14dB at 14kHz, volume +8dB at 100Hz at 30dB down from maximum volume. Output: 6W RMS per channel into 8 ohms. HD:  $< 1.5\%$  at rated output. FR: 55Hz-23kHz  $\pm 1.5$ dB at 1W with tone controls flat. Motor unit: Garrard SP25 Mk III. Cartridge: Acos GP104 ceramic. Speakers: 10in bass driver and 4in treble unit in each enclosure. Finish: teak. Size: (tuner/amplifier and record deck) 7in high, 17in wide, 15½in deep; (speakers) 13½in wide, 18½in high, 7¼in deep. Price: (complete system) £102 (including VAT).

#### UA3 Unit Audio Three

AM/FM stereo tuner/amplifier and record deck in plinth with two separate speakers. Range: FM 87.5-108MHz. MW 186-555m, LW 1200-2000m. 11 transistors, three ICs, four diodes. Variable tuning. Switchable AFC. Stereo decoder included with beacon. Tone controls: bass +12.5dB -17dB at 100Hz, treble +13.5dB -13dB at 10kHz. Output: 4W RMS per channel into 8 ohms. FR: 40Hz-15kHz -3dB at 1W. HD:  $< 1\%$  (typically 0-1%). Motor unit: BSR changer (four speeds). Crystal cartridge. Speakers: 8 x 5in full range elliptical. Finish: teak. Price: (complete system) £62 (including VAT).

#### UA5 Unit Audio Five

Complete music centre comprising AM/FM stereo tuner/amplifier, record deck, stereo cassette tape unit and two matching speakers. Range: FM 87.5-108MHz, LW 1200-2000m, MW 186-555m. Sensitivity: FM better than 40µV, LW 1mV/m for 20dB S/N, MW 400µV/m

★ Indicates entry is illustrated

for 20dB S/N. Stereo decoder with beacon. Variable tuning. Output: 5W RMS per channel into 8 ohms. HD: < 1% at 5W. FR: (amplifier) 40Hz-15kHz  $\pm$  3dB. Tone controls: bass + 12.5 dB - 17dB at 100Hz, treble + 13.5dB - 13dB at 10kHz. Piano key controls for recorder. Speed:  $1\frac{2}{3}$  i/s. Compact cassettes. Three-digit tape position indicator. S/N ratio: 45dB. W and F: 0.25%. FR: (recorder) 35Hz-12kHz  $\pm$  3dB with standard tape, 35Hz-16kHz  $\pm$  3dB with CrO<sub>2</sub> tape. Speakers: one 6 $\frac{1}{2}$ in bass driver, one 3 $\frac{1}{4}$ in tweeter in each enclosure. Size: (unit) 21  $\times$  7 $\frac{1}{2}$   $\times$  16 $\frac{1}{4}$ in; (speakers) 10  $\times$  6  $\times$  15in. Weight: (unit) 23 $\frac{1}{4}$ lb; (speakers) 10 $\frac{3}{4}$ lb each. Record deck: BSR three-speed autochanger with ceramic stereo cartridge. Cueing device. Bias compensation. Finish: satin black unit with wood grain end pieces and bright trim with tinted plastic cover. Speakers: wood grain finish with fabric grilles. Price: £130 (including VAT).

■ **GRUNDIG (Great Britain) LTD**  
Newlands Park, London, SE26 5NQ.  
Tel: 01-778 2211. Telex: 22854.

#### Studio 310 Mk II ★

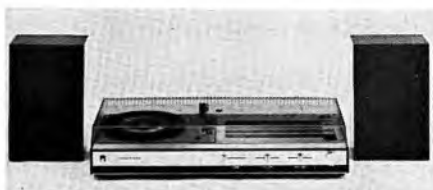
AM/FM stereo tuner/amplifier in cabinet with record deck, plus two separate speakers. 23 transistors, 15 diodes. Range: FM 87.5-108 MHz, MW 185-587m, LW 857-2069m, SW 18.5-50.8m. Variable tuning. Ratio detector. Slider controls for volume, balance, tone balance. Pushbutton selectors. Output: 5W RMS per channel. Output impedance: 4 ohms. Record deck: Dual 420. Speakers: System 106M with 5in drivers. Finish: black with satin metal trim and control panel. Price: (complete system) £152.65 (including VAT).

#### System 800S ★

AM/FM stereo tuner/amplifier in cabinet with record deck, plus two separate speakers. 44 transistors, 23 diodes, 2 rectifiers. Range: FM 87.5-108MHz, MW 185-587m, LW 857-2069m, SW 19-55m. Variable tuning plus seven preset stations on VHF. AFC. Ratio detector. Stereo decoder fitted. Controls: volume, treble - 18dB + 13dB at 16kHz, bass - 15dB + 12dB at 40Hz, balance - 9dB + 4dB. Pushbutton stations, wavebands and input selectors. Output: 12.5W RMS per channel. Output impedance: 4 ohms. FR: 40Hz-16kHz  $\pm$  1.5dB. HD:  $\leq$  0.7% at 1kHz at rated output. Motor unit: Lenco GL75. Finish: walnut case with silver trim. Speakers: Grundig Troika 3012. Price: (complete system) £253.69 (including VAT).

#### System 900S ★

AM/FM stereo tuner/amplifier in cabinet with record deck, plus separate speakers. 50 transistors, 26 diodes, 2 rectifiers. Range: FM 87.5-108MHz, MW 185-587m, LW 857-2069m, SW



Grundig Studio 310 Mk II



Grundig System 800S



Grundig System 900S



Grundig Studio 2000C 4D



Hacker GAR500A/SRD Mk 2 Centurion

19-55m. Variable tuning plus seven preset stations on VHF. AFC. Ratio detector. Stereo decoder fitted. Controls: volume, treble, bass, balance, pushbutton station selectors, pushbutton wavebands, pushbutton input selectors, pushbutton stereo and 4D speaker switching. Output: 25W RMS per channel. Output impedance: 4 ohms. FR: 40Hz-16kHz  $\pm$  1.5dB. HD:  $\leq$  0.5% at 1kHz at rated output. Motor unit: Lenco GL75. Speakers: Grundig Troika 7301 system. Finish: walnut case with silver trim. Price: (complete system) £300.78 (including VAT).

#### Studio 2000C 4D

AM/FM stereo tuner/amplifier in cabinet with record deck, plus separate speakers. 44 transistors, 30 diodes, 3 rectifiers. Range: FM 87.5-108MHz, MW 185-587m, LW 857-2069m, SW 19-55m. Variable tuning plus seven preset stations on VHF. AFC. Ratio detector. Stereo decoder fitted. Controls: volume, treble -20dB +12dB at 16kHz, bass -20dB +13dB at 40Hz, balance -9dB +3.5dB. Pushbutton selectors for stations, wavebands and inputs. Output: 22.5W RMS per channel. Output impedance: 4 ohms. FR: 40Hz-16kHz  $\pm$  1.5dB. HD:  $\leq$  0.5% at 1kHz at rated output. Motor unit: Dual 1216. Speakers: Grundig Auditorama 7000 and System 210a. Finish: matt black with silver trim. Price: (complete system) £479.72 (including VAT).

#### ■ HACKER RADIO LTD

Norreys Drive, Cox Green, Maidenhead, Berks, SL6 4BP. Tel: Maidenhead 22261/5.

#### GAR500A/SRD Mk 2 Centurion

##### plus speakers ★

Tuner/amplifier in cabinet with record deck. FM/VHF radio covering 87.5-101MHz. Usable sensitivity: 5 $\mu$ V for 30dB signal-to-noise ratio (30kHz deviation). Station markers. AFC. Garrard SP25 Mk III fitted with Goldring G850 magnetic pickup and diamond stylus. Inputs: PU 3mV equalised, 30dB overload capability; radio 50mV 47K, infinite overload capability; aux/tape 50mV 47K, infinite overload capability. Output: 14W RMS per channel into 8 ohms, 10W RMS per channel into 15 ohms. Controls: bass +18dB -14dB at 40Hz, treble +18dB -20dB at 15kHz, low-pass filter -3dB at 7kHz, on/off, balance, volume, pushbutton selection for scratch filter, gram, aux/tape, radio and mono/stereo. HD: better than 0.2% at 8 ohms, better than 0.1% at 15 ohms. FR: 25Hz-30kHz  $\pm$  3dB. Inbuilt rumble filter operates at below 25Hz. Hum and noise level better than 60dB down on all inputs. Outlet for tape recorder of 15mV at 25K. Headphone socket with automatic muting of speakers. Pushbutton operated stereo decoder. Separation: 35dB at 1kHz, 26dB at 5kHz. Finish: teak. Hinged lid

and brushed aluminium front panel or semi-transparent lid and black front panel. Mains: 200-245V 50Hz. Size: 18in wide, 8 $\frac{1}{4}$ in high, 16in deep. Suggested speakers: Hacker LS1000D. Two-way system with response 55Hz-17kHz. Size: 13 $\frac{1}{4}$   $\times$  20 $\frac{1}{4}$   $\times$  11 $\frac{1}{4}$ in. Price: (GAR500A/SRD Mk 2 plus two LS1000D speakers) £156.40 (including VAT).

**NOTE:** Suffix 'P' in Hacker model numbers indicates semi-transparent lid and black front panel (e.g. GAN 500AP Mk 2).

#### ■ HIS MASTERS VOICE

Thorn Consumer Electronics Ltd, 284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.

#### HMV 2451

AM/FM stereo tuner/amplifier in cabinet with record deck, separate speakers. Range: FM 88-108MHz, MW 195-550m, LW 1200-2000m. AFC. Variable tuning. Ratio detector. Stereo decoder fitted. Output: 10W RMS per channel. Output impedance: 8 ohms. FR: 30Hz-20kHz  $\pm$  1dB. HD:  $<$  1%. Motor unit: Garrard 5-300. Cartridge: Goldring 850. Finish: teak. Speakers: 15 litre with 6 $\frac{1}{2}$ in bass driver and 3 $\frac{3}{8}$ in tweeter. Price: (complete system) £115.70 (including VAT).

#### HMV 2455

AM/FM stereo tuner/amplifier in cabinet with record deck, separate speakers. Range: FM 88-108MHz, MW 200-550m. Variable tuning plus four presets. Stereo decoder fitted. Integrated quadrature FM decoder. Slider controls for volume, treble, bass, balance. Pushbuttons for AFC, shape, tape monitor, input selector, wavebands, mode. Output: 20W RMS per channel. Output impedance: 4 ohms. FR: 40Hz-16kHz  $\pm$  1dB. HD:  $<$  0.1% at all powers up to 20W. Motor unit: BSR P128. Cartridge: Goldring 800 magnetic. Finish: teak. Speakers: two 5in and one 3 $\frac{3}{8}$ in drivers in each speaker enclosure. Price: (complete system) approximately £165.90 (including VAT).

#### ■ HITACHI

Hitachi Sales (UK) Ltd, New Century House, Coronation Road, Park Royal, London, NW10 7QS. Tel: 01-965 9861.

#### DPK311

Four-waveband AM/FM stereo tuner/amplifier with record deck in shelf cabinet, plus two speaker systems. Range: FM 87.5-108MHz, LW 860-2000m, MW 187-566m, SW 30-85m. Variable tuning. Output: 8W RMS per channel. FR: 20Hz-20kHz. 28 transistors, 23 diodes, one FET. Motor unit: Hitachi two-speed (33 $\frac{1}{3}$ , 45 rpm). Cartridge: crystal XFS-182. Sapphire stylus. Stereo decoder fitted. Separate wide-

★ Indicates entry is illustrated

range bass and treble controls. Mains: 220-240V AC 50Hz. Speakers: One 6in bass driver, one 2in tweeter in each enclosure. Size: (amplifier/deck unit)  $16\frac{1}{2} \times 8\frac{3}{8} \times 16\frac{1}{2}$ in, (speaker enclosures)  $9\frac{7}{8} \times 17 \times 7\frac{1}{2}$ in. Price: (complete system) £118.29 (including VAT).

#### ■ JVC-NIVICO

Denham & Morley (Overseas) Ltd, Denmore House, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

Comprehensive new range of complete hi-fi systems now available but no product information obtainable as this edition of the Year Book closed for press. Full specifications and prices on request.

#### ■ KLINGER

Klinger Controls Ltd, Spencer Court, 7 Chalcot Road, London, NW1 8LU. Tel: 01-586 2922/3.

##### KC94 plus two S50 Mk II speakers ★

FM stereo tuner/amplifier in cabinet with record deck plus two S50 Mk II speaker enclosures. Motor unit: Garrard SP25 Mk III. Four speeds. Idler wheel drive. Cartridge: Goldring G800H. Diamond stylus. Range: 87.5-108MHz. Five preset stations. Switchable AFC. Usable sensitivity:  $2\mu\text{V}$ . Aerial input: coaxial and balanced. Outlet for tape: 100mV. Stereodecoder included. Inputs: tape 50mV 220K, aux (1) 100mV 470K, aux (2) 0.15mV 30 ohms. Noise level: 70dB. Overload capability: 30dB. Output: 25W RMS per channel. Output impedance: 8 ohms. Tone controls: bass  $\pm 15\text{dB}$ , treble  $\pm 15\text{dB}$ , scratch filter 18dB/octave from 8kHz, rumble 12dB/octave from 80Hz. Loudness control. A/B monitor switch. HD: 0.1% at 20W. FR: 25Hz-35kHz  $\pm 2\text{dB}$  at 20W. Switching for two pairs of speakers. Two stereo headphone sockets. Stabilised power supply. Size:  $21 \times 8 \times 15\frac{1}{2}$ in. Mains: 110-120V, 220-240V AC. Finish: teak cabinet with folding lid. Price: (KC94 unit, plus two S50 Mk II speakers) £162 (plus VA1).

##### KC94 Transcription

Specification as for KC94 above but fitted with BSR 710 transcription deck and supplied with two Klinger S90 speaker systems. Price: £222 (plus VAT).

#### ■ MARCONIPHONE

Thorn Consumer Electronics Ltd, 284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.

##### 4451

AM/FM tuner/amplifier in cabinet with record deck, plus two separate speaker systems. Range: FM 87-104MHz, MW 183-576m, LW 1120-2020m, SW 25-50.8m. 35 transistors, 19 diodes.



*Klinger KC94 Plus Two S50 MkII*

Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Controls: tuning, on-off volume, bass, treble, balance. Pushbuttons for gram, mono, tape, waveband selection, shape. Output: 10W RMS per channel. Output impedance: 8 ohms. FR: 35Hz-17kHz  $\pm 1\text{dB}$ . Motor unit: Garrard 5/300. Finish: teak case with black and silver coloured control panels. Speaker systems: one 6in bass driver and one  $3\frac{3}{8}$ in tweeter in each enclosure. Price: (complete system) £115.70 (including VA1).

##### 4455

AM/FM tuner/amplifier in cabinet with record deck, plus two separate speaker systems. 48 transistors, 18 diodes, five ICs. Variable tuning plus four preset stations on FM. Range: FM 87.5-108MHz, MW 187-571m. AFC. Quadrature FM detector. Stereo decoder fitted. Controls: tuning, bass, treble, volume (left), volume (right), on-off, balance, speaker switching, loudness, mono/stereo, tape monitor, AFC on-off, waveband selector. Output: 25W RMS per channel. Output impedance: 4 ohms. FR: 25 Hz-30kHz +0dB -3dB. HD:  $< 0.1\%$  up to 20W per channel. Motor unit: BSR P128 with Shure magnetic cartridge. Finish: teak. Speaker systems: two 5in bass drivers and one  $3\frac{3}{8}$ in tweeter in each enclosure. Other speakers available as optional extras. Price: (complete system) £180 (including VAT).

#### ■ ONKYO

J. Parkar & Company (London) Ltd, Parkar House, 1 Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.

##### SM-10

Stereo tuner/amplifier in cabinet with record deck, plus matching speaker enclosures. 23-transistor circuit. Range: FM 88-108MHz, MW 187-562m. Variable tuning. AFC. Stereo de-

coder and beacon fitted. Controls: (slider type) balance, volume and treble/bass; (rotary type) tuning, input selector. Output: 6W RMS per channel. Output impedance: 8 ohms. Own two-speed record deck with lightweight tubular arm and high-compliance ceramic pickup. Automatic return of pickup arm and switch-off. Reflex speaker enclosures with 8in full-range units. Finish: matt wood grain cabinets with black control panel and brushed aluminium trim. Size: (tuner/amplifier/player unit)  $18\frac{1}{8} \times 7\frac{3}{8} \times 15\frac{1}{2}$  in; (speaker enclosures)  $15\frac{3}{4} \times 9\frac{3}{8} \times 7$  in. Price: (complete system) £120.25 (including VAT).

#### Dynamic Four 700

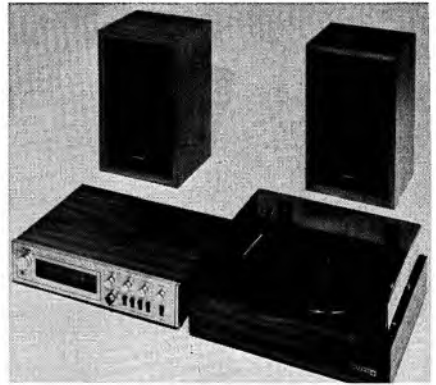
Separate stereo tuner/amplifier, record unit and two speaker enclosures. 23-transistor circuit. Range: FM 88-108MHz, MW 187-562m. Variable tuning with AFC. Stereo decoder and stereo beacon. Controls: volume, bass, treble, balance, input selector, mono/stereo, loudness, mains on/off. Output: 14W RMS per channel. Output impedance: 8 ohms. Own two-speed deck with lightweight tubular arm and high compliance ceramic cartridge. Pickup arm automatically returned at end of record. Speaker enclosures with  $6\frac{1}{2}$  in bass driver and 5in mid-range and HF unit in each. Sizes: (tuner/amplifier)  $16\frac{1}{2} \times 4\frac{1}{2} \times 12\frac{1}{8}$  in; (record deck)  $16\frac{1}{2} \times 6\frac{1}{4} \times 12\frac{3}{8}$  in. Price: (complete system) £129.11 (including VAT).

#### Dynamic Four 800 ★

AM/FM stereo tuner/amplifier with separate record deck and speakers. 27 transistors and 21 diodes. Range: FM 88-108MHz, MW 187-565m. Variable tuning. Stereo decoder with auto switching. Stereo beacon. Tuning meter. Switchable AFC. Controls: bass, treble, loudness, balance, high filter, mode, tuning. Output: 25W per channel. Two-speed motor unit with auto-stop and auto return of arm. 12in belt-driven platter. Balanced tubular arm with moving magnet cartridge. Diamond stylus. Pw: 3gm. Two-way reflex speaker enclosures, each containing 8in bass driver and 5in mid/HF unit. Finish: teak veneer with brushed aluminium facia and tinted plastic dust cover. Price: (complete system) £190.45 (including VAT).

#### SM-100

AM/FM stereo tuner/amplifier in cabinet with record deck plus two separate speakers. 25 transistors, 19 diodes. Range: FM 88-108MHz, MW 187-565m. Variable tuning. Stereo decoder with beacon. Tuning meter. Controls: flywheel tuning, bass, treble, balance, volume, input selector, mains on/off. Output: 14W per channel. Sensitivity: FM  $3\mu\text{V}$ , MW  $15\mu\text{V}$ . Two-speed motor unit with auto cut-off and auto arm return. 12in platter. Balanced tubular arm with high com-



Onkyo Dynamic Four 800

pliance cartridge. Microphone input. Speaker system comprising 8in bass driver and 3in tweeter in bass reflex cabinet. Mains: 100, 110, 220, 240V 50-60Hz. Price: (complete system) £141.31 (including VAT).

For Onkyo four-channel audio systems see Quadraphonic Equipment Section.

#### ■ PHILCO

Philco Great Britain Ltd, Philco House, Sterling Trading Estate, Rainham Road South, Dagenham, Essex RM10 8TX. Tel: 01-593 8613.

#### M4710

AM/FM tuner/amplifier in cabinet with record deck. Separate speaker enclosures. Switchable AFC. Stereo decoder fitted. Output: 3W RMS per channel. Sockets for stereo headphones and tape recorder. Inputs for aerials. Four-speed BSR autochanger. Clear plastic cover to record deck. Size: (main unit)  $18\frac{3}{4} \times 12 \times 8\frac{7}{8}$  in including cover; (speaker enclosures)  $10\frac{1}{2} \times 5\frac{1}{2} \times 8\frac{3}{4}$  in. Speaker drive units: 6in long throw air-suspension units. Price: £69.58 (plus £6.96 VAT).

#### Super 20

AM/FM stereo tuner/amplifier in cabinet with record deck and separate speaker enclosures. Variable tuning. AFC. Decoder fitted. BSR C123 record deck. Socket for headphones and FM aerial. Output: 10W RMS per channel. Tape socket. Smoked plastic dust cover. Size: (main unit)  $15\frac{1}{2} \times 14\frac{1}{2} \times 9$  in; (speaker enclosures)  $14 \times 9 \times 6$  in. Price: £74 (plus £7.40 VAT).

#### ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

★ Indicates entry is illustrated

### **RH 811 ★**

AM/FM stereo tuner/amplifier in cabinet with cassette recorder plus two separate speakers. 43 transistors, 18 diodes. Range: FM 87.5-104MHz, MW 214-577m, MW bandspread 187-214m, LW 870-2000m. AFC. Variable tuning. Ratio detector. Stereo decoder fitted. Tone controls: bass  $\pm 9$ dB at 100Hz, treble  $\pm 8$ dB at 10kHz. Output: 8W RMS per channel. Output impedance: 4 ohms. FR: 45Hz-20kHz  $\pm 3$ dB. HD:  $< 2\%$  at 4.5W per channel. Built-in compact cassette tape unit. Fitted dynamic noise limiter circuit. Finish: simulated walnut veneer. Speakers: Philips RH411. Price: (complete with two RH421 speakers) £126.80 (including VAT).

### **RH814**

AM/FM stereo tuner/amplifier in cabinet with record deck plus two separate speakers. 25 transistors, 13 diodes. Range: FM 87.5-104MHz, MW 214-577m, MW bandspread 187-214m, LW 870-2000m. AFC. Variable tuning. Ratio detector. Stereo decoder fitted. Tone controls: bass  $\pm 9$ dB at 100Hz, treble  $\pm 8$ dB at 10kHz. Output: 8W RMS per channel. Output impedance: 4 ohms. FR: 45Hz-20kHz  $\pm 3$ dB. HD:  $< 2\%$  at 4.5W per channel. Motor unit: Philips GC060. Pickup cartridge: Philips GP205 (45/LP stylus only). Finish: simulated walnut veneer. Speakers: Philips RH412. Price: (including two RH412 speakers) £139.51 (including VAT).

### **RF837**

FM tuner/amplifier in cabinet with record deck and two separate speakers. 46 transistors, 23 diodes and one IC. Range: 87.5-104MHz. Four preset stations. Switchable AFC. Stereo decoder fitted. Slider controls for volume, balance, bass, treble, presence, contour/rumble/scratch, quiet tuning, speaker selection, input selector, AFC, headphones, stereo-4. Output: 20W RMS per channel. Output impedance: 4 ohms. FR: 30Hz-25kHz  $\pm 1.5$ dB. HD:  $< 1\%$ . Motor unit: Philips GC008. Finish: polystyrene case with tinted transparent plastic cover. Speakers: Philips RH433 enclosures. Price: (complete system) to be announced.

### **RF838**

AM/FM tuner/amplifier with record deck in cabinet with separate speaker enclosures. 21 transistors, 5 diodes and one IC. Range: FM 87.5-104MHz, MW 185-575m, LW 1150-2080m. Variable tuning. Switchable AFC. Ratio detector. Stereo decoder fitted. Controls: balance, bass, treble, volume, tuning, AFC on-off, waveband selection, gram, on-off. Output: 8W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-20kHz  $\pm 3$ dB. HD:  $< 1\%$ . Motor unit: Philips GC047 autochanger. Finish: afrormosia veneer with satin silver effect trim. Matching speaker enclosures, each containing one 6 $\frac{1}{2}$ in dual-cone



*Philips RH811 plus RH421 Speakers*

full-range unit. Price: (complete system) to be announced.

### **RF839**

AM/FM tuner/amplifier with record deck in cabinet with separate speaker enclosures. 17 transistors, 5 diodes, one IC. Range: FM 87.5-104MHz, MW 185-575m, LW 1150-2080m. Variable tuning. Switchable AFC. Ratio detector. Stereo decoder fitted. Controls: volume, balance, bass, treble, tuning, gram, waveband selection, AFC on-off. Output: 3W RMS per channel. Output impedance: 8 ohms. FR: 30Hz-20kHz  $- 3$ dB at 50mW. HD: 10% (inc hum and noise). Motor unit: Philips GC047. Finish: walnut effect and matt chrome trim. Speakers: Philips 7 $\frac{1}{2}$ in dual-cone full-range units in separate enclosures. Price: £79.50 (including VAT).

### **RH943**

AM/FM tuner/amplifier in cabinet with record deck and separate speaker enclosures. 51 transistors, 30 diodes. Range: FM 87.5-104MHz, MW (1) 214-577m, MW (2) 187-214m, LW 870-2000m, SW 30.7-50.4m. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Controls: volume, balance, bass, treble, gram/tape, waveband selectors, tuning, on-off. Output: 8W RMS per channel. Output impedance: 4 ohms. FR: 45Hz-20kHz  $\pm 3$ dB. Motor unit: Philips GC007. Finish: walnut with silver trim. Speakers: RH412 enclosures with 7in dual cone full-range drivers. Price: (complete system) to be announced.

### **■ PYE LTD**

PO Box 49, Cambridge, CB4 1DS.  
Tel: Cambridge 58985.

# PYE PROUDLY INTRODUCE A UNIT STEREO THAT BREAKS RECORDS.



For £74.50 (R.R.P.) the '5002' has special features such as the built-in stereo radio that you might expect to find only in extravagantly expensive stereos. All together, features that break records for unit stereos at around £75.00.

- 1 Impressive 7 watts music power per channel will fill your room with powerful, faithful sound.
- 2 Automatic frequency control, a special feature that prevents drift in station frequency. You'll never have another station barging in.
- 3 Unique angled speakers let you project sound upwards from the floor or downwards from up high, to suit your room.

Pye's attention to little things shows in lots of other ways too. Sunken record deck to take 6 records. 19 feet speaker leads. Separate bass and treble controls. Everything quality matched. Speakers, amplifier, deck, tuner, and radio, are all of the same high Pye quality—in tune with one another.

The '5002' is only one of the impressive Pye 5000 range of stereo units that start from £57.50 (R.R.P.). All have features you would expect on units costing far, far more. And all created with Pye's attention to the little things that go to make your listening great.

For free illustrated brochure on Pye radios, cassette recorders, unit audios and television, write to: Pye Distribution Centre, Bar Hill, Cambridge.



**PYE LOOKS AFTER THE LITTLE THINGS  
TO BUILD YOU BETTER THINGS.**



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Here are no fewer than seventeen models capable of bringing you words and music with full beauty and power.

Everything from portable cassette recorders and players to complete stereo music centres — plus in-car entertainers.

Each has something quite different to offer you . . . in design, in performance and value for money.



## **SANYO**

a world of difference

Sanyo Marubeni (UK) Limited, Sanyo House, Bushey Mill Lane, Watford, WD2 4UQ. Tel: Watford 30421.  
(Registered Office) Registered in England No. 556870

**1560 ★**

AM/FM stereo tuner/amplifier in cabinet with record deck. Separate speakers. Range: FM 87.5-108MHz, MW1 214-577m, MW2 187-214m, LW 870-2000m, SW 30.7-50.4m. 26 transistors, 16 diodes. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Stereo beacon. Controls: volume, balance, bass, treble, tuning, input selector. Output: 8W RMS per channel. Output impedance: 4-8 ohms. FR: 45Hz-20kHz  $\pm 3$ dB. HD:  $\leq 2\%$  at 1kHz at 4.5W RMS per channel. Motor unit: BSR P128 or P128R. Finish: teak veneer. Speakers: one 8 x 5in and one 3in in each enclosure. Price: (complete system) £150.72 (including VAT).

**5002 ★**

AM/FM stereo tuner/amplifier in cabinet with record deck. Separate speakers. 20 transistors, 16 diodes. Range: FM 87.5-104.5MHz, MW 182-570m, LW 1150-2050m. Variable tuning. Switchable AFC. Stereo decoder fitted. Controls: volume, balance, bass, treble, on-off, tuning, wavechange, input selector. Output: 5W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-15kHz (controls level and within 3dB). HD:  $< 1.5\%$  at 5W RMS per channel. Motor unit: BSR C123R. Finish: moulded black cabinet with white trim and simulated teak. Speakers: one full-range 8 x 5in unit in each enclosure. Price: £74.50 (including VAT).

**5003 ★**

AM/FM stereo tuner/amplifier in cabinet with record deck. Separate speakers. 20 transistors, 16 diodes. Range: FM 87.5-104.5MHz, MW 182-570m, 1150-2050m. Variable tuning. AFC. Stereodecoderfitted. Controls: volume, balance, bass, treble, on-off, input selector, waveband selectors, speaker muting switch. AFC on-off. Output: 7W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-15kHz (controls level and within 3dB). HD:  $< 1\%$  at 7W RMS per channel. Motor unit: BSR P128R. Finish: moulded black cabinet with white trim and simulated teak end pieces. Speakers: one full-range 6½in unit in each enclosure. Price: approximately £95 (including VAT).

**■ QUADRASONICS**

Spenser House, Brettenham Road, Edmonton, London, N18. Tel: 01-807 5544/5999.

**Q4-20**

Complete AM/FM four-channel stereo system comprising tuner/amplifier in plinth cabinet with record deck plus four separate speaker enclosures. Range: FM 87.4-104.5MHz, MW 187-555m. Usable sensitivity: FM 2µV, MW 100µV on internal aerial, 10µV on external aerial. Output: 20W per channel (four channels) into 8 ohms. FR: 20Hz-20kHz  $\pm 1$ dB. Signal-to-noise levels: PU input better than 60dB, radio input



Pye 1560



Pye 5002



Pye 5003

better than 70dB. Damping factor: better than 120 at 8 ohms load. Input overload capability: better than 38dB. Controls: master gain, master bass and treble, four separate channel balance controls, input and mode selectors. Record deck: Goldring G101 belt drive turntable with Goldring G850 magnetic cartridge. CBS SQ integrated circuit matrix decoder fitted as standard (plug-in edge connector). Two extra edge connector sockets for optional quadraphonic system decoders. Speakers: one 5½in bass driver, one 5½in mid-range unit, two 2½in tweeters in each enclosure. HC: 20W RMS. FR: 30Hz-20kHz  $\pm 5$ dB. Size: (main console) 26½ x 5½ x 14½; (speaker systems) 9½ x 16 x 8½in. Price: £198 (plus VAT).

**■ RADON**

Radon Industrial Electronics Co Ltd, Brooklands Trading Estate, Orme Road, Worthing, Sussex. Tel: Worthing 34904.

**Arundel AP200 ★**

Transistorised stereo tuner/amplifier and gram unit in compact table style cabinet. Range:



Radon AP 200 Arundel



Scientelec Espace System

87-106MHz. Variable tuning. AFC. Stereo decoder fitted. Controls: input selector, AFC on/off, volume, balance, bass, treble, scratch filter, rumble filter, tuning, mains on/off. Output: 10W RMS per channel. FR: 35Hz-18kHz. Output impedance: 8-15 ohms. HD: 0.1% at rated output. Motor unit: Garrard SP25 Mk II or Garrard SL65B. Pickup cartridge: Goldring G800H. Size:  $8\frac{1}{2} \times 22 \times 16$ in. Finish: teak with transparent cover, teak surround.

Complete systems available with Radon Pearl, Emerald, Opal or Topaz speakers. Prices from approximately £160 to £250 for complete system.

#### ■ SCIENTELEC

35a Beddington Lane, Croydon, Surrey, CR0 4TB. Tel: 01-686 9341/4.

#### Espace System ★

Comprises Scientelec Club record deck, Club A40 amplifier and Club stereo FM tuner, plus two speakers and three matching black stands.

Speakers handle 40W RMS and give 180 degrees horizontal radiation pattern. Price: £539.91 (including VAT).

#### ■ SERVO-SOUND

Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551.

#### Servo-Sound system

Comprises separate FM tuner, record deck in cabinet with preamplifier, and two speaker systems incorporating power amplifiers, 26 transistors and 14 diodes. Range: 88-108MHz. Variable tuning. Switchable AFC. Squelch discriminator, Meter tuning indicator. Stereo decoder fitted. Controls: mains on/off, filter, mono/stereo, tape, aux, PU, bass, treble, balance, volume, tuning, headphones. Output: 15W RMS per channel. FR: 35Hz-20kHz. HD: 1.5% at 1kHz. Motor unit: Lenco L75. Cartridge: Stanton 500A. Speakers: one  $9\frac{1}{2} \times 6\frac{1}{2}$ in unit with 15W amplifier in each infinite baffle enclosure. Price: (SR3 FM tuner, SC75BTE preamplifier and record deck, two SL20 speaker/amplifier units) £329.10 (plus VAT).

#### ■ SHARP

Sharp Electronics (UK) Ltd, 48 Derby Street, Manchester, M8 3HN. Tel: 061-832 6115.

#### SR102E

Tuner/amplifier with eight-track tape player and two separate speakers. 26 transistors and 15 diodes. Range: FM 88-108MHz, MW 189-560m. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Controls: tuning, mains on/off, volume, balance, bass, treble, function switch, tape programme selector. Output: 1.5W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-30kHz. HD: 1.5%. Sharp tape transport. Finish: wood veneered cabinet with dark matt metal facia. Speakers in separate enclosures supplied. Price: £95.45 (plus £9.54 VAT).

#### SC103 (CP108H) ★

Tuner/amplifier with built-in cassette recorder and two separate speakers. 31 transistors (including one FET), 14 diodes, one IC. Range: FM 88-108MHz, MW 189-560m. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Controls: tuning, mains on/off, function selector, bass, treble, monitor volume control (record), left-channel volume, right-channel volume, pause button, fast forward, tape play, rewind, record interlock, reject cassette. Output: 3W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-22kHz. Sharp tape deck. Finish: wood veneered cabinet with dark matt metal facia. Speakers in separate enclosures supplied. Price: £127.23 (plus £12.72 VAT).

#### SD305H ★

Tuner/amplifier with built-in record deck and



Sharp SC103/CPI08H



Sharp SD305H



Sony HP511

separate speakers. Range: FM 88-108MHz, MW 189-560m, LW 900-2000m, SW 16.5-50m. Variable tuning plus preset programmes on FM. AFC. Ratio detector. Stereo decoder fitted. Controls: volume, balance, bass, treble, tuning, mains on/off, function selector, mode. Output impedance: 8 ohms. Sharp motor unit. Magnetic cartridge. Finish: PVC film on wood with aluminium front panel. Separate speakers supplied. Price: £177.27 (plus £17.73 VAT).

■ SKANDIA ELECTRONICS

Distributor: Golding Audio Ltd, London Road, Marks Tey, Colchester, Essex.  
Tel: Marks Tey (0206 21) 433.

SK120

System comprises tuner/amplifier incorporating stereo eight-track cartridge tape recorder. Range: FM 88-108MHz, MW 187-567 metres. Variable tuning. AFC Stereo decoder fitted. Controls: volume, tuning, record level (right channel), record level (left channel), balance, AM/FM radio, low filter, high filter, treble,

input selector, mono/stereo. Output: 45W RMS per channel. FR: 20Hz-20kHz. Output impedance: 8 ohms. HD: <3%. Size: 29½ × 6½ × 13½ in. Recommended speakers: Golding X100. Finish: walnut. Price: Revised prices awaited as this edition of the Year Book closed for press.

SK308

System comprises tuner/amplifier incorporating stereo eight-track cartridge tape recorder. Range: FM 88-108MHz, MW 187-567 metres. Variable tuning. AFC. Stereo decoder fitted. Controls: volume on/off, record level (right, channel), record level (left channel), balance, treble, bass, selector 1, selector 2, record on, play tape, stop tape. Output: 10W RMS per channel. FR: 30Hz-35kHz. Output impedance: 8 ohms. HD: <3%. Matching three-unit speakers. Finish: walnut. Price: Revised prices awaited as this edition of the Year Book closed for press.

■ SONY (UK) LTD

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames, Middlesex.  
Tel: Sunbury 87644/7.

HP511A ★

AM/FM stereo tuner/amplifier with record deck and separate speakers. Range: FM/VHF. MW. Variable tuning. Stereo decoder fitted. Output: 15W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-50kHz ± 3dB. Record deck: Sony TTS400. Cartridge: VM22GA induced magnet. Finish: wood grain and silver trim. Price: £154 (plus VAT).

CF610

AM/FM stereo tuner/amplifier with cassette tape deck and separate speakers. Range: FM 87.5-108MHz, MW 187-566m. 43 transistors, 29 diodes. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Output: 6W RMS per channel. Output impedance: 8 ohms. FR: (tape) 30Hz-13kHz. HD: 2.5%. Sony cassette tape deck. Black leatherette finish. Price: £112 (plus VAT).

CF620

AM/FM stereo tuner/amplifier with cassette tape deck and separate speakers. 43 transistors, 29 diodes. Range: FM 87.5-108MHz, MW 187-566m. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Output: 6W RMS per channel. Output impedance: 8 ohms. FR: (tape) 30Hz-13kHz. HD: 2.5%. Sony cassette tape deck. Finish: wood grain. Price: £130 (plus VAT).

HP239A

AM/FM stereo tuner/amplifier with cassette tape deck and record unit, plus separate

★ Indicates entry is illustrated

speakers. Range: FM 87.5-108MHz. MW. Variable tuning. Ratio detector. Output: 10W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-40kHz  $\pm$  3dB. Sony cassette tape deck. Sony TTS310 record deck. Sony VM10P induced magnet cartridge. Finish: wood grain with black and silver trim. Price: £172.50 (plus VAT).

#### HP211A

AM/FM stereo tuner/amplifier with record deck and separate speakers. 28 transistors and 18 diodes. Range: FM/VHF, MW. Variable tuning. Stereo decoder fitted. Output: 10W RMS. Output impedance: 8 ohms. FR: 40Hz-40kHz  $\pm$  3dB. Record unit: Sony TTS310. Cartridge: Sony VX23P ceramic. Finish: wood grain and black and gold panel. Price: £117.50 (plus VAT).

#### HMK20

Unit audio system with cassette recorder. Output: 5W RMS per channel. Sensitivity: VHF 2.2 $\mu$ V. S/N: 30dB. MW 48dB/m. Controls: volume, tone, function (AM, FM, phono, cassette), mode, monitor, AFC switches. Speaker: 6 $\frac{1}{2}$ in full-range. Turntable: 2 speeds. Ceramic stereo cartridge. One of the HMP 20/HMW 20 family. Price: to be announced.

#### ■ STANDARD

Telerenters (London and Provincial) Ltd, Standard House, 1-2 Church Way, Edgware, Middlesex.

Tel: 01-952 7488/9. Telex: London 24792.

#### STM10

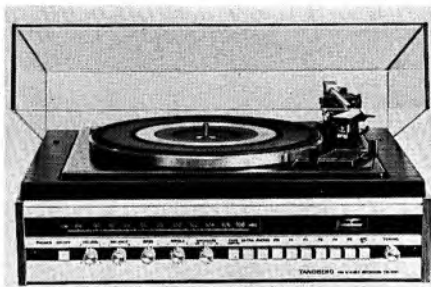
Complete system comprising AM/FM tuner/amplifier in cabinet with record deck plus two separate speakers. Range: 88-108MHz, 185-560m, 1250-2000m. Variable tuning. AFC. Ratio detector. Controls: bass, treble, volume, balance, input selector, tuning. Output: 4W RMS per channel. Output impedance: 8 ohms. FR: 50Hz-20kHz. HD: 0.8% at rated output. Record deck: BSR C123 changer. Finish: teak and aluminium trim. Price: £67.57 (including VAT).

#### STM3L

Complete system comprising AM/FM tuner/amplifier in cabinet with record deck plus two separate speakers. Range: 88-108MHz, 185-560m, 1250-2000m. Variable tuning. AFC. Radio detector. Controls: bass, treble, volume, balance, input selector, tuning. Output: 6W RMS per channel. Output impedance: 8 ohms. FR: 50Hz-20kHz. HD: 0.8% at rated output. Motor unit: BSR C137 deck. Finish: teak and aluminium trim. Price: £75.79 (including VAT).

#### ■ STEEPLSTONE

Steeplestone Products Ltd, Cinema House, Middle Barton, Oxford OX5 4DA. Tel: Steeple Aston 7116.



Tandberg TR200 Compact MPX

#### 300

Complete system comprising AM/FM stereo tuner/amplifier with record deck in cabinet plus two separate speaker enclosures. Motor unit: Garrard 2025TC. Four-speed. 10 $\frac{1}{2}$ in pressed steel turntable. Idler wheel drive. Tubular aluminium arm with cue and pause lever. Cartridge: Garrard KS40A, with sapphire stylus. Range: FM 88-104MHz, MW 187-560m, LW 1200-2000m. Variable tuning. Switchable AFC. Aerial input: 75 ohms coaxial. Stereo decoder optional extra. Mains: 225-240V AC. 16 transistors. Input: tape 100mV. Output: 4W RMS per channel. Controls: volume, bass, treble, balance, tuning. AFC on/off, pushbuttons for band selection and function. Output impedance: 12 ohms. Speaker enclosures each contain 8  $\times$  5in full-range driver. Finish: afrormosia veneer. Size: (main unit) 16 $\frac{3}{4}$   $\times$  8 $\frac{7}{8}$   $\times$  14 $\frac{3}{8}$ in; (speakers) 7 $\frac{7}{8}$   $\times$  6 $\frac{1}{4}$   $\times$  8 $\frac{7}{8}$ in. Price: £80.85 (including VAT).

#### 600

Complete system comprising FM stereo tuner/amplifier with record deck in cabinet plus two separate speakers. Range: 87.5-108MHz. Five preset stations. Switchable AFC. Ratio detector. Stereo decoder fitted. Controls: volume, balance, treble, bass, treble filter, bass filter, loudness, monitor switch, mono/stereo, speaker switching, headphone switching, AFC on-off. FR: (PU input equalised to RIAA) 40Hz-20kHz, (radio and tape inputs) 25Hz-25kHz  $\pm$  2dB. HD: <0.1% at 20W output; <0.05% at 5W output. Motor unit: Garrard SP25 Mk III. Speaker system: enclosures each containing one 8in long-throw bass driver, one 3in mid-range unit, one 2 $\frac{1}{2}$ in tweeter. Finish: teak and brushed aluminium. Price: £177 (including VAT).

#### ■ TANDBERG

Farnell-Tandberg Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS3 1HR. Tel: Leeds 35111.

#### TR200 Compact MPX ★

FM stereo tuner/amplifier in shelf-mounting

cabinet with record deck, plus two separate speakers. Range: 87.5-108MHz. Variable tuning plus six presets. AFC. Phase locked loop discriminator. Centre-zero tuning meter. Usable sensitivity:  $1\mu\text{V}$  (75 ohms coaxial),  $2\mu\text{V}$  300 ohms balanced. Stereo decoder fitted. Inputs: mag PU 2.3mV 47K, ceramic PU 70mV, tape 250mV 30K, aux 100mV 100K. Noise level: -52dB. Output: 20W RMS per channel into 4 ohms, 15W RMS per channel into 8 ohms. Controls: treble +14dB-15dB at 10kHz, treble loudness +3.5dB at 10kHz, bass  $\pm 16\text{dB}$  at 50Hz, bass loudness +11dB at 50Hz. HD: 0.5% (DIN), 1% (IHF). Output impedance: 4 ohms. FR: (linear inputs, DIN) 20Hz-40kHz  $\pm 3\text{dB}$ . Motor unit: Garrard SP25 Mk III. Three-speeds. Idler wheel drive. Shure M75E cartridge with diamond stylus. Choice of TL12 or TL25 speakers. Price: (teak with TL12 speakers) £199.50 (including VAT); (teak with TL25 speakers) £217.22 (including VAT); (rosewood with TL12 speakers) £208.78 (including VAT); (rosewood with TL25 speakers) £229.50 (including VAT).

#### ■ TELLUX

Tellux (Sound Productions) Ltd, Tallon Road, Hutton Industrial Estate, Brentwood, Essex. Tel: Brentwood 214708/9.

#### Audic Fifteen

AM/FM stereo tuner/amplifier in shelf-mounting cabinet with record deck, plus shelf speakers. Provision for fitting stereo decoder. Output: 5W RMS per channel. Price: £35.99 (plus VAT).

#### Audic Twenty

AM/FM stereo tuner/amplifier in shelf-mounting cabinet with record deck, plus two floor-standing speakers. Variable tuning. Plug-in stereo decoder. Output: 8W per channel. Output for tape recorder. Price: £46.50 (plus VAT).

#### ■ ULTRA

Thorn Consumer Electronics Ltd, 284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.

#### 6453

AM/FM stereo tuner/amplifier in cabinet with record deck, plus two separate speaker systems. 48 transistors, 18 diodes, five ICs. Range: FM 87.5-108MHz, MW 187-571m. Variable tuning plus four preset stations on FM. Switchable AFC. Quadrature detector. Stereo decoder fitted. Controls: tuning, treble, bass, volume (right), volume (left), on-off, loudness, speaker switching, mono/stereo, input selector, wave-band selector. Output: 25W RMS per channel. Output impedance: 4 ohms. FR: 25Hz-30kHz +0dB-3dB. HD: <0.1% up to 20W per channel. Motor unit: Garrard SP25 Mk III with

Shure magnetic cartridge. Finish: Bermuda white. Speaker systems: two 5in bass drivers and one 3 $\frac{1}{2}$ in tweeter in each enclosure. Other speakers available as optional extras. Price: (complete system) £170 (including VAT).

#### ■ YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road, North Wembley, London, HA9 8QL. Tel: 01-904 0141.

#### MC-40

AM/FM stereo tuner/amplifier in cabinet with record deck. Range: FM 88-108MHz, MW 186-560m. Variable tuning. AFC. Stereo decoder fitted. Controls: volume, loudness, mono/stereo, treble, tuning, bass, input selector, balance, mains on/off. Output: 10W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-30kHz  $\pm 2\text{dB}$ . HD: 0.15%. Two-speed belt drive Yamaha turntable. CG-5500 magnetic cartridge. Finish: American walnut. Recommended speakers: NS-410, NS-230, NS-250. Price: from £182.84 (including VAT).

#### MS-3

AM/FM stereo tuner/amplifier in cabinet with record deck. Range: FM 88-108MHz, MW 186-565m. Variable tuning. AFC. Stereo decoder fitted. Controls: volume, treble, bass, balance, acoustic equaliser, loudness, tape monitor, mono/stereo, mains on/off, speaker selector, input selector, tuning. Output: 22W RMS. Output impedance: 8 ohms. FR: 10Hz-30kHz +0-2dB. HD: 0.05%. Yamaha two-speed belt drive turntable. Yamaha CG-7000 magnetic cartridge. Finish: American walnut. Recommended speakers: NS-250, NS-18, NS-550, NS-330. Price: on application.

#### MS-5B

AM/FM stereo tuner/amplifier in cabinet with record deck and cassette recorder. Range: FM 88-108MHz, MW 186-565m. Variable tuning. AFC. Stereo decoder fitted. Controls: cassette tape record/playback, volume, treble, bass, balance, acoustic equaliser, function, loudness, high filter, mic volume, tuning, record level. Output: 22W RMS per channel. Output impedance: 8 ohms. FR: 10Hz-30kHz -0, +2dB. HD: 0.05%. Yamaha two-speed belt drive turntable. Yamaha CG-7000 magnetic cartridge. Finish: American walnut. Recommended speakers: NS-250, NS-18, NS-550. Price: from £414.80 (including VAT).

From the people who invented  
Stereophones



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the finest  
range of  
Stereo Headphones  
in the world

from £10 to £69  
excluding VAT

 **KOSS**  
**STEREOPHONES**

Tape-Music Distributors Ltd., 114 Ashley Road, St. Albans, Herts., AL1 5JR Tel: St. Albans 64337-9

# Hi Fi Headphones

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ AKAI

Rank Audio Visual Ltd, PO Box 70,  
Great West Road, Brentford, Middlesex,  
TW8 9HR. Tel: 01-568 9222. Telex: 24408.

### ASE 11

Stereo headphones with acoustic control. Impedance: 8 ohms. Maximum input: 500mW. FR: 25Hz-15kHz. Weight: 18oz approx. Length of cord: 6ft. Price: £7.98 (including VAT).

### ASE20

Stereo headphones with acoustic loudness control. Impedance: 8 ohms. Maximum input: 500 mW. FR: 25Hz-18kHz. Weight: 17oz approx. Length of cord: 6ft. Price: £10.89 (including VAT).

### ASE22

Stereo headphones. Built-in mechanical two-way system. Mylar film diaphragms. Impedance: 8 ohms. FR: 20Hz-10kHz. Normal input: 1mW. Maximum input: 500mW. Sensitivity: 110dB. Weight: 18oz approx. Price: £13.09 (including VAT).

## ■ A.K.G.

Distributors: A.K.G. Equipment Ltd,  
182-184 Campden Hill Road, Kensington,  
London, W8 7AS. Tel: 01-229 3695.

### K60 ★

Dynamic stereo headphones. FR: 16Hz-20kHz. Impedance: 75 ohms  $\pm 20\%$  per channel over entire range, or 600 ohms  $\pm 20\%$ . Distortion:  $< 1\%$  max output. Weight: 7oz. Ear cushions removable for washing. Price: £15 (plus VAT).

### K150

Mono-stereo 600 ohms, ultra lightweight. Complete with Z50A ear muffs, grey/silver. Price: £11.50 (plus VAT).

### K180

Mono-stereo 600 ohms. Incorporates control for moving distance of transducer from ear. Large comfortable design. Price: £28 (plus VAT).

### Accessories

Z50A (ear cushions for K50, K150). Price: 55p pair; Z60 (adaptor for mounting Z60 on K50 and K150). Price: £1.65; Z61 (ear cushions for K60, K50 and K150). Price: £2.35. All prices exclude VAT.

## ■ ALPHA

Highgate Acoustics,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

### Alpha

Stereo headphones. Impedance: 4-16 ohms. Maximum input: 0.5W. FR: 25Hz-17kHz. Weight: 12oz. 6ft cord. Three-pole jack plug. Finish: grey and black headbands and ear cushions. Adjustable headband. Price: £4 (plus VAT).

## ■ AMPLIVOX LTD

Beresford Avenue, Wembley, Middlesex.  
Tel: 01-902 8991.

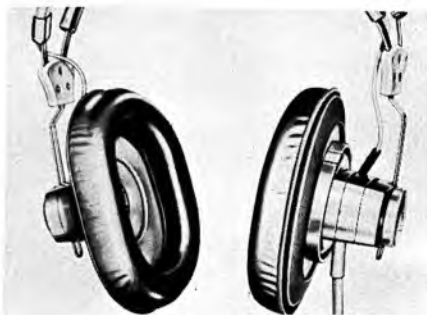
Manufacturers of high quality lightweight headphones and boom microphones. No product information obtainable when this edition of the Year Book closed for press.

## ■ AMSTRAD

AMS Trading (Amstrad) Ltd,  
89 Ridley Road, London, E8.  
Tel: 01-249 5237.

### HPS 5A ★

Stereo headphones wired for mono and stereo. Impedance: 4-16 ohms. FR: 20Hz-20kHz. HD:



A.K.G. K60



Amstrad HPSSA



★ Indicates entry is illustrated

0.5%. Weight: 12oz. 10ft coiled cord. Supplied with jack plug. Finish: black. Fitted with two volume controls and mono-stereo switch. Price: £7.50 (plus VAT).

#### HPS 7A

Stereo headphones. Wired for stereo. Impedance: 4-16 ohms. FR: 20Hz-25kHz. HD: 0.2%. 13ft coiled cord. Weight: 16oz. Fitted with standard jack plug. Finish: brown and silver. Each earpiece contains LF and HF units. Four slider controls for adjusting levels in each unit. Price: £13.95 (plus VAT).

#### HPS 6A ★

Stereo headphones wired for mono and stereo. Impedance: 4-16 ohms. Normal listening level: 200mW. Max input: 500mW. FR: 20Hz-25kHz. HD: 1%. Weight: 13oz. 10ft cord with standard jackplug. Finish: black. Individual volume controls for each earpiece. Washable earcups. Mono-stereo switch. Price: £10.70 (plus VAT).

#### HPS 606

Stereo headphones wired for stereo only. Impedance: 4-16 ohms. Normal listening level: 200mW. Maximum input: 500mW. FR: 20Hz-25kHz. HD: 1%. Weight: 14oz. 10ft cord fitted with standard jackplug. Finish: black. Has special reel cord arrangement by which cable is retracted into the headphone cups when not in use. Price: £10.70 (plus VAT).

### ■ AUDIO DEVELOPMENTS

UK Distributors: B. H. Morris & Co (Radio) Trio House, The Hyde Industrial Estate, The Hyde, London NW9 6JP. Tel: 01-205 6441.

#### AD11

Stereo headphones. Fully adjustable with soft ear cushions and padded headband. Coiled lead fitted with jackplug. Impedance: 8 ohms. FR: 40Hz-19kHz. Price: £5.95 (plus VAT).

### ■ BEYER

Beyer Dynamic (GB) Ltd, 1 Clair Road, Haywards Heath, Sussex. Tel: Haywards Heath 51003.

#### DT48

Moving coil stereo headphones. FR: 16Hz-20kHz. Impedances: 8 ohms, 25 ohms, 200 ohms per earpiece. Input: (8 ohms) 80mV, (25 ohms) 150mV, (200 ohms) 450mV. Cable: 6½ft open end. Price: on application.

#### DT96 ★

Lightweight moving coil stereo headphones. FR: 30Hz-17kHz. Impedances: 50 ohms or 400 ohms per earpiece. Max power: 100mW. Various cable lengths and terminations available. Also available with coiled cable. Full details and prices on application.



Amstrad HPS6A



Beyer DT96



Beyer DT100

**DT100 ★**

Moving coil stereo headphones. FR: 30Hz-20kHz. Various impedances and cable terminations available. Full details and prices on application.

**DT100RR**

Similar to the DT100 but fitted with individual volume controls. Price: on application.

**DT480 ★**

Moving coil stereo headphones. FR: 20Hz-20kHz. Various impedances available. Rated input: 350mW, max 1W. Cable: 10ft. Various terminations offered. Price: on application.

**DT900 ★**

Moving coil stereo headphones. FR: 30Hz-18kHz. Impedance: 600 ohms per earpiece. Maximum input: 200mW. Lightweight, gaily coloured. Price: on application.

**DT900RR**

Similar to the DT900 but fitted with individual volume controls.

**■ BRAHMS**

Brahms Manufacturing & Development Co, Unit E, Rochester Airport, Maidstone Road, Rochester, Kent, ME1 3QJ. Tel: Medway (0634) 48816.

**BHP250 ★**

Stereo headphones. Impedance: 8 ohms. Max input: 0.5W per channel. FR: 20Hz-22kHz. Weight: 1lb. 13ft coiled cord. Adjustable leather headband. Bronze coloured earpieces. Removable and washable earpads. Price: £10.68 (including VAT).

**■ BUSH-ARENA**

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

**K600 ★**

Stereo headphones made for use with Bush-Arena equipment by Koss. Removable foam-filled ear cushions, adjustable headband, coiled lead with jack plug. Impedance: 4 ohms. Price: £13.09 (including VAT).

**■ CITY AUDIO SERVICES LTD**

144 Lavender Hill, London, SW11 5RA. Tel: 01-223 2496.

**SE.40**

Stereo headphones. Comfortable cushioned earpads exclude extraneous noises. High sensitivity units in acoustic chambers. FR: 25Hz-16kHz. Price: £7 (plus VAT).

**■ CLEEN**

Kirkman (Crawley) Ltd, 40 The Broadway, Crawley, Sussex. Tel: Crawley 26670.



Beyer DT480



Beyer DT900



Brahms BHP250



Bush-Arena K600



Kirkman Cleen



Duette ES300D



Duette ES1000



Dynatron SP2

### Cleen Stereo Headphone Unit

Supplied in chassis form for mounting on panel or shelf (teak case will be available later). Signal from each channel is delayed and fed to opposite channel to simulate natural stereo. Three-position switch; loudspeakers, headphones, attenuated headphones. Jack socket for two pairs of phones. Impedance to amplifier: 8 ohms resistive. Suitable for headphones: 8-600 ohms. Size:  $3\frac{3}{8} \times 1\frac{1}{2} \times 8$  in. Price: £15 (plus VAT).

### Cleen Stereo Headphones ★

Monitoring quality with good transient response. Recommended for use with Cleen stereo headphone unit. Impedance: 40 ohms. Sensitivity: 104dB for 1mW at 1kHz. Weight: 16oz. Supplied with 10ft lead and jack plug ( $\frac{1}{4}$  in stereo). Sound exclusion approximately 40dB. Price: £10.50. (plus VAT).

### ■ DARBY INDUSTRIES

38-42 Chestnut Grove, New Malden, Surrey, KT3 3JW. Tel: 01-942 1598.

#### Amplified headset

Headphones with built-in battery-operated amplifier for direct listening from pickup cartridge, etc. Price: £18 (plus VAT).

#### Guitar adaptor

Adaptor for use with amplified headphones for connecting to acoustic guitar. Price: £1.50 (plus VAT).

### ■ DUETTE

Distributors: J. J. Silber Ltd, 11 Northburgh Street, London, EC1. Tel: 01-253 8031.

#### ES350

Stereo headphones. Impedance: 8-16 ohms. FR: 25Hz-13kHz. Max input: 0.5W. Price: £7.90 (including VAT).

#### ES300D ★

Stereo headphones. Impedance: 8-16 ohms. FR: 25Hz-18kHz. Max input: 0.5W. Price: £7.03 (including VAT).

#### ES1000 ★

Stereo headphones. Switchable mono/stereo connections. Left and right vernier volume controls. Padded headband. Coiled lead with jack plug. Price: £11.68.

### ■ DYNATRON RADIO LTD

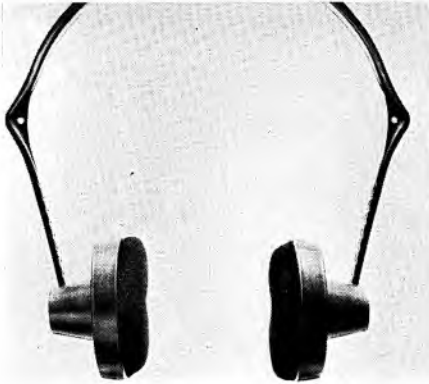
St Peters Road, Maidenhead, SL6 7QY, Berks. Tel: Maidenhead 23331.

#### SP.2 ★

Stereo moving-coil headphones. Light weight. Padded earpieces. Impedance: 8 ohms. Price: £9.35 (including VAT).

#### SP.3

Stereo moving coil headphones with separate



Eagle FF16



Eagle FF29

bass and treble units. FR: 16Hz-22kHz. Sensitivity: 100dB at 600Hz at 1mV input. Maximum input: 0.5W. Impedance: 8-16 ohms each channel. Price: £15.40 (including VAT).

### ■ EAGLE INTERNATIONAL

Heather Park Drive, Wembley, HA0 1SU.  
Tel: 01-903 0144.

#### S.E.1

Professional stereo headphones. FR: 25Hz-14kHz. 3in dynamic speakers. Isolated right and left channels. 'Flexifoam' seals. Dual impedance: 15 ohms. Price: £5.78 (plus VAT).

#### S.E.5

Budget stereo headphones. FR: 30Hz-15kHz. Lightweight single headband. Impedance: 8 ohms. Price: £3.68 (plus VAT).

#### S.E.30

Studio stereo/mono headphones. FR: 30Hz-16kHz. Built-in stereo/mono switch. Impedance: 8 ohms. Leather ear cushions. Price: £8.40 (plus VAT).

#### S.E.60

Studio stereo headphones. FR: 25Hz-18kHz. Impedance: 8 ohms. Lightweight with punched ventilated headband. Price: £10.50 (plus VAT).

#### S.E.100

Professional stereo headphones. FR: 20Hz-21kHz. Impedance: 8 ohms. Independent volume controls, dual-cone earpieces. Price: £16.80 (plus VAT).

#### JB3

Stereo headphone and speaker switching and attenuation unit. Jack socket for phones. Switch permits phones only, speakers only, or both together. Moulded case. Price: £1.79 (plus VAT).

#### FF16 ★

Stereo headphones. Impedance: 8 ohms. FR: 30Hz-15kHz. Three-pole jackplug. Washable brushed nylon earcushions. Adjustable headband. Price: £4.40 (plus VAT).

#### FF29 ★

Four-channel headphones. Switchable for stereo or four-channel. Impedance: 8 ohms. FR: 20Hz-20kHz. Supplied with two three-pole jackplugs. Adjustable headband. Coiled lead. Price: £16.80 (plus VAT).

### ■ ECHO

Sole Distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-452 6288.

#### HS.606M

Dual impedance mono headphones. Specially designed for monitoring, electronic musical instruments, language laboratories, etc. Instant switching from 8-16 ohms to 4K. Adjustable earpieces. Soft padded ear cushions. FR: 25Hz-17kHz. Power handling capacity: 0.5W. Supplied with 10ft coiled cord lead fitted with jackplug. Price: £7.40 (including VAT).

### ■ GOLDRING LTD

10 Bayford Street, Hackney, London, E8 3SE.  
Tel: 01-985 1152.

#### Lenco K105

Stereo headphones. Impedance: 8 ohms. Maximum recommended input: 700mW. FR: 18Hz-22kHz. Cable: 8½ft coiled lead. Jack plug supplied. Price: £12 (plus VAT).

### ■ GRUNDIG (Great Britain) LTD

Newlands Park, London, SE26 5NQ.  
Tel: 01-778 2211.

#### 211/ADR

High-quality stereo headphones. Fitted with J29 plug. FR: 30Hz-20kHz. Distortion factor 1% at 1mW, 3% at 90mW. Impedance: 400 ohms per system. Supplied with 5½ft cable and

★ Indicates entry is illustrated

adaptor, to J21 plugs. Price: £8.62 (including VAT).

## 220

High-quality stereo headphones. Fitted with 5½ft of cable and J29 plugs. FR: 16Hz-20kHz. Distortion factor: less than 0.3% at intensities of 120 phon. Fluid-filled ear covers. Padded headband. Impedance: 400 ohms per system. Adaptor (279) to J21 plugs available. Price: £26.01 (including VAT).

## ■ HACKER RADIO LTD

Norreys Drive, Cox Green, Maidenhead, Berks, SL6 4BP. Tel: Maidenhead (0628) 22261.

### HP1

Stereo headphones. Light and comfortable to wear. Supplied complete with coiled lead and jackplug. Impedance: 8-16 ohms. Price: £9.90 (including VAT).

## ■ HITACHI

Hitachi Sales (UK) Ltd, New Century House, Coronation Road, Park Royal, London NW10 7QN. Tel: 01-965 9861.

### HD66

Moving coil stereo headphones. Impedance: 8 ohms. FR: 20Hz-18kHz. Distortion: 1% at 1mW input. Input power: (normal listening) 1mW, (maximum) 500mW. 2½in diameter cones. 6½ft coiled cord. Weight: 12½oz. £9.90 (including VAT).

### HD-55

Moving coil stereo headphones with specification similar to the HD66 above but with response 30Hz-15kHz. Price: £6.90 (including VAT).

## ■ HOWLAND-WEST LTD

3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

### CIS.200 ★

Stereo headphones. Impedance: 8 ohms. Maximum input: 200mW. FR: 20Hz-15kHz. Weight: 12oz. Fitted stereo jackplug. Finish: grey with black pads. Price: £4.29 (including VAT).

### CIS.250

Stereo headphones. Impedance: 8-ohms. Maximum input: 500mW. FR: 20Hz-20kHz. Weight: 14oz. Special stretch cord. Standard jack. Finish: black. Price: £8.25 (including VAT).

### CIS.300

Stereo headphones. Supplied complete with standard stretch cable and alternative remote control cable featuring left- and right-channel volume controls and mono/stretch switch. FR: 18Hz-21kHz. Impedance: 8 ohms. Price: £10.56 (including VAT).



Howland-West CIS200



Howland-West CIS1000



Howland-West CIS2000



Howland-West Headphone doubler

**CIS.500**

Stereo headphones. Impedance: 8 ohms. Maximum input: 500mW. FR: 20Hz-20kHz. Weight: 23oz. Stretch cord. Standard jack. Finish: white/black in luxury lined carry case. Dual concentric driver units in each earpiece (1½ in and 3½ in). Wirewound volume controls for each channel. Price: £16.50 (including VAT).

**CIS.800**

Stereo headphones. Impedance: 8 ohms. Maximum input: 400mW. FR: 20Hz-17kHz. Weight: 14oz. Fitted stereo jackplug. Finish: available in red, yellow or white, with black earpads. Price: £7.92 (including VAT).

**CIS.800V**

Similar to the CIS.800 but fitted with independent volume control on each earpiece. Price: £9.35 (including VAT).

**CIS.1000 ★**

Stereo headphones. Impedance: 8 ohms. Maximum input: 500mW. FR: 20Hz-22kHz. Weight: 8oz. Fitted with stereo jackplug. Finish: polished metal with black earpads and headband. Price: £11.55 (including VAT).

**CIS.2000 ★**

Stereo headphones. Impedance: 8 ohms. Maximum input: 500mW. FR: 20Hz-22kHz. Fitted standard jackplug. Finish: green earpieces with black ear cushions. Removable stretch cord. Luxury carrying case. Price: £23.10 (including VAT).

**Headphone Doubles ★**

Splits headphone outlet and permits two pairs of stereo phones to be used. Mono/stereo switch. Independent volume controls for left and right channels. Stretch cord connection with standard jackplug fitted. Neat moulded box with control panel on top and outlet sockets for headphones. Price: to be announced.

**ITT-STC**

Standard Telephones & Cables Ltd, Electro-Mechanical Product Division, West Road, Harlow, Essex. Tel: Harlow 26811.

**65/1B ★**

Broadcast quality headset. FR: 30Hz-15kHz. Impedance: 300 ohms. Foam rubber earpads. Supplied complete with 54in tinsel cable. Price: on request.

**JVC-NIVICO**

Denham & Morley (Overseas) Ltd, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.

**STH-10E**

Moving coil stereo headphones. FR: 20Hz-20kHz. Impedance: 8 ohms. Nominal input: 1mW.



*I.T.T. Components 65/1B*

Maximum input: 500mW per channel. Distortion: <1% at 1mW. 9½ft coiled cord. Padded headband and ear cushions. Price: on request.

**5944**

Moving coil stereo and four-channel headphones. FR: 20Hz-20kHz. Impedance: (each channel) 8 ohms, (each terminal) 11 ohms. Nominal input: 1mW. Maximum input: 100 mW. Distortion: <0.5% at 1mW. 6½ft coiled cord. Built-in phase shifter switches. Soft ear cushions, adjustable padded headband. Two units per earpiece. Price: on request.

**KALIMAR**

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.

**T855**

Stereo headphones. Impedance: 8-16 ohms and 400 ohms (switched). Maximum input: 0.5W. FR: 30Hz-20kHz. Weight: 15oz with cord. Three-pole jack plug. 6ft lead. Adjustable headband. Finish: cream with grey band and ear cushions. Price: £6.50 (plus VAT).

**T862**

Stereo/mono headphones. Impedance: 8-16 ohms and 20K (switched). Maximum input: 0.5W. FR: 15Hz-20kHz. Weight: 12oz with cord. 7ft coiled cord. Three-pole jack plug. Finish: rosewood colour with black cord and padding. Individual volume adjustment. Adjustable headband. Price: £12.50 (plus VAT).

**T865**

Stereo headphones. Impedance: 8 and 16 ohms. Maximum input: 0.5W. FR: 15Hz-20kHz. Weight: 14oz with cord. 13ft coiled lead. Three-pole jack plug. Individual slider volume controls for each earpiece. Adjustable headband. Finish: black and white. Price: £14.50 (plus VAT).



Koss HV1



Koss K6



Koss PRO-5LC

## ■ KOSS

Tape Music Distributors Ltd,  
114 Ashley Road, St Albans, Herts AL1 5JR.  
Tel: St Albans 64337 Telex: 28474.

### HV-1 ★

Stereo dynamic headphones. Rear sound waves vented without raising resonance or limiting transient response. 2in driver units. Designed to operate from outputs of 3·2 to 600 ohms. FR: 20Hz-20kHz. HC: 5V RMS continuous. 10ft coiled three-core cable. Soft acoustical sponge earpieces. Extendable headband with pivoting yokes. Padded and vinyl covered. Weight: (less cord) 9½oz. Price: £20 (plus VAT).

### K6 ★

Stereo headphones. Suitable for outputs of 4-16 ohms. Normal listening input: 95dB SPL — 18 mV. Maximum input: 3·7V. FR: 10Hz-16kHz. HD: unmeasurable at 95dB SPL. Weight: 450 gm. Special coiled cord, 3ft coiled, 10ft extended. Standard stereo jackplug. Bronze finish. Washable earcushions. Adjustable headband. Price: £12·50 (plus VAT).

### K6LC

Stereo headphones. Suitable for outputs of 4-16 ohms. Normal listening input: 95dB SPL — 73 mV. Maximum input: 1·25V. FR: 10Hz-16kHz. HD: unmeasurable at 95dB SPL. Weight: 450gm. Special coiled cord; 3ft coiled, 10ft extended. Standard stereo jack plug. Bronze finish. Washable earcushions. Individual volume adjustment for each ear. Adjustable headband. Price: £14 (plus VAT).

### K711 and KRD711

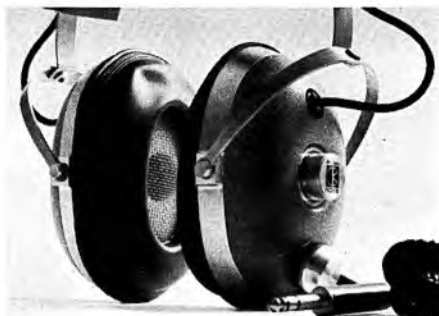
Stereo headphones. Suitable for outputs of 4-600 ohms. Normal listening input: 95dB SPL — 1·4V. Maximum input: 29V. FR: 10Hz-17kHz. HD: <0·5% at 110dB SPL. Weight: 320gm. Special coiled cord; 3ft coiled, 10ft extended. Standard stereo jack plug. Finish: (K711) black moulding; (KRD711) red moulding. Adjustable headband. Price: £10 (plus VAT).

### K727B

Stereo headphones. Suitable for outputs of 4-16 ohms. Normal listening input: 95dB SPL — 12mV. Maximum input: 2·6V. FR: 10Hz-18kHz. HD: unmeasurable at 95dB SPL. Weight: 450gm. Special coiled cord; 3ft coiled, 10ft extended. Standard stereo jack plug. Black finish. Washable earcushions. Adjustable headband. Price: £16·50 (plus VAT).

### K0747

Stereo headphones. Suitable for outputs of 4-16 ohms. Wired for mono and stereo with changeover switch. Weight: 500gm. Special coiled cord; 3ft coiled, 10ft extended. Standard

**Koss PRO4AA**

stereo jackplug. Finish: two-tone brown. Washable earcushions. Individual volume adjustment. Adjustable headband. Fluid-filled earcushions. Full electrical specification awaited. Price: £20 (plus VAT).

**PRO4AA ★**

Stereo headphones. Suitable for outputs of 4-16 ohms. Normal listening input: 95dB SPL - 260mV. Maximum input: 4-1V. FR: 10Hz-20kHz. HD: negligible at 95dB SPL. Weight: 650gm. Special coiled cord; 3ft coiled, 10ft ex-

tended. Standard stereo jackplug. Finish: beige with black cushions. Washable earcushions. Adjustable headband. Fluid-filled cushions. Price: £28 (plus VAT).

**PRO-5LC ★**

Professional dynamic headphones. FR: 10Hz-20kHz. Designed to work from amplifier outputs of 4-1000 ohms impedance. HC: not to exceed 5V RMS. Total harmonic distortion: <1% at 95dB SPL. Driver units: 1in diameter voice coils, 4sq in radiating area. 10ft coiled cable. Fluid filled vinyl earcushions. Extendable headband with pivoting yokes in stainless steel. Headband covered with soft moulded PVC and sponge rubber cushioning. Finish: beige with black cushions and cord, brushed chrome trim. Weight: 19oz. Price: £30 (plus VAT).

**ESP6**

Electrostatic stereo headphones. Suitable for outputs of 4-16 ohms. Normal listening input: 1V at 80dB SPL. Maximum input: 20V. FR: 30Hz-19kHz  $\pm$  5dB. HD: <0.2% at 110dB SPL. Weight: 850gm. Special coiled cord; 3ft coiled, 10ft extended. Standard stereo jackplug plus connector box. Finish: black. Washable fluid-filled earcushions. Neon level indicators. Adjust-

# For your ears only.



S-111



S-444



S-555



S-888

Give a listen to this.

The Unisound range of eight stereo headphones gives a combination of top performance and value for money.

They start at the incredible price of

£3.75\* and rise to £12.75\* including VAT.

When Unisound headphones are as good as this, why pay more?

They're as good as they sound.

## Condor

The fastest bird in the business.

Write for further details:

Condor Electronics Limited, 100 Coombe Lane, London SW20 0AY Telephone: 01-946 0033 (4 lines).

Distributors of cartridges, styli, condenser microphones and headphones. Guaranteed 24 hour delivery.

\*Recommends retail price.



able headband. Carry case included in price. Price: £45 (plus VAT).

#### **ESP9**

Electrostatic studio monitor stereo headphones. Suitable for outputs of 4-16 ohms. Normal listening input: 1V at 80dB SPL. Maximum input: 20V. FR: 15Hz-15kHz  $\pm 2$ dB (10Hz-19kHz  $\pm 5$ dB). Weight: 590gm. 6ft cord. Supplied with speaker output terminals. Finish: black. Fluid-filled earcushions. AC or self-energised selector switch. Price: £69 (plus VAT).

#### **K2+2**

Four-channel dynamic headphones. Wired for stereo and quadraphonic. Suitable for outputs of 3-600 ohms. Normal listening input: 1.4V at 95dB SPL. Maximum input: 29V. FR: 10Hz-20kHz. HD: negligible at 95dB SPL. Weight: 600gm. Special coiled cord; 3ft coiled, 10ft extended. Two headphone jackplugs. Black finish. Washable fluid-filled earcushions. Adjustable headbands. Switch for two- or four-channel operation. Price: £45 (plus VAT).

#### **Two-way adaptor TPA**

For connecting two pairs of headphones to single output. Extends length by 3ft. Price: £2.50 (plus VAT).

#### **Extension cable EC25KK**

25ft coiled cord terminated with stereo jackplug and socket. Price: £3.50 (plus VAT).

#### **T3 Switchbox**

Speaker/headphone switchbox. Jack socket for phones, terminals for speaker and connection to amplifier output. Switch selects speakers on or off. Price: £3.50 (plus VAT).

#### **T4A Connector box**

Accepts up to five pairs of stereo headphones. 14ft extension lead with jackplug for amplifier. Simulated rosewood base with black trim, spun aluminium panel. Price: £4.50 (plus VAT).

#### **T-5D**

Remote control station suitable for running two pairs of stereo headphones. Speaker on/off switch incorporated, but headphones are always on. The volume of headphones plugged into left-hand jack individually controlled (other set of headphones controlled by volume knob on amplifier). Fitted DIN sockets for amplifier and speaker connections. Matches any amplifier with 4, 8 or 16 ohms output. Finish: black with simulated walnut top. Connecting cable seven-core colour-coded 3ft long. Size:  $3\frac{1}{8} \times 3\frac{1}{8} \times 2\frac{7}{8}$  in. Weight:  $10\frac{1}{2}$  oz. Price: £5.50 (plus VAT).

#### **T10A**

Chairside listening station. Provides separate volume controls for two pairs of stereo headphones, also speaker on/off switch. Wires directly to amplifier output. Seven-core flat cable suitable for under carpet installation.

Tinted plastic cover. Price: £9.50 (plus VAT).

#### **Continental adaptor leads**

For use with amplifiers having DIN output sockets instead of jack sockets. Comprises: two DIN speaker plugs with lead and stereo jack socket. Two 100-ohm resistors inserted for attenuation. Price: £1.50 (plus VAT).

#### **MAC**

Modular Audio Components Ltd,  
Canterbury Road, Nottingham, NG8 1PQ.  
Tel: Nottingham 79797.

#### **AAU-TV**

Provides a ready means of connecting various items of Hi-Fi equipment to a Television Receiver with complete safety. Built-in Isolating Transformer, tapped 3-8-15 ohms, for matching external speaker. Switchable output attenuator for matching input of amplifier or tape recorder. Switching circuit enables TV speaker to be switched on or off as required. Phone jack fitted to suit low impedance headphones. Price: £8.40 (plus VAT).

#### **AAU-2**

Audio adaptor unit with three-way switch and socket for headphones. Screw connections for a stereo pair of main speakers and a stereo pair of extension speakers. Switch positions give: main speakers only, extension speakers and phones, main and extension speakers. Colour-coded four-way connecting cable. Finish: panel and knob jaguar silver. Price: £4.40 (plus VAT).

#### **AAU-HP**

Audio adaptor unit for connecting up to four stereo headphones to a stereo amplifier. Individual gain controls with balancing resistive networks incorporated. Fitted with 3ft connecting cable with 3-pole jack plug. Size:  $3\frac{1}{2} \times 3\frac{1}{4} \times 3\frac{1}{2}$  in. Finish: jaguar silver. Price: £8 (plus VAT).

All MAC AAU units are available in solid teak case at an additional cost of £1.32 (plus VAT).

#### **MARANTZ**

Pyser Britex (Swift) Ltd, Fircroft Way,  
Edenbridge, Kent.  
Tel: Edenbridge (0732-71) 4111.

#### **SD1 ★**

Stereo headphones. Impedance: 8 ohms. Max input: 1W. FR: 20Hz-20kHz. Weight: 1 lb. 10ft cable with jackplug. Finished in gold with black leather earcushions and fully adjustable headband. Price: £12.65 (including VAT).

#### **MEDWAY**

Brahms Manufacturing and Development  
Company. Unit E, Rochester Airport,  
Maidstone Road, Rochester, Kent, ME1 3QJ.  
Tel: Medway (0634) 48816.



Marantz SD1



Medway MHP101



Micro MX1



Nikko 77S

**MHP101 ★**

Stereo headphones. Impedance: 8 ohms. Max input: 500mW. FR: 20Hz-20kHz. Weight: 1lb approx. Cable: coiled lead extending to 12ft. Stereo jackplug. Finish: white moulded cups with black padded headband and earmuffs. Adjustable headband. Price: £6.11 (including VAT).

**■ MICRO**

Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.

**MX1 ★**

Comprises headset MS2 and power source MP1. Stereo electrostatic headphones. Impedance: 8 ohms. Maximum input: 8V at 1kHz RMS. FR: 20Hz-20kHz  $\pm$  1dB. HD: <1% at 115dB sound pressure level. Sensitivity: 98dB sound pressure level at 1kHz. Cord: 8ft approx. Finish: metallic and black. Extension cable available to enable two sets of headphones to be used from a single power source. Power supply: single PP9 battery gives about 2000 hours listening. Price: £39.60 (including VAT).

**■ NATIONAL PANASONIC (UK) LTD**

Building No 63, Whitby Road, Trading Estate, Slough, Bucks. Tel: Slough 34522.

**EAH75**

Stereo headphones. Price: £6.50 (including VAT).

**EAH65**

Stereo headphones. Price: £9.95 (including VAT).

**EAH60**

Stereo headphones. Price: £12.50 (including VAT).

**EAH88**

Stereo headphones. Price: £19.95 (including VAT).

**EAH80**

Electrostatic stereo headphones. Price: £34.95 (including VAT).

**■ NIKKO**

Nikko Electric Mfg. Co Ltd, Distributors: Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.

**HW3S**

Stereo headphones. Single speaker. Impedance: 8 ohms. FR: 20Hz-18kHz. Max input: 0.3W. Price: £5 (plus 50p VAT).

**77S ★**

Stereo headphones. High response lightweight phones with silicon varistor overload protection. FR: 18Hz-21kHz. Sensitivity: 105dB/mV. Max input: 0.3W. Price: £16 (plus £1.60 VAT).

★ Indicates entry is illustrated

## ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.

### LBB9901

Stereo headphones. Impedance: 600 ohms each channel. FR: 40Hz-18kHz. Price: £5.25 (plus VAT).

### LBB9902

Stereo headphones. Impedance: 600 ohms each channel. FR: 20Hz-20kHz. Price: £9.50 (plus VAT).

### N6302

Stereo headphones fitted with stereo sound 'dimension control' to permit listener to adjust stereo effect to suit personal taste. FR: 16Hz-20kHz. Impedance: 600 ohms. Price: £22 (including VAT).

## ■ PIONEER

Shiro (UK) Ltd,  
42 Russell Square, London, WC1B 5DF.  
Tel: 01-580 6996.

### SE100

Stereo headphones. Impedance: 4-16 ohms. FR: 20Hz-35kHz. Sensitivity: 95dB. Electret push/pull static type. Price: £31.15 (plus VAT).

### JB100

Adaptor for use with SE100 electret headphones. Price: £16.88 (plus VAT).

### SE50

Stereo headphones. Impedance: 4-16 ohms. Power input: 0.5W. FR: 20Hz-20kHz. Two units: one 3in and one 1½in per earpiece. Two-way volume and tone control. Price: £23.65 (plus VAT).

### SE30A

Stereo headphones. Impedance: 4-16 ohms. Power input: 0.5W. FR: 20Hz-20kHz. Sensitivity: 115dB. One 2¾in unit per earpiece. Price: £13.65 (plus VAT).

### SE20A

Stereo headphones. Impedance: 4-16 ohms. Power input: 0.5W. FR: 20Hz-18kHz. One 2¾in unit per earpiece. Price: £8.52 (plus VAT).

### SEL40

Stereo headphones. Impedance: 4-16 ohms. Power input: 0.5W. FR: 20Hz-20kHz. Sensitivity: 96dB. One 1½in unit per earpiece. Open air type. Price: £18.83 (plus VAT).

### SEL25

Stereo headphones. Impedance: 4-16 ohms. Power input: 0.5W. FR: 30Hz-20kHz. Sensitivity: 97dB. One 1½in unit per earpiece. 9.8ft cable. Price: £16.08 (plus VAT).

### SEL20

Stereo headphones. Impedance: 4-16 ohms. Power input: 0.5W. FR: 20Hz-20kHz. Sensi-

tivity: 97dB. One 1½in unit per earpiece. Open air type. Price: £11.38 (plus VAT).

## ■ ROTEL

Rank Audio Visual Ltd, PO Box 70,  
Great West Road, Brentford, Middlesex,  
TW8 9HR. Tel: 01-568 9222.

### RH630

Stereo headphones. Impedance: 8 ohms. Price: £8.14 (including VAT).

### RH700

Stereo headphones. Impedance: 8-16 ohms. Maximum input: 500mW. FR: 20Hz-20kHz. 10ft coiled cord. Black headband and ear cushions. Adjustable headband. Price: £12.54 (including VAT).

### RH430

Stereo headphones. Impedance: 8 ohms. Price: £5.50 (including VAT).

## ■ SANSUI

Vernitron Ltd,  
Thornhill, Southampton, SO9 5QF.  
Tel: Southampton 444811.

### SS2 ★

Stereo headphones. Impedance: 8 ohms. Normal listening input: 1mW. Maximum input: 500mW. FR: 20Hz-18kHz. HD: <1%. Weight: 12½oz. Cord: 6ft. Three-pole jackplug. Black headband and ear cushions, white earpieces. Adjustable headband, washable ear cushions. Price: £8.51 (plus VAT).

### SS10

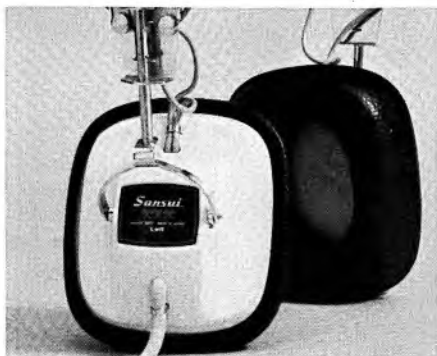
Stereo headphones. Impedance: 8 ohms. Normal listening input: 1mW. Maximum input: 500mV. FR: 20Hz-20kHz. HD: <0.8%. Sensitivity: better than 110dB. Weight: 22oz. 9.8ft coiled cord. Three-pole jack plug. Washable ear cushions. Individual volume adjustment. 6½ft dual extension lead. Black headband, white earpieces. Price: £14.72 (plus VAT).

### SS20

Stereo headphones. Impedance: 8 ohms. Normal listening input: 1mW. Maximum input: 500mW. FR: 20Hz-20kHz. HD: <0.8%. Sensitivity: 105dB at 200Hz. Weight: 27½oz. 8ft coiled cord. Individual volume adjustment. Individual tone adjustment. Adjustable headband. 6½ft dual extension lead. Two drive units in each earpiece. Black headband and ear-cushions, white earpieces. Price: £19.52 (plus VAT).

## ■ SCAN-DYNA

Scandinavian Audio Systems Ltd,  
Sun Alliance Building, 65 London Road,  
Gloucester, GL1 3HF.  
Tel: Gloucester (0452) 32791/2.



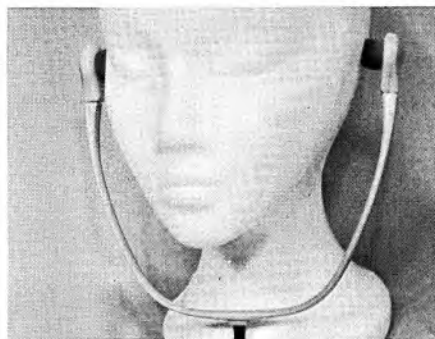
Sansui SS2



Sennheiser HMD414



Sennheiser HD110



Sennheiser HD44

### K72

Stereo headphones. Impedance: 4-16 ohms per channel. FR: 20Hz-20kHz. Sensitivity: 95dB with 0.2% distortion. Weight: 12¼oz. Coiled cord (11½ft extended). Standard jackplug. Three-position tone control. Individual volume control for left and right in line lead. Price: £15.90 (including VAT).

### ■ SENNHEISER ELECTRONIC

Distributors: Hayden Laboratories Ltd, Hayden House, 17 Chesham Road, Amersham, Bucks. HP6 5AG. Tel: Amersham 5511.

Audio showroom, service department and despatch department: 12-13 Poland Street, London, W1V 3DE. Tel: 01-734 3748.

### HD.110 ★

Stereo headphones wired for mono and stereo. Robust design. Removable washable ear cushions. Easily replaceable cable. FR: 20Hz-20kHz. Impedance: 200 ohms  $\pm$  15% per ear-piece. Output: 1mW per capsule produces 98dB (16 $\mu$ bar) at 1kHz. Maximum output: 120dB

(200 $\mu$ bar) for 1% distortion. Weight: 10oz. Price: £29.25 (plus VAT).

### HD.414

Stereo headphones. Wired for mono or stereo. Lightweight robust design. Removable washable sponge ear pads. FR: 20Hz-20kHz. Impedance: 2000 ohms per capsule. Weight: 5oz. Price: £13.50 (plus VAT).

### HMD.110

Stereo headset type HD.110 with close-talking boom microphone. FR: 50Hz-14kHz. Response tailored for close speaking. Sensitivity: 0.07mV/ $\mu$ bar. Impedance: 200 ohms. Price: £33.75 (plus VAT).

### HMD.414 ★

Stereo headset HD.414 with close-talking boom microphone located near corner of mouth. Especially high ratio of desired sound to background noise. Sensitivity: 0.1mV/ $\mu$ bar. Impedance: 200 ohms. Price: £32.65 (plus VAT).

### HD.44 ★

Ultra light stereo headphones with volume



Sonab H20

control on each capsule. Can be used mono. FR: 40Hz-1.5kHz. Impedance: 640 ohms. Weight: 33gm. Price: £8.50 (plus VAT).

#### HD.424

Stereo headphones (can be used mono) with good low frequency response. FR: 16Hz-20kHz. Impedance: 2K. Weight: 170gm. Price: £22 (plus VAT).

#### HD.412

Stick type headphone designed for use in record booths, etc. FR: 20Hz-20kHz. Impedance: 2K. Price: £14.25 (plus VAT).

#### HD.404

Lightweight mono stethoset. Weight: 19gm. FR: 100Hz-6kHz. Impedance: 17 ohms. Price: £6.50 (plus VAT).

#### SHARP

Sharp Electronics (UK) Ltd, 48 Derby Street, Manchester, M8 8HN. Tel: 061-832 6115.

#### HP100

Stereo headphones. Fully adjustable slide fittings. Double headband. Padded comfortable earpieces. FR: 30Hz-18kHz. Complete with lead and jackplug. Price: £7.49 (plus 75p VAT).

#### HP200

Stereo headphones. Fully adjustable slide fittings. Single headband. Padded comfortable earpieces. FR: 30Hz-17kHz. Complete with lead and jackplug. Price: £5.45 (plus 54p VAT).

#### HP400

Stereo headphones. Fully adjustable slide fittings. Extra thick padding for comfort. Twin units in each earpiece. Independent volume

controls. FR: 30Hz-20kHz. Complete with lead and jackplug. Price: £17.72 (plus £1.77 VAT).

#### SONAB LTD

PO Box 4, Oldfield Road, Hampton, Middlesex, TW12 2HN. Tel: 01-979 0134.

#### H10

Stereo headphones. Moving coil. Impedance: 400 ohms per earpiece. Maximum input: 100mW. HD: <1% at 120dB at 1kHz. FR: 20Hz-16kHz. Close-fitting, plastic-faced, foam plastic earcushions. 8½ft cable with jackplug. Finish: red moulded earpieces. Gimbal mounted. Price: £18.15 (plus VAT).

#### H20 ★

Stereo headphones. Moving coil. Impedance: 400 ohms per earpiece. Maximum input: 250mW. HD: <0.3% at 120dB at 1kHz. FR: 20Hz-20kHz. Close fitting, plastic-faced, foam plastic earcushions. 12½ft cable with jackplug. Finish: black moulded earpieces, matt nickel plate. Gimbal mounted. Price: £23.60 (plus VAT).

#### SONY (UK) LTD

Pyrene House, Sunbury Cross, Sunbury-on-Thames, Middlesex. Tel: Sunbury 87644/7.

#### DR4A, DR4C

Stereo headphones. Impedance: (DR4A) 8 ohms. (DR4C) 10K. Normal listening input: 1mW. Max input: 100mW. FR: 50Hz-17kHz. Cord: two metres. Standard ¼in jackplug. Lightweight. Black vinyl earpads with aluminium fittings. Adjustable headband. Price: (DR4A) £9.35 (plus VAT); (DR4C) £10.45 (plus VAT).

#### DR5A

Stereo headphones. Impedance: 8 ohms. Normal listening input: 1mW. Max input: 100mW. FR: 50Hz-17kHz. Cord: two metres. ¼in standard jackplug. Double adjustable headband. Larger earpads than DR4A. Price: £7.43 (plus VAT).

#### STAX

Distributor: Wilmex Ltd, Stax Division, 24-26 Ensign Street, London, E1. Tel: 01-949 2545.

#### Stax SR-3

Lightweight electrostatic headphones. Push-pull operation. FR: 30Hz-25kHz. Impedance: 130K at 10kHz. Sound pressure level: 95dB at input 100V RMS. Polarising voltage: 200V DC. Adjustable headband. All metal parts stainless steel. Ear cushions of soft vinyl leather, replaceable. Total weight approximately 1lb, including cord. Price: see SRD-5 adaptor below.

#### Stax SRD-5

Adaptor for use with SR-3 phones. Connects to

amplifier output and provides switching between speakers and headphones, also supplies polarising voltage to phones. Mains: 110-120V AC, 200-240V AC. Price: (complete system comprising SR-3 phones and SRD-5 adaptor) approximately £50 (plus VAT).

#### ■ SUPEREX

Acoustic Research International, High Street, Houghton Regis, Bedfordshire.  
Tel: Dunstable 603151.

#### PEP-77D

Complete electrostatic headphone system. FR: 15Hz-18kHz  $\pm$ 2dB. Impedance: 4-16 ohms. Level controls for each stereo channel. Mains powered control unit. Price: (complete) £61.60 (including VAT).

#### PEP-79

Complete electrostatic headphone system. FR: 15Hz-18kHz  $\pm$ 2dB. Impedance: 4-16 ohms. Makes use of amplifier balance control for adjustment of levels. Self-energising, no connection to the mains required. Price: (complete) £43.90 (including VAT).

#### PRO-B VI

Moving coil stereo headphones. Separate bass driver and tweeter in each earpiece with crossover network. 15ft coiled cord with swivel clip. FR: 15Hz-22kHz. Max power: 2W. Price: £30.80 (including VAT).

#### QT-4B Quad-tette

Four-channel headphones. FR: 20Hz-18kHz. Max power: 500mW. Suitable for stereo, matrix and discrete four-channel. Switch fitted to select system. Price: £34 (including VAT).

#### QT-4

Similar to the QT-4B above but less system switch. FR: 25Hz-17kHz. Price: £25.85 (including VAT).

#### SST

Moving coil stereo headphones with bass driver and tweeter in each earpiece. FR: 20Hz-20kHz. Max power: 2W. Price: £20.80 (including VAT).

#### ST-V

Moving coil stereo headphones. Individual level controls for each earpiece. 15ft coiled cord lead with swivel clip. FR: 20Hz-18kHz. Max power: 2W. Price: £16.40 (including VAT).

#### SW-2 Swinger

Moving coil stereo headphones. FR: 30Hz-16kHz. Max power 2W. 15ft coiled cord. Price: £13.10 (including VAT).

#### ST-F Feather-Fone

Lightweight stereo headphones. Dynamic transducers. FR: 25Hz-17kHz. Max power: 500mW. 15ft coiled cord. Price: £13.10 (including VAT).

#### ST-C Challenger

Budget-priced stereo headphones. Moving coil.

FR: 40Hz-15kHz. Max power: 2W. Price: £10.90 (including VAT).

Various headphone accessories available including extension leads.

#### ■ THORN CONSUMER ELECTRONICS LTD

284 Southbury Road, Enfield, Middlesex.  
Tel: 01-366 1155.

#### Monitoring Stethoset TA/29

Stethoscope type earpiece to monitor programme during tape recording. Fitted with continental speaker plug. Designed primarily for use with Marconiphone and Ferguson tape recorders. Price: £1.48 (including VAT).

#### TA/39

Stereo headphones. General purpose. Fitted with standard jackplug. Price: £8.25 (including VAT).

#### TA/41

Stereo headphones. High impedance. High performance. Price: £10.16 (including VAT).

#### ■ TRIO

B. H. Morris & Co (Radio) Ltd,  
Trio House, The Hyde Industrial Estate,  
The Hyde, London NW9 6JP.  
Tel: 01-205 6441.

#### KH71

Stereo headphones. Impedance: 8 ohms. Maximum input: 500mW. FR: 20Hz-20kHz. Weight: 1lb. 10ft cloth-covered cord. Brown—real leather finish. Padded headband and ear cushions. Uni-pivot device makes headphones particularly suitable for spectacle wearers. Open-back system. Price: £18 (plus VAT).

#### KH51

Stereo headphones. Impedance: 8 ohms. Maximum input: 500mW. FR: 20Hz-20kHz. Weight: 15oz. 6½ft vinyl-covered cord. Brown—simulated leather finish. Padded headband and ear cushions. Uni-pivot device makes headphones particularly suitable for spectacle wearers. Open-back system. Price: £11 (plus VAT).

#### ■ T.T.C.

Joint Distributors: Adastra Electronics Ltd,  
Unit 22, Cricklewood Trading Estate,  
Claremont Road, London, NW2 1TU.  
Tel: 01-453 6288/9.  
E.R. (Factors) Ltd,  
374-378 Harrow Road, Paddington, London,  
W9. Tel: 01-286 0361.

#### G1120

Mono headphones. Impedance: 16 ohms. Maximum input: 250mW. FR: 20Hz-10kHz. Weight: 15oz. 5ft lead. Fitted with dynamic boom mic. Two-tone grey. Adjustable headband. Washable

ear cushions. Price: £8.58 (including VAT).

**G2222D**

Stereo headphones. Impedance: 8-16 ohms. Maximum input: 650mW. FR: 25Hz-18kHz. Weight: 13oz. 9ft coiled lead. Moulded stereo jackplug. Simulated wood grain finish with black trim. Individual volume controls. Adjustable headband. Washable ear cushions. Mono/stereo slide switch. Price: £7.92 (including VAT).

**G3333**

Stereo headphones. Impedance: 4-32 ohms. Maximum input: 500mW. FR: 20Hz-20kHz. Weight: 17oz. 5½ft coiled lead. Stereo jackplug. Grey moulded earpieces. Separate 3in and 1½in units in each earpiece. Individual treble control for each earpiece. Soft ear cushions and adjustable headband. Price: £10.56 (including VAT).

**G300B**

Stereo headphones. Impedance: 8 ohms. Maximum input: 650mW. FR: 50Hz-19kHz. Weight: 19oz. 10ft coiled lead. White moulded earpieces with black and silver fittings. Control box in lead with volume controls and mono/stereo switch. Adjustable leather padded headband. Washable ear cushions. Price: £11.56 (including VAT).

**G6000**

Stereo headphones. Impedance: 4-16 ohms. Maximum input: 500mW. FR: 15Hz-25kHz. Weight: 21oz. 15ft coiled cord. Stereo plug. Satin white earpieces with black trim. Open back housings with 3½in units. Slide volume controls. Adjustable headband. Washable ear cushions. Price: £11.33 (including VAT).

**G5555**

Stereo headphones. Impedance: 4-16 ohms. Maximum input: 600mW. FR: 20Hz-20kHz. Weight: 17oz. 10ft coiled lead. Stereo jackplug. All-black moulding with chrome trim. 2½in units. Adjustable headband. Washable ear cushions. Price: £15.18 (including VAT).

**G3500**

Stereo headphones. Impedance: 4-16 ohms. Maximum input: 900mW. FR: 15Hz-25kHz. Weight: 24oz. 8ft coiled lead. Moulded stereo jackplug. Black moulding with chrome trim. 3½in and 1½in units in each earpiece. Wire-wound volume controls. Adjustable headband and washable ear cushions. Price: £20.79 (including VAT).

**G8030**

Stereo electrostatic headphones. Impedance: 4-16 ohms. Normal listening input: 8W. Maximum input: 10W. FR: 20Hz-19kHz. Weight: (headphones only) 19oz; (headphones and energiser unit) 5½lb. 8ft coiled lead. Black moulding with black leather headband. Adjust-

able padded headband. Price: £40.48 (including VAT).

**G1305**

Headphone remote control unit. Slider volume controls for individual channel gain. Stereo/mono mode switch. Stereo jack socket. Moulded case. 10ft self-coiling lead with jack plug. Price: £2.95 (including VAT).

**Sprite**

Featherweight stereo headphones. Impedance: 4 ohms. Maximum input: 200mW. FR: 30Hz-13kHz. Sensitivity: -105dB. Weight: 5oz. One-piece moulded headband in brilliant red. Black padded ear cushions. Fully adjustable. Mylar reproducer units. Price: £2.64 (including VAT).

**G7000**

Stereo headphones. Impedance: 4-32 ohms. Maximum input: 300mW. FR: 20Hz-20kHz. Sensitivity: -108dB. Weight: 1½lb. Slider tone and volume controls on each earpiece. Stereo/mono switching. 3½in reproducer units. Simulated wood finish. 10ft coiled lead. Price: £14.85 (including VAT).

**G8000**

Stereo headphones with compact Mylar reproducers. Impedance: 4-16 ohms. Maximum input: 500mW. FR: 20Hz-22kHz. Weight: 12oz. Washable ear cushions secured with press-studs. Matching punched leather headband. 10ft coiled lead. Price: £10.78 (including VAT).

**G3600**

Quadraphonic headphones with two full-range 2in units in each earpiece. Impedance: 8-16 ohms. Maximum input: 200mW. FR: 20Hz-20kHz. Weight: 2lb 10oz. Stereo/quadraphonic switching. 15ft coiled lead. Padded ear cushions and headband. Price: £18.80 (including VAT).

**G1305**

Headphone remote control unit. Provision for connecting headphone leads and includes slider controls for volume/balance adjustment. Switching for mono/stereo. 10ft coiled lead. Finish: black moulded case with silver coloured fascia. Price: £9.92 (including VAT).

For other T.T.C. headphone/speaker control units please see Speaker Accessories Section.

■ **UHER**

Distributors: Bosch Ltd, PO Box 166, Rhodes Way, Radlett Road, Watford, Herts, WD2 4LB. Tel: Watford 44233.

**W671**

Stereo moving-coil headphones. Price: £13.30 (plus VAT).

**W673**

Stereo moving-coil headphones for use with



Wharfedale 'Isodynamic'

Uher Compact Report Stereo. Price: £13.30 (plus VAT).

#### W762

Monophonic moving-coil headphones. Price: £13.30 (plus VAT).

#### ■ UNISOUND

Condor Electronics Ltd, 100 Coombe Lane, London, SW20 0AY. Tel: 01-946 0033.

#### S-111

Lightweight stereo headphones. Impedance: 8-16 ohms. FR: 25Hz-17kHz. Sensitivity: 95dB at 1kHz. Max input: 500mW. 5ft straight cord. Price: £2.95 (plus VAT).

#### S-222

Lightweight stereo headphones. Impedance: 8-16 ohms. FR: 20Hz-18kHz. Sensitivity: 105dB at 1kHz. Max input: 200mW. 5ft straight cord. Price: £3.50 (plus VAT).

#### S-333

Lightweight stereo headphones. Impedance: 8-16 ohms. FR: 20Hz-18kHz. Sensitivity: 108dB at 1kHz. Max input: 200mW. 5ft straight cord. Price: £3.95 (plus VAT).

#### S-444

Stereo headphones. Impedance: 8-16 ohms. FR: 20Hz-18kHz. Sensitivity: 105dB at 1kHz. Max input: 500mW. Independent volume controls. Mono/stereo switch. 10ft coiled cord. Price: £4.95 (plus VAT).

#### S-555

Stereo headphones. Impedance: 8-16 ohms. FR: 20Hz-20kHz. Sensitivity: 105dB at 1kHz. Max input: 300mW. 10ft coiled cord. Price: £6.25 (plus VAT).

#### S-666

Stereo headphones. Impedance: 8-16 ohms. FR: 15Hz-20kHz. Sensitivity: 115dB at 1kHz. Max input: 500mW. Independent volume controls. 7ft straight cord. Price: £6.95 (plus VAT).

#### S-777

Stereo headphones with boom microphone. Impedance: (headset) 8 ohms, (microphone) 200 ohms. FR: (headset) 20Hz-5kHz, (microphone) 200Hz-8kHz. Sensitivity: (headset) 105dB at 1kHz, (microphone) 84dB at 1kHz. Max input: 100mW. 5ft straight cord. Price: £6.95 (plus VAT).

#### S-888

Stereo headphones. Impedance: 8 ohms. FR: 20Hz-20kHz. Sensitivity: 105dB at 1kHz. Max input: 500mW. 15ft coiled cord. Price: £8.95 (plus VAT).

#### ■ WHARFEDALE

Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### D.D.1

Dynamic moving-coil stereo headphones. Two-way system (i.e. separate bass and treble units) with electrical crossover network. Impedance: 8-16 ohms. FR: 16Hz-22kHz  $\pm$  3dB. Distortion: less than 1%. Supplied with 4½m (15ft) non-tangle coiled cable. Cushions readily removable for easy cleaning. Price: £13.75 (including VAT).

#### Isodynamic Headphones ★

High quality headphones using an electromagnetic technique which distributes the drive over the whole of the diaphragm in the manner of an electrostatic system. Impedance: 40 ohms per capsule but suitable for connection to the output terminals of amplifiers with impedance of 8 ohms. Response down to 35Hz without need for strong side force to seal the cups to the head. Light weight. Adjustable padded headband. Coiled lead. Soft ear pads. Modern white plastic appearance. Price: £21.95 (including VAT).

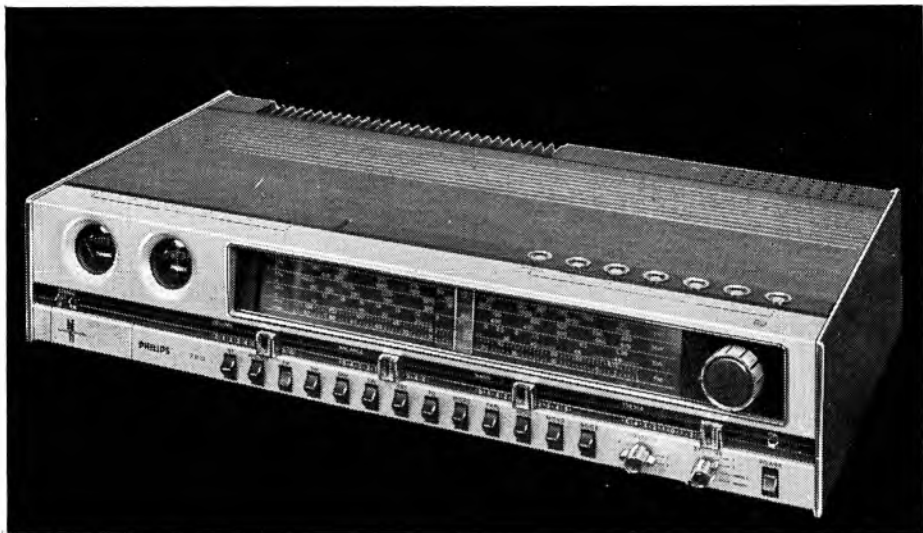
#### ■ WOOLLETT AUDIOSTATICS

21 Anerley Station Road, London, SE20 8PY. Tel: 01-778 9003.

#### Headphone Equaliser Blender

Stereo. Provides variable attenuation and adjustable treble lift. Switch positions for: headphones only, headphones and speakers, or speakers only. Variable negative blend cancels out crosstalk and permits compatible stereo records to be played as full stereo. Two input and two output blocks for easy connection into speaker feeds. Fitted two yards cable for inputs and speaker feeds. Size: 6 x 5½ x 2½ in. Price: £12.80 (plus VAT).





## How to impress fellow Hi-Fi enthusiasts. By just lifting a finger.

Put this impressive new Philips RH720 tuner/amplifier through its paces and you'll get an instant response.

Just lay a finger on one of six touch-sensitive controls, and instantly you have one of six pre-selected stations at your command. Yet this is only one of the many notable, very special features of this beautifully designed combined unit, which consists basically of a 2 x 40 watts amplifier and a highly sophisticated AM/FM tuner.

Points about the tuner :-

Long, medium, short and VHF/ FM wavebands, including stereo VHF. Variable bandwidth on AM improves frequency response where reception conditions allow, or increases selectivity in 'crowded areas' of waveband. Switchable Automatic Frequency Control gives stable reception on FM. Six touch-sensitive controls operate Field Effect Transistors which select one of six pre-tuned stations. 'Silent Tuning' control reduces inter-station noise when tuning on FM. Large illuminated tuning meter.

Points about the stereo amplifier :-  
2 x 30 watts continuous sine wave output (2 x 40 watts Music Power)

with distortion well under 1%. Frequency response 20Hz to 20,000 Hz, plus or minus only 1 dB.

2-position 'contour' switch, to avoid loss of notes in highest and lowest registers at low volume. Precision sound controls include scratch-filter, to suppress high frequency noise, and sliding potentiometers, for balance, bass, treble, and volume. Connections for one or two pairs of loudspeakers. Use either pair for stereo or both pairs for Philips STEREO 4 surround sound. Or enjoy your music in private through headphones connected to the socket on the front panel.

Ask your Philips Audio Specialist for a demonstration. Write for a free Audio Guide - to Philips Electrical Ltd, Dept SP, Century House, Shaftesbury Avenue, London WC2H 8AS.

# PHILIPS



Simply years ahead.

# Combination Units

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ ALPHA

Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel. 01-267 4937/8.

### GF2500 Conductor ★

Stereo amplifier and record deck in shelf cabinet with lift-up tinted plastic lid. Motor unit: Garrard SP25 Mk III. Speeds:  $33\frac{1}{3}$ , 45, 78rpm. Idler wheel drive. Cartridge: Pickering P/AT. Diamond stylus. Inputs: mag PU 6mV, radio 80mV-IV, tape 250mV-3V. Noise level: (tape and radio inputs) better than 60dB, (PU input) 48dB. Overload capability: 23dB on all inputs. Output: 15W RMS per channel. HD: <0.5% at 15W. Output impedance: 8 ohms. FR: 20Hz-25kHz (40Hz-14kHz  $\pm$  2dB). Headphone socket. Slider volume control. Finish: teak with anodised black and silver control panel. Size:  $17\frac{1}{2} \times 7 \times 13$ in. Mains: 240V AC. Price: £71.50 (plus VAT). GF2500 Conductor with SL65B deck and Pickering P/AT cartridge. Price: £75.50 (plus VAT).

## ■ ASA

ASA (UK) Television & Radio Ltd, 31-35 High Street, Shirlhampton, Bristol, BS11 0DX. Tel: 0272 684801.

### 3704

FM stereo tuner-amplifier in plinth with four-speed record deck. Motor unit: BSR P128. Speeds:  $16\frac{2}{3}$ ,  $33\frac{1}{3}$ , 45 and 78rpm. Four-pole motor.  $10\frac{1}{2}$ in diecast turntable. Wow: less than 0.2%. Flutter: less than 0.06%. Automatic or manual operation of pickup arm. Hydraulic lifting and lowering. Playing weight adjustable 0-6gm. Cartridge: Shure M75-6. Range: 87.5-104MHz. Sensitivity: better than  $2\mu$ V for 26dB quieting. Aerial input: 240ohms balanced. AFC. Variable tuning plus three presets. Quiet tuning facility. IC stereo decoder with auto switching and beacon. Output: 20W RMS per channel. FR: 30Hz-30kHz  $\pm$  1.5dB. HD: <1%. Tone controls: bass +18dB -15dB at 40Hz, treble +14dB -15dB at 10kHz. Rumble and scratch filters. Inputs: mag PU 4mV 47K, crystal PU 70mV 500K, tape play 260mV 500K. Front jack sockets for headphones (automatically mute speaker outlets). 37 transistors, 15 diodes, one IC, three varicap diodes. Mains: 220-240V 50Hz.

Finish: anodised metal front with teak or rosewood cabinet. Size:  $20\frac{3}{8} \times 7\frac{1}{8} \times 13\frac{3}{8}$ in. Price: (teak) £108.10 (including VAT); (rosewood) £110.23 (including VAT).

## ■ BANG & OLUFSEN UK LTD

Eastbrook Road, Gloucester, GL4 7DE. Tel: 21591.

### Beocenter 1400

AM/FM stereo tuner/amplifier with built-in cassette recorder. Tuning range: FM 87.5-104 MHz, LW 2040-857m, MW 578-187m. Variable tuning. Sensitivity: FM <1.8 $\mu$ V, AM: LW <15 $\mu$ V, MW <20 $\mu$ V. Aerial input: 75 ohms coaxial and 300 ohms balanced. Output: 20W RMS. HD: <0.5% at 20W. FR: 20Hz-30kHz  $\pm$  1.5dB. Inputs: mag PU 2.5mV 47K, tape 300mV 100K. Cassette section. Speed:  $1\frac{1}{2}$ /s W and F: 0.35% RMS. S/N ratio: >50dB. FR: 40Hz-12.5kHz. Mains: 110-130 and 220-240V AC 50Hz. Size:  $26 \times 10\frac{1}{2} \times 3\frac{1}{4}$ in. Finish: brushed aluminium fascia with teak or rosewood cabinet. Price: (teak) £159.50; (rosewood) £160.50 (including VAT).

### Beogram 1500 ★

Stereo amplifier and record deck, cabinet mounted with plastic dust cover. Motor unit: B & O 1001. Speeds: 45 and  $33\frac{1}{3}$ rpm. Belt drive W and F: 0.06% RMS. Rumble: better than 55dB. Fine speed adjustment 6%. Hydraulic cueing device. Playing weight adjustment: 1-3gm. Output: 8W RMS per channel. FR: 20Hz-20kHz  $\pm$  2dB. HD: <1% S/N ratio 60dB. Mains: 110-130 and 220-240V AC 50Hz. Size:



Alpha GF2500



Bang & Olufsen Beogram 1500

★ Indicates entry is illustrated

18 $\frac{3}{8}$  × 13 $\frac{3}{4}$  × 6in. Finish: black facia and deck with teak, rosewood or white cabinet. Price: (teak) £89.50; (rosewood or white) £90.50 (including VAT).

#### **Recenter 3500**

FM stereo tuner-amplifier in cabinet with record deck. Motor unit: B and O. Two speeds. 12in grooved aluminium alloy platter. Belt drive. High compliance pickup arm. Cartridge: B and O SP10A, 0.6 thou diamond stylus. Range: FM 87.5-104MHz. Variable tuning plus six presets. AFC. Ratio detector. 'Balanced light' tuning system. Usable sensitivity: 2 $\mu$ V. Aerial input: 75-ohm coaxial. Stereo decoder fitted. Inputs: PU (1) 3mV 47K, PU (2) 200mV-3V 1M, tape 200mV-3V 1M. Output: 40W RMS per channel. Output impedance: 4 ohms. Tone controls: bass  $\pm$ 17dB at 50Hz, treble  $\pm$ 14dB at 10kHz. Rumble filter: -12dB/octave below 80Hz, scratch filter -12dB/octave above 4kHz. HD: 0.3% at 1kHz at rated output (both channels driven). FR: 40Hz-20kHz  $\pm$ 1.5dB. Mains: 110, 130, 220, 240V AC. Sizes: 22 $\frac{7}{8}$  × 13 $\frac{7}{8}$  × 5 $\frac{3}{8}$ in. Finish: brushed aluminium facia and deck, teak, rosewood or white side panels, hinged dust cover. Price: (teak) £238.50, (rosewood or white) £239.50 (including VAT).



*Crown SHC65F*

with elliptical diamond stylus. Finish: teak. Price: £127.09 (including VAT).

#### **RA2100**

Integrated stereo amplifier in cabinet with record deck. Output: 15W RMS per channel into 3 ohms. Output impedance: 3-15 ohms. HD: <0.6% 40Hz-12.5kHz. FR: 20Hz-25kHz -3dB. Controls: volume on-off, bass  $\pm$ 12dB at 50Hz, treble +11dB -13dB at 10kHz, balance, loudness, input selector, mono/stereo. Input: tape 120mV 100K. Record deck: Garrard SP25 Mk III with Shure M75MB cartridge and spherical tip diamond stylus. Finish: teak veneer. Price: £93.20 (including VAT).

#### **RA3700**

Integrated stereo amplifier in cabinet with record deck. Output: 10W RMS per channel into 4 ohms. Output impedance: 4-15 ohms. HD: <1%. FR: 25Hz-20kHz -3dB. Controls: volume on/off, bass +12dB -15dB at 100Hz, treble +11dB -13dB at 10kHz, balance, mono/stereo, input selectors. Inputs: tape 90mV 200K, radio 70mV 150K. Record deck: Garrard SP25 Mk III with Goldring G800 magnetic cartridge. Diamond spherical tip 0.6 thou stylus. Finish: teak veneer. Price: £71.54 (including VAT).

#### **■ CROWN RADIO CO LTD**

128-129 Shoreditch High Street, London, E1 6JE. Tel: 01-739 2382.

#### **SM110**

AM/FM tuner/amplifier in cabinet with record deck. Range: FM 88-108MHz, MW 182-560m. Variable tuning. AFC. Stereo decoder fitted. Controls: bass, treble, low filter, high filter, volume, input selector, balance, main on/off, tuning. Output: 7.5W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-25kHz. HD: <1% at 6W output. Finish: walnut veneer with silver trim. Price: £99.90 (plus VAT).

#### **SHC65F ★**

AM/FM tuner/amplifier in cabinet with cassette recorder and record deck. Range: FM 88-108MHz, MW 182-560m. Variable tuning. AFC. Stereo decoder fitted. 27 transistors, one FET,

#### **■ BRAUN**

Hisonic Ltd, Tovil, Maidstone, Kent, ME15 6QP. Tel: Maidstone (0622) 57258.

#### **Cockpit 260**

Tuner/amplifier in shelf-mounting cabinet with record deck. Range: 87.5-108MHz. Output: 20W RMS per channel into 4 ohms. FR: 25Hz-20kHz. HD: 0.1%. Tone controls: bass +10dB -15dB, treble +10dB, -15dB. Aerial input: 240 ohms balanced. Input: 320mV 470K. Output impedance: 4-8 ohms. 38 transistors, 23 diodes, one FET. Two-speed record deck. Shure M75-6S cartridge. Full specification and price on request.

#### **■ BUSH-ARENA**

Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.

#### **RTA2000**

Stereo FM tuner/amplifier in cabinet with record deck. Range: 88-108MHz. Five preset stations. AFC. Stereo decoder. Controls: volume on-off, bass  $\pm$ 12dB at 50Hz, treble +12dB -13dB at 10kHz, balance, loudness, input selectors, mono/stereo. Output: 15W RMS per channel into 3 ohms. Output impedance: 3-15 ohms. FR: 20Hz-25kHz -3dB. HD: <0.6% 40Hz-12.5kHz. Motor unit: Lenco B55 transcription deck. Cartridge: Goldring G800E

six ICs. Controls: tuning, AFC on/off, muting, waveband selector, input punction, high filter, loudness, bass, treble, left-channel record level, right-channel record level, balance, volume. Output: 7.5W RMS per channel. Output impedance: 8 ohms. FR: 50Hz-20kHz. Record deck: Garrard SP25 Mk III or Garrard 2025T. Finish: walnut veneer with black trim. Price: £196.80 (plus VAT).

### ■ DUAL

Audiodecks Ltd, Farnell House,  
81 Kirkstall Road, Leeds LS1 1HR.  
Tel: Leeds 35111.

### KA12

AM/FM stereo tuner/amplifier in cabinet with record deck. Range: FM/VHF, MW, LW, SW. Variable tuning. AFC. Ratio detector. Stereo decoder fitted. Output: 6W RMS per channel. Output impedance: 4 ohms. Motor unit: Dual 1211. Speeds: 33 $\frac{1}{3}$ , 45, 78rpm. Speed control: 6% variation. Cartridge: Dual CDS650. Turntable: 10 $\frac{1}{8}$ in diameter, 3 $\frac{1}{4}$ lb. Idler wheel drive. Tubular spring balanced pickup arm. Torsionally rigid with low dynamic mass. Playing weight: 4gm. Stylus: sapphire. Provisional specification. Price: to be announced.

### ■ DUETTE

J. J. Silber Ltd, 11 Northburgh Street,  
London, EC1. Tel: 01-253 8031.

### SS2005W

AM/FM stereo tuner/amplifier in cabinet with stereo cassette recorder and record deck. Range: FM 88-108MHz, MW 185-565m. Aerial input: 300 ohms balanced. Ferrite rod AM aerial. Stereo decoder fitted. Separation: 30dB at 1kHz. Compact cassettes. Speed: 1 $\frac{7}{8}$ i/s. W and F: 0.25%. H and N: 45dB. Automatic or manual level control. Multiplex filter. Four-speed record deck. Ceramic cartridge with diamond stereo stylus. 11in platter. Four-pole motor with outer rotor. Audio output: 10W per channel. Output impedance: 8 ohms. FR: 35Hz-30kHz. Tone controls: bass +10dB -12dB at 100Hz, treble +9dB -17dB at 10kHz. Mains: 110, 117, 220, 240V 50/60Hz. Size: 22 $\frac{1}{2}$  × 9 × 17in. Weight: 35lb. This is a provisional specification as full details were not available as this issue of the Year Book closed for press. Price: £171.99 (including VAT).

### ■ DYNATRON RADIO LTD

St Peter's Road, Maidenhead, Berks, SL6 7QY.  
Tel: Maidenhead 23331.

### HFC30A

Integrated stereo amplifier with record deck incorporated in same cabinet. Controls: mains

on/off, volume, bass, treble, input selector, balance. Output: 8W RMS per channel into 3 ohms load. FR: 20Hz-20kHz -3dB at 20Hz and 20kHz. Output impedance: 3-16 ohms. HD: <0.35% -2dB at rated output. Motor unit: Garrard 40B. Cartridge: Goldring G850. Size: 19 × 15 × 7 $\frac{3}{8}$ in. Finish: teak veneer cabinet with black control panel and transparent plastic lid. Price: £70.14 (including VAT).

### HFC30M

Integrated stereo amplifier with record deck incorporated in same cabinet. Similar specification to HFC30A but manual record deck instead of automatic. Record Unit: Garrard SP25S Mk III. Cartridge: Goldring G850. Price: £71.09 (including VAT).

### Carnival HFC36/HFC37

Integrated stereo amplifier with record deck in cabinet. Motor unit: Garrard SP25 Mk III. Cartridge: Goldring G850. Stylus: spherical diamond. 17 transistors. Inputs: radio 26mV 12K, tape 26mV 12K. Noise level:  $\geq$  -65dB. Overload capability: 650mV. Controls: volume, bass, treble, input selector, balance, mains on/off, rumble filter, scratch filter, loudness. Output: 8W RMS per channel. Output impedance: 4 ohms. HD: 1% at 8W. FR: 23Hz-20kHz -3dB. Mains: 240V AC. Size: 20 × 13 $\frac{1}{2}$  × 7 $\frac{3}{8}$ in. Finish: (HFC36) sprayed white, (HFC37) teak veneer. Price: £71.09 (including VAT).

### Cavalcade Cassette HFC38

AM/FM tuner/amplifier in cabinet with record deck and cassette tape recorder. Motor unit: Garrard SP25 Mk III. Cartridge: Goldring G850. Stylus: spherical diamond. Tape unit: Philips N2505/10, four-track stereo cassette. Speed: 1 $\frac{7}{8}$ i/s. Range: FM 87.5-108MHz, MW 185-570m, LW 1100-2000m. Variable tuning. AFC. Ratio detector. Stereo decoder. Meter tuning indicator. Usable sensitivity: FM 3 $\mu$ V, MW 10 $\mu$ V, LW 15 $\mu$ V. Aerial input: balanced and 75 ohm coaxial, 32 transistors plus tape unit. Input: tape 26mV 12K. Noise level: -65dB. Overload capability: 650mV. Output: 8W per channel. Output impedance: 4 ohms. Controls: tuning, bass, treble, input selector (pushbutton), balance, volume, rumble filter, scratch filter, loudness. HD: 1% at 8W. FR: 23Hz-20kHz -3dB. Mains: 240V AC. Size: 23 $\frac{1}{4}$  × 16 $\frac{1}{4}$  × 8 $\frac{1}{2}$ in. Finish: teak veneer. Price: £169.67 (including VAT).

### VHF Carnival HFC39/HFC40

FM tuner/amplifier in cabinet with record deck. Range: 87-104MHz. Sensitivity: 3 $\mu$ V. Stereo decoder fitted. Four preset tuning buttons. AFC. Balanced and 75 ohms coaxial input. Audio specification and size as HFC36. Finish: (HFC39) sprayed white, (HFC40) teak veneer. Price: £102.85 (including VAT).

★ Indicates entry is illustrated

### Carnival Major HFC41

Integrated stereo amplifier with record deck in cabinet. Motor unit: Goldring-Lenco GL75. Speeds: fully variable 16-78rpm with click stops. Cartridge: Goldring G800. Stylus: spherical diamond. Audio section as HFC36. Size: 24 × 16 × 7in. Finish: (HFC41) sprayed white, (HFC42) teak veneers. Price: £102.85 (including VAT).

### VHF Carnival Major HFC43/HFC44 ★

FM tuner-amplifier in cabinet with record deck. Same specification as HFC41 but with the addition of VHF radio. Range: 87-104MHz. Four preset tuning buttons. Sensitivity: 3µV. Stereo decoder fitted. AFC. Ratio detector. Aerial input: balanced and 75-ohm coaxial. Size: 24 × 16 × 7in. Finish: (HFC43) sprayed white, (HFC44) teak veneer. Price: £130.81 (including VAT).

### Richmond HFC45

AM/FM stereo tuner/amplifier in console cabinet with record storage. Motor unit: Goldring-Lenco GL72. Speeds: fully variable 16-78rpm with click stops. Cartridge: Goldring G850. Stylus: spherical diamond. Range: FM 87.5-108MHz, MW 187-570m, LW 1100-2000m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 3µV, MW 10µV, LW 15µV. Aerial input: balanced and 75-ohm coaxial. Stereo decoder fitted. 32 transistors. Input: tape 26mV 12K. Noise level: ≥ -65dB. Overload capability: 650mV. Output: 8W RMS per channel into 8 ohms. Output impedance: 4 ohms. Controls: tuning, bass, treble, input selector, balance, volume, rumble filter, scratch filter, loudness. HD: 1% at 8W. FR: 23Hz-20kHz -3dB. Mains: 240V AC. Size: 21¾ × 15½ × 31in. Finish: teak veneer. Price: £145.97 (including VAT).

### Hambledon HFC46 ★

Same specification as HFC45 but in Queen Anne period style cabinet finished in walnut veneers. Size: 23¼ × 16¼ × 8½in. Price: £165.88 (including VAT).

### Savoy HFC47

Same specification as HFC45 but in Regency period style cabinet finished in mahogany veneers. Size: 23¼ × 16¼ × 8½in. Price: £165.88 (including VAT).

### HFC100 ★

Integrated stereo amplifier in cabinet with record deck. Motor unit: Goldring-Lenco GL75. Cartridge: Goldring G800. Stylus: spherical diamond. 34 transistors. Inputs: radio 165mV 230K, tape 165mV 230K, mag pickup 2.4mV 47K. Noise level: (PU input) ≥ -60dB, (other inputs) ≥ -66dB. Overload capability: (PU input) 100mV, (other inputs) 6V. Output: 45W per channel at 8 ohms. Output impedance: 4-16 ohms. Controls: bass, treble, volume scratch



Dynatron HFC 44



Dynatron HFC 46



Dynatron HFC 100

filter, rumble filter, loudness, input selector, balance, A-B speakers. HD: 0.3% - ½dB. FR: 16Hz-28kHz - 3dB. Size: 21 × 16½ × 8½ in. Finish: teak veneer. Price: £132.70 (including VAT).

#### HFC101A

Similar specification to HFC100 but with the addition of AM/FM radio. Also second tape input instead of mag PU. 59 transistors. Range: FM 87.5-108MHz, MW 185-570m, LW 1100-2000m. Variable tuning. AFC. Ratio detector. Meter tuning indicator. Usable sensitivity: FM 3µV, MW 10µV, LW 15µV. Aerial input: balanced or 75-ohm coaxial. Stereo decoder fitted. Finish: teak veneer. Price: £168.72 (including VAT).

#### HFC102

Similar specification to HFC100 but with addition of FM/VHF radio and second tape input (300mV 450K) instead of mag PU. Range: 87-104MHz. Five preset tuning buttons. AFC. Ratio detector. Usable sensitivity: 3µV. Aerial input: balanced or 75-ohm coaxial. Stereo decoder fitted. Finish: teak veneer. Price: £159.25 (including VAT).

#### HFC103 ★

FM stereo tuner-amplifier with record deck and cassette recorder in period style cabinet with record and cassette storage space. Drawer for accessories. Motor unit: Goldring-Lenco GL75. Cartridge: Goldring G800. Stylus: spherical diamond. Tape unit: Philips N2505/10. Four-track stereo. Speed: 1½ i/s. Compact cassettes. Range: 87-104MHz. Five preset tuning buttons. AFC. Ratio detector. Usable sensitivity: 3µV. Aerial input: balanced or 75-ohm coaxial. Stereo decoder fitted, 58 transistors. Inputs: radio 165mV 230K, tape (1) 165mV 230K, tape (2) 300mV 450K. Noise level: tape (2) ≥ -60dB, (other inputs) ≥ -66dB. Overload capability: 6V. Output: 45W RMS per channel into 8 ohms. Controls: bass, treble, balance, volume, tuning pushbuttons, rumble filter, scratch filter, loudness, input selector pushbuttons. HD: 0.3% - ½dB. Output impedance: 4-16 ohms. FR: 16Hz-28kHz - 3dB. Mains: 240V AC. Size: 31½ × 21½ × 39½ in. Finish: period style cabinet in selected walnut veneers. Price: £303.31 (including VAT).

#### ■ ELGAR

English Audio (1970) Ltd, North Station Road, Colchester, Essex. Tel: Colchester (0206) 73467.

#### Elgar

Integrated stereo amplifier in plinth cabinet with record deck and pickup. Clear plastic lid. Record unit: Thorens TD150 Mk II two-speed motor with lightweight arm. Cartridge: Shure M75EJ. Elliptical diamond stylus. Finish: teak. Built-in



Dynatron HFC 103



Goodmans Module 80 Compact

integrated stereo amplifier. Inputs: mag PU 3.5mV 56K, Ceramic PU 20mV 33K, radio 100mV 100K, tape 100mV 100K. Noise level: -65dB on all inputs. Output: 18W per channel. HD: <0.5% at all levels up to rated output. FR: 20Hz-20kHz ± 3dB. Overload capacity: 29dB on all inputs. Independent outlet for tape provides 200mV irrespective of volume setting. Controls: (rotary) bass, treble, volume, balance and input selector, (slider switches) mono/stereo, HF filter, loudness, phones/speaker. Indicator light. Output impedance: 8-16 ohms. Connections by DIN plugs. Finish: teak case. Price: approximately £130 (including VAT).

#### ■ GOODMANS LOUDSPEAKERS LTD

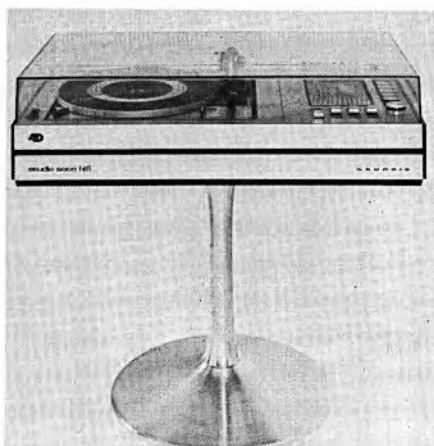
Downley Road, Havant, Hampshire, PO9 2NL. Tel: Havant 6344. Telex: 86296.

#### Module 80 Compact ★

FM stereo tuner/amplifier in cabinet with record deck. Motor unit: Goldring-Lenco GL75. Four speeds, infinitely variable. 12in diameter 8lb die-cast turntable. Vertical pulley drive. L75 pickup

★ Indicates entry is illustrated

arm with weight adjustment. Cartridge: Goldring G800E. Stylus: elliptical diamond. Range: FM 87.5-108MHz. Variable tuning. Switched AFC. Dual-light tuning indicator. Usable sensitivity:  $<1.5\mu\text{V}$  for 26dB S/N. Aerial input: 240-300 ohms balanced. Stereo decoder included. Stereo beacon. 68 transistors, including two FETs. Inputs: aux 60mV 600K, tape play 320mV 50K. Noise level: mag PU -66dB, other inputs: -80dB. Overload capability: +23dB. Output: 35W RMS per channel. Output impedance: 4 ohms. Controls: bass, treble, balance, loudness, volume, on/off, speakers, high pass and low pass filters, input selectors. HD:  $<0.1\%$  at rated output into 4 ohms, both channels driven. FR: 30Hz-20kHz  $\pm 1.5\text{dB}$  at rated output. Mains: 120, 220, 245V AC. Size:  $22 \times 6\frac{1}{2} \times 17\frac{1}{2}\text{in}$ ; (height with lid raised) 21in. Finish: teak, walnut or white with matt black fascia. Price: (teak or walnut) £143.78 (plus VAT); (white) £148.06 (plus VAT). Optional matching stand.



Grundig 2000C

### One-Ten Compact

AM/FM stereo tuner/amplifier in case with record deck. Motor unit: Goldring GL85. Cartridge: Goldring G800E. Stylus:  $0.3 \times 0.8$  thou diamond. Range: FM 87.5-108MHz, MW 187-572m, LW 1130-2000m, SW 48-51m. Variable tuning. Switched AFC. Signal strength meter. Usable sensitivity: FM  $1\mu\text{V}$  into 75 ohms,  $2\mu\text{V}$  into 240 ohms, AM  $20\mu\text{V}$  MW and SW,  $40\mu\text{V}$  LW. Aerial input: 75 ohms coaxial, 240 ohms balanced. Stereo decoder included. Stereo beacon. 89 semiconductors. Inputs: ceramic PU 200mV 1M, tape play 200mV 100K, radio to suit inbuilt tuner. Noise level: mag PU input -70dB, other inputs -80dB. Overload capability: 30dB. Output: 50W RMS per channel into 4 ohms. Controls: bass, treble, volume, rumble filter, contour, plus 17 tab controls. HD:  $<0.01\%$  at 30W output,  $<0.1\%$  at any power up to rated maximum. FR: 20Hz-20kHz  $\pm 1\text{dB}$  at rated power. Mains: 115-125V, 200-250V, 50/60Hz. Price: (teak or walnut) £209.68 (plus VAT); (white) £213.96 (plus VAT).



Hacker GAR500AP/SRD Mk 2 Centurion

■ **GRUNDIG (Great Britain) LTD**  
Newlands Park, London, SE26 5NQ.  
Tel: 01-778 2211. Telex: 22854.

### Studio 2000C ★

AM/FM stereo tuner/amplifier in cabinet with record deck. Range: FM 87.5-108MHz, MW 185-587m, LW 875-2069m, SW 19-55m. Variable tuning plus seven preset stations on FM. AFC. Ratio detector. Tuning meter for AM and FM. Usable sensitivity: MW 20-25 $\mu\text{V}$ , LW 25-28.5 $\mu\text{V}$ , SW 4-5 $\mu\text{V}$ , FM 3-4 $\mu\text{V}$  across 240 ohms. Aerial input: balanced. Output: 22.5W RMS per channel. Output impedance: 4 ohms. FR: 40Hz-16kHz  $\pm 1.5\text{dB}$ . HD:  $<0.5\%$  at 1kHz at

rated output. Controls: volume, treble -20dB +12dB at 16kHz, bass -20dB +13dB at 40Hz, balance -9dB +3.5dB, pushbutton tuning selectors, pushbutton waveband selectors, pushbutton input and mode selectors. Stereo decoder fitted. Mains: 110, 130, 220, 240V AC 50Hz. Motor unit: Dual 1216. Pickup cartridge: Shure M75MB-D. Size:  $25\frac{1}{2} \times 7 \times 15\frac{1}{4}\text{in}$ . Finish: matt black with silver trim. Grundig 4D stereo operation. Price: £231.43 (including VAT).

### ■ HACKER RADIO LTD

Norreys Drive, Cox Green, Maidenhead, Berks, SL6 4BP. Tel: Maidenhead 22261/5.

### GAN500A Mk 2 Centurion

Stereo amplifier in cabinet with record unit. Garrard SP25 Mk III fitted with Goldring G850 magnetic pickup and diamond stylus. Inputs: PU 3mV equalised, 30dB overload capability; radio 50mV 47K, infinite overload capability;

aux/tape 50mV 47K, infinite overload capability. Output: 14W RMS per channel into 8 ohms, 10W RMS per channel into 15 ohms. Controls: bass +18dB -14dB at 40Hz, treble +18dB -20dB at 15kHz, low-pass filter -3dB at 7kHz, on/off, balance, volume, pushbutton selection for scratch filter, gram, aux/tape, radio and mono/stereo. HD: better than 0.2% at 8ohms, better than 0.1% at 15 ohms. FR: 25Hz-30kHz  $\pm$  3dB. Inbuilt rumble filter operates at below 25Hz. Hum and noise level better than 60dB down on all inputs. Outlet for tape recorder of 15mV at 25K. Headphone socket with automatic muting of speakers. Finish: teak. Hinged lid and brushed aluminium front panel or semi-transparent lid and black front panel. Mains: 200-245V 50Hz. Size: 18in wide, 8 $\frac{1}{4}$ in high, 16in deep. Price: £72 (including VAT).

#### **GAR500A/SRD Mk 2 Centurion ★**

Similar specification to the GAN500A Mk 2 but with FM/VHF radio and stereo decoder. Range: 87.5-101MHz. Usable sensitivity: 5 $\mu$ V for 30dB signal-to-noise ratio (30kHz deviation). Station markers. Operated by pushbutton switch. Separation: 35dB at 1kHz, 26dB at 5kHz. Price: £97 (including VAT).

#### **T45 Table**

Teak table with inset top covered with black leathercloth. Designed to accommodate the Hacker Centurion series. Price: £6 (including VAT).

**Note:** Suffix 'P' in Hacker model numbers denotes a semi-transparent plastic lid (e.g. GAN500AP Mk 2).

#### **■ ITT**

ITT Consumer Products (UK) Ltd, Maidstone Road, Sidcup, Kent, DA14 5HT. Tel: 01-300 7733.

#### **KA1255**

Integrated stereo amplifier in cabinet with record deck. Controls: volume, bass, balance, treble, mains on/off, gram, tape, radio, headphones. Output: 15W music power per channel. Output impedance: 4 ohms minimum. FR: 40Hz-50kHz -3dB. Motor unit: BSR C141R fitted with Acos GP104 stereo ceramic cartridge with single-tip diamond stylus. Low-profile teak veneer cabinet, black moulded base, aluminium control panel and detachable cover. Price: £50.50 (including VAT).

#### **KA2250FM ★**

FM stereo tuner/amplifier in cabinet with record deck. Range: FM 87-104MHz. Five preset stations. AFC. Double-balanced quadrature discriminator. Stereo decoder fitted. Controls: volume, balance, bass, treble, mains on/off, headphones, PU, tape, radio. Output: 15W music power per channel. Output impedance:



ITT KA2250FM

4 ohms minimum. FR: 40Hz-50kHz -3dB. HD: 0.5%. Motor unit: BSR P128R record deck fitted with Miers SC5M stereo ceramic cartridge with single-tip diamond stylus. Finish: low-profile teak veneer cabinet with moulded black base, brushed aluminium control panel and lift-up lid. Slider and pushbutton controls. Price: £90.39 (including VAT).

#### **■ KLINGER**

Klinger Controls Ltd, Spencer Court, 7 Chalcot Road, London, NW1 8LU. Tel: 01-586 2922/3.

#### **KC67**

Integrated stereo amplifier with record deck. 21 transistors and seven diodes. Motor unit: Garrard SP25 Mk III. Cartridge: Goldring G800H. Diamond Stylus. Inputs: radio 100mV 10K, tape 100mV 10K. Noise level: 66dB. Overload capability: 30dB. Output: 10W RMS per channel. Tone controls: bass  $\pm$  15dB, treble  $\pm$  15dB. Full-range balance control. HD: 0.15% 1W. FR: 30Hz-50kHz  $\pm$  2dB. Stereo headphone socket. Stabilised power supply. Size: 16 $\frac{1}{2}$   $\times$  8 $\frac{1}{4}$   $\times$  14in. Price: £61.50 (plus VAT).

#### **KC340**

Integrated stereo amplifier with record deck. Motor unit: Garrard 2025TC. Cartridge: Garrard KS40A or Sonotone 3509. Diamond stylus. 14 transistor circuit. Inputs: radio 250mV 220K, tape 250mV 220K. Noise level: 65dB. Overload capability: 26dB. Output: 8W RMS per channel. Tone controls: bass +15dB -10dB, treble +15dB -10dB. HD: <1% at 5W. Output impedance: 8 ohms. FR: 40Hz-20kHz  $\pm$  1.5dB at 1.5W. Stereo headphone socket. Mains: 240V AC (other voltages to order). Size: 16 $\frac{1}{2}$   $\times$  4  $\times$  8in. Finish: teak with black and silver





Klinger KC95

trim, transparent dust cover. Price: £41.30 (plus VAT).

#### KC94

FM stereo tuner/amplifier in cabinet with record deck. Motor unit: Garrard SP25 Mk III. Four speeds. Idler wheel drive. Cartridge: Goldring G800H. Diamond stylus. Range: 87.5-108MHz. Five preset stations. Switchable AFC. Usable sensitivity: 2µV. Aerial input: coaxial and balanced. Outlet for tape: 100mV. Stereo decoder included. Inputs: tape 50mV 220K, aux (1) 100mV 470K, aux (2) 0.15mV 30 ohms. Noise level: 70dB. Overload capability: 30dB. Output: 25W RMS per channel. Output impedance: 8 ohms. Tone controls: bass ±15dB, treble ±15dB, scratch filter 18dB/octave from 8kHz, rumble 12dB/octave from 80Hz. Loudness control. A/B monitor switch. HD: 0.1% at 20W. FR: 25Hz-35kHz 2dB at 20W. Switching for two pairs of speakers. Two stereo headphone sockets. Stabilised power supply. Size: 21 × 8 × 15½ in. Mains: 110-120V, 220-240V AC. Finish: teak cabinet with folding lid. Price: £123 (plus VAT). KC94 unit fitted with BSR 710 transcription record deck in place of Garrard SP25. Price: £141 (plus VAT).

#### KC95 ★

Integrated stereo amplifier with record deck. Motor unit: BSR P144. Cartridge: Goldring G800H. Diamond stylus. 28 transistor circuit. Inputs: radio 50mV 220K, tape 50mV 220K, aux 100mV 470K, mic 0.15mV 30 ohms. Noise level: 70dB. Overload capability: 30dB. Output: 25W RMS per channel. Tape outlet: 100mV. Tone controls: bass ±15dB, treble ±15dB, scratch filter 18dB/octave from 8Hz, rumble filter 12dB/octave from 80Hz. Loudness control. A/B monitor switch. HD: 0.1% up to 20W. Output impedance: 8 ohms. FR: 35Hz-35kHz ±2dB at 20W. Two stereo headphone sockets. Sockets and switches for two sets of speakers. Stabilised power supply. Mains: 110-120V, 220-

240V AC. Size: 21 × 8 × 15½ in. Finish: teak with transparent folding lid. Price: £93 (plus VAT). KC95 unit fitted with BSR 710 deck in place of Garrard SP25. Price: £111 (plus VAT).

#### KC350

Integrated stereo amplifier with record deck. Motor unit: choice of Garrard 2025TC or SP25 Mk III. Cartridge: Garrard KS40A or Sonotone 3509. Diamond stylus. 14 transistor circuit. Inputs: radio 250mV 220K, tape 250mV 220K. Noise level: 65dB. Overload capability: 26dB. Output: 8W RMS per channel. Tape outlet: 200mV. Tone controls: bass +15dB -10dB, treble +15dB -10dB. Full-range balance control. HD: < 1% at 6W. Output impedance: 8 ohms. FR: 40Hz-20kHz ±1.5dB at 1W. Stereo headphone socket. Mains: 240V AC (other voltages to order). Size: 16½ × 8 × 14 in. Finish: teak cabinet with silver trim and transparent dust cover. Price: (with 2025TC) £46 (plus VAT); (with SP25 Mk III) £50.70 (plus VAT).

#### ■ KOYO

Distributors: Kingsway Mills Ltd,  
5 Worship Street, London, EC2.  
Tel: 01-628 6157.

#### CFS-600

AM/FM stereo tuner/amplifier with eight-track tape player. Range: FM 88-108MHz, MW 188-556m. 27 transistors, 15 diodes. Sensitivity: FM 3µV, MW 100µV. Output: 6.5W RMS per channel. Variable tuning. Stereo decoder with auto switching. Eight-track cartridge player. Speed: 3¼/i.s. W and F: better than 0.3%. Separation: better than 20dB at 1kHz. Indicator lights to show channel playing. Size: 22½ × 4½ × 9¼ in. Price: to be announced.

#### ■ THOMAS LANEY AUDIO

(Formerly HiSound) Electronic Manufacturing Co (UK) Ltd, Devonshire House, High Street, Deritend, Birmingham, B12 0LP.  
Tel: 021-772 3669/7145.

#### TLA200C

FM stereo tuner/amplifier in cabinet with record deck. Range: FM 87.5-108MHz. Variable tuning plus five presets. Switchable AFC. Aerial input: 75 ohms coaxial, 240 ohms balanced twin. Sensitivity: 2µV for 30dB quieting. Limiting complete at 5µV. Stereo decoder fitted. Capture ratio: 1.5dB. Inputs: mag PU 2mV 47K, aux 100mV 100K. S/N ratio: (PU input) 65dB, (aux) 70dB. Overload capability: (PU input) 100mV, (aux) 1V. Controls: bass ±12dB at 40Hz, treble ±12dB, at 10kHz, filter 12dB/octave at 4kHz, 7kHz and 10kHz, balance, volume, input selector. Bass, treble and balance controls are sliders with centre 'click' position. Output: 50W RMS per channel into 4 ohms, 30W RMS per



Philips RH802



Siemens RS252

channel into 8 ohms. HD: <0.1% (typically <0.02%) 35Hz-20kHz. Power bandwidth: 20 Hz-40kHz +0dB - 3dB. Mains: 110, 120, 130, 220, 230, 240V AC. Two AC outlets (one switched). Two headphone jack sockets behind flap on front panel. Quiet tuning facility. Output fully protected against any load condition. Motor unit: BSR 810 record deck. Details of cabinet finish and size not available as this edition of the Year Book closed for press. Price: to be announced.

### ■ PHILIPS ELECTRICAL LTD

Century House, Shaftesbury Avenue,  
London, WC2H 8AS.

Tel: 01-437 7777.

#### RH802 ★

AM/FM stereo tuner/amplifier in cabinet with record deck. Motor unit: Philips GC008. Speeds: 33 $\frac{1}{3}$ , 45rpm. Turntable: 11 $\frac{1}{2}$ in diameter. Belt drive. Tubular pickup arm with slide-in cartridge carrier. Antistatic mat. Cartridge: Philips GP400 Super M. Stylus: diamond spherical. Range: FM 87.5-104MHz, MW 211-577m, MW bandspread 187-214m, LW 870-2000m, SW

30.7-50.4m. Variable tuning plus five preset buttons on FM. Switchable AFC. Ratio detector. Moving coil tuning meter. Usable sensitivity: FM 6 $\mu$ V for 26dB quieting. AM 90 $\mu$ V for 26dB S/N ratio. Aerial input: 300 ohms balanced. Stereo decoder fitted. 46 transistors. Inputs: tape 270mV 500K, mic 0.5mV 2K. Noise level: -50dB. Output: 15W RMS per channel. Output impedance: 4 ohms. Tone controls: bass  $\pm$ 15dB at 50Hz, treble  $\pm$ 14dB at 10kHz. HD:  $\leq$ 0.1% at 12W per channel. FR: 20Hz-20kHz  $\pm$ 1dB. Mains: 110, 127, 220, 240V AC. Size: 23  $\times$  6 $\frac{3}{4}$   $\times$  14 $\frac{1}{4}$ in. Finish: walnut veneer cabinet with brushed aluminium fascia. Price: £149.69 (including VAT).

### ■ SERVO-SOUND

Lamb House, Church Street, London, W4 2PB.  
Tel: 01-995 4551.

#### SC75BTE

Stereo preamplifier in cabinet with record deck. Designed for operation with Servo-Sound SL20 speaker/power amplifier units and SR2 FM tuner (see appropriate sections). Lenco L75 record deck with tubular pickup arm, lightweight headshell and Stanton 500A magnetic cartridge. Inputs: PU 1.5mV 47K, tape 300mV 40K, aux (1) 300mV 40K, aux (2) 300mV 40K. Output: 1.2V per channel into not less than 400 ohms. HD: 0.3% at 1kHz. Output impedance: 400 ohms. FR: 30Hz-30kHz. 12 silicon transistors. Size: 15 $\frac{5}{8}$   $\times$  5 $\frac{7}{8}$   $\times$  14 $\frac{1}{8}$ in. Finish: wood and steel cabinet finished in walnut or white, black panel and clear plastic dust cover for record deck. Price: £111.90 (plus VAT).

### ■ SIEMENS

Interconti Electronic Ltd, Albany House,  
Petty France, London, SW1H 9EA.

Tel: 01-222 2523.

#### RS252 ★

AM/FM stereo tuner/amplifier in plinth cabinet with record deck. 41 transistors, 20 diodes and four ICs. Range: FM 87.5-104MHz, MW 183-588m, LW 1111-2069m, SW 39-51m. Variable tuning plus six preset stations on FM. AFC. Meter tuning indicator. Usable sensitivity: (FM) 1.5 $\mu$ V, (SW) 10 $\mu$ V, (MW) 50 $\mu$ V, (LW) 150 $\mu$ V. Stereo decoder fitted. Inputs: mag PU (internal connection) 3mV 47K, crystal PU 200mV 470K. Output: 25W RMS per channel. Controls: volume, balance, bass, treble, presence, quarsound, tuning, input selector. HD: 0.5%. Output impedance: 4-16 ohms. FR: 30Hz-20kHz. Mains: 220-240V AC 50Hz. Size: 25  $\times$  10  $\times$  14in. Motor unit: PE3015 three-speed deck with fine speed control. 10 $\frac{1}{2}$ in turntable. Idler wheel drive. Shure M75D cartridge. Stylus: diamond spherical tip. Price: £239.11 (including VAT).



Yamaha MS-3

### ■ SONY (UK) LTD

Pyrene House, Sunbury Cross,  
Sunbury-on-Thames, Middlesex.  
Tel: Sunbury 87644/7.

#### HST-139

AM/FM stereo tuner/amplifier with cassette tape deck. Range: FM/VHF, MW. Variable tuning. AFC. FET front end. Ratio detector. Meter tuning indicator. Usable sensitivity: AM 20 $\mu$ V, FM 2.2 $\mu$ V. Aerial input: 300 ohms balanced. Stereo decoder fitted. 41 transistors and 20 diodes. Inputs: mag PU 3.5mV 47K, ceramic PU 300mV 3.6M, mic 0.775mV 600 ohms, tape 400mV 100K, record/playback 400mV 100K. Output: 12W RMS per channel. Output impedance: 8 ohms. FR: 40Hz-40kHz, (tape) 30Hz-12kHz. Mains: 110, 127, 222, 240V AC. Size: 21 $\frac{5}{8}$  × 5 $\frac{1}{4}$  × 12 $\frac{5}{8}$  in. Finish: walnut cabinet with brushed aluminium panel and black tuning scale. Automatic recording level. Cassette tape deck. Price: £105 (plus VAT).

### ■ TELETON

Teleton Electro (UK) Co Ltd, Teleton House,  
Waterhouse Lane, Chelmsford, Essex.  
CM1 1BD. Tel: Chelmsford (0245) 62442.  
Telex: 99338.

#### SCX1510

Tuner/amplifier with cassette tape deck in one cabinet. Compact cassettes. Speed: 1 $\frac{7}{8}$  i/s. Four track. Pause. Stereo record facility. Twin level meters. W and F: 0.2%. FR: (tape recorder) 70Hz-10kHz. AC bias. Vertical operating position. Range: FM 88-108MHz. MW 187-560m. Aerial input: 75 ohms coaxial or 300 ohms balanced. Stereo decoder fitted. Output: 10W RMS per channel. HD: 0.5%. FR: (amplifier) 40Hz-20kHz. Input: mag PU 5mV. Output impedance: 8 ohms. Outputs for LS and headphones. 17 transistors, 22 diodes and three ICs. Controls: bass, treble, volume (left and right), mode, mains on/off, record level (left and right). Slider controls. Finish: oiled walnut cabinet with matt black and satin aluminium trim. Mains: 220-240V AC. Size: 11 $\frac{1}{4}$  × 13 $\frac{3}{4}$  × 6 $\frac{1}{2}$  in. Price: £139 (including VAT)

### ■ WYE ELECTRONICS LTD

Queen Street North, Whittington Moor,  
Chesterfield, Derbyshire.  
Tel: Chesterfield 51116.

#### Stereo 550

Integrated stereo amplifier in cabinet with record deck. Inputs: mag PU 5mV 47K, ceramic PU 200mV 1M, tape head 7mV 47K, radio 150mV 500K. Controls: treble +11.5dB -13dB at 10kHz, bass +11dB -13dB at 60Hz. Filters: high -12dB at 7kHz and -12dB at 12kHz, low -12dB at 60Hz. FR: 37.5Hz-26kHz  $\pm$ 3dB. HD: < 1% at rated output. Output: 10W RMS per channel into 8 ohms, 15W per channel RMS into 4 ohms. Price: to be announced.

### ■ YAMAHA

Jonathan Fallowfield Ltd, Strathcona Road,  
North Wembley, London, HA9 8QL.  
Tel: 01-904 0141.

#### MC-40

AM/FM stereo tuner/amplifier in cabinet with record deck. Range: FM 88-108MHz. MW 186-560m. Variable tuning. AFC. Stereo decoder fitted. Controls: volume, loudness, mono/stereo, treble, tuning, bass, input selector, balance, mains on/off. Output: 15W RMS per channel. Output impedance: 8 ohms. FR: 20Hz-30kHz  $\pm$ 2dB. HD: 0-15%. Two-speed belt drive Yamaha turntable. CG-5500 magnetic cartridge. Finish: straight grain American walnut. Price: £132.02 (including VAT).

#### MS-3 ★

AM/FM stereo tuner/amplifier in cabinet with record deck. Range: FM 88-108MHz. MW 186-565m. Variable tuning. AFC. Stereo decoder fitted. Controls: volume, treble, bass, balance, acoustic equaliser, loudness, tape monitor, mono/stereo, mains on/off, speaker selector, input selector, tuning. Output: 22W RMS. Output impedance: 8 ohms. FR: 10Hz-30kHz +0dB -2dB. HD: 0.05%. Yamaha two-speed belt drive turntable. Yamaha CG-7000 magnetic cartridge. Finish: American walnut. Price: on application.

#### MS-5B

AM/FM stereo tuner/amplifier in cabinet with record deck and cassette recorder. Range: FM 88-108MHz. MW 186-565m. Variable tuning. AFC. Controls: cassette tape record/playback, volume, treble, bass, balance, acoustic equaliser, function, loudness, high filter, mic volume, tuning, record level. Stereo decoder fitted. Output: 22W RMS per channel. Output impedance: 8 ohms. FR: 10Hz-30kHz -0dB +2dB. HD: 0.05%. Yamaha two-speed belt drive turntable. Yamaha CG-7000 magnetic cartridge. Finish: American walnut. Price: £292.07 (including VAT).

# For a great hi-fi quality story, read the small print.

## **Balance**

The two speakers are each fitted with two 5" bass units and a 3 $\frac{1}{8}$ " tweeter, achieving perfect sound levelling for radio, records or tape.

## **Power off button**

### **Power on (remote)**

You can buy a second pair of speakers to provide 4D sound or simultaneous listening in another room.

**Bass Control/Treble Control**  
Slider controls reduce or boost the tone exactly as required.

## **Loudness Button**

Acts on the amplifiers to boost bass and treble tones at low volume.

## **Stereo Transmission Light**

Indicates a stereo FM radio transmission.

## **Gram**

Switches in the BSR record player, with its magnetic stereo pick-up cartridge with diamond stylus – and many more features.

## **Auxiliary**

To connect other audio equipment to the HMV hi-fi just plug into the socket provided pressing this button first.

## **Off tune and Weak Signal Indicator**

The more 'on station' you are, the dimmer this light becomes until eventually it disappears.

## **MW Selector**

Press this to tune in to any MW station by means of the Flywheel Tuning Control.

## **FM Manual Tuning Selector**

Press to use the Flywheel Tuner.

## **Headphones Socket**

For private listening cut out the loudspeakers (by partially depressing buttons 1 or 2/3/4) and plug in the headphones.

## **Volume Left Channel**

**Volume Right Channel**  
Independent volume controls for each channel.

## **Mono-Stereo with inter-station muting**

Press, and get superb reproduction on mono records and tapes (the sound channels will be switched to run in parallel). Release it to experience the full richness of stereo sound – and, on radio, to reduce inter-station noise when tuning.

## **Tape Monitor**

Press to play back tapes or record on a "3 head" machine.

## **FM Band Selector**

Press to tune in to any station on the FM waveband.

## **Automatic Frequency Control**

Makes sure you're always on station throughout the FM band.

## **FM Pre-set Selectors 1,2,3,4**

**FM Pre-tuning Scales 1,2,3,4**  
Linked controls ensuring you get your station automatically when you press the button.

## **FM and MW Flywheel tuning**

A flick of the fingers and the tuner will skim along the whole length of the waveband.

## **Sockets**

As well as speaker and headphone sockets, there are inputs for Tape, Aerial, Radio (VHF and MW) and auxiliary equipment.

## **Aerials**

There are: indoor VHF – FM aerial; built-in ferrite rod for MW; AM aerial socket for connecting a MW aerial.

The BSR P128 professional series player unit and stereo tuner-amplifier are smoothly housed in a teak-finished cabinet with removable, transparent, neutral-tinted lid.

The speakers also are teak-finished, with softly padded black acoustic fabric fronts.

Dimensions (approx):

Unit: W 24 $\frac{3}{8}$ ", H 7 $\frac{1}{2}$ ", D 15 $\frac{3}{8}$ "

Speakers: W 9 $\frac{3}{8}$ ", H 18 $\frac{3}{8}$ ", D 7 $\frac{3}{8}$ "

For further information write to: Thorn Consumer Electronics Ltd, Dept. C, 284 Southbury Road, Enfield, Middlesex EN1 1TJ.



# HMV



put quality first

HMV is the registered trade mark of EMI Records Ltd.

HMV hi-fi

£165.90 (inc. VAT)

Recommended retail price



# Stamp out mush!

*It's holding you back from the purest sound of all!*

Your FM stereo system hates mush. And if that's what you feed it, how can you hope to get the pure sound quality your system is capable of! Give it a chance. Give it a clean, strong signal from an Antiference *mush killer*—an advanced specialist aerial for FM stereo radio reception. Britain's leading aerial designers created the *mush killers* with the signal strength, directional discrimination, bandwidth and programme coverage you need, today and tomorrow. These are the extra-sturdy FM aerials for roof or loft, in a range to match reception areas. A handy booklet 'Better FM stereo reception' tells you why and which. It's your entry to the big anti-mush movement! If your hi-fi centre is out of copies, ask Antiference for one.

The *mush* killers **Antiference**  
**FM Stereo**  
**Aerials**



Antiference Limited Aylesbury Bucks HP19 3BJ Tel 82511

# Directory of FM/VHF Aerials

★ Indicates entry is illustrated

Abbreviations used in this section are given on page 30.

## ■ AERIALITE

Aerialite Aerials Ltd,  
Radnor Park Trading Estate, West Heath,  
Congleton, CW12 4PX.  
Tel: Congleton 3892/9.

### 900

Band II outdoor dipole with stand-off arm and universal bracket to fit up to 2in diameter masts. Price: £2.10 (plus VAT).

### 901

Band II wide-spaced H array with attachment to fit masts up to 2in diameter. Price: £2.80 (plus VAT).

### 902

Band II three-element array comprising director, folded dipole and reflector. Bracket for mast attachment up to 2in diameter. Price: £4.20 (plus VAT).

### 903

Band II four-element array comprising folded dipole, two directors and a reflector. Bracket for attachment to mast up to 2in diameter. Price: £4.60 (plus VAT).

Aerialite also manufacture a range of vertical rod-type aerials and anti-static systems.

## ■ ANTIFERRENCE LTD

Bicester Road, Aylesbury, Bucks.  
Tel: Aylesbury 82511. Telex: 83666.

### FM214/1A

Single dipole complete with 7in stand-off arm and universal clamp for easy attachment to existing masts. For areas close to a transmitter. Price: £2.10 (plus VAT).

### FM214/EM

Single dipole aerial complete with Easimount bracket for surface mounting on wall, window frame or under eaves. Suitable for good reception areas close to a transmitter. Price: £2.20 (plus VAT).

### FM224 Mushkiller

Dipole and reflector 'H' type array. Complete with universal mast/boom clamp. For use in good reception areas. Price: £2.80 (plus VAT).

### FM233 (loft) Mushkiller ★

Three-element folded dipole array complete

with loft mounting arm, bracket and clamp. Useful for locations where outdoor arrays are not permitted. Price: £2.95 (plus VAT).

### FM234 Mushkiller

Three-element folded dipole array. Complete with universal mast/boom clamp. For medium range reception. Price: £4.20 (plus VAT).

### FM244 Mushkiller

Four-element folded dipole array. Complete with universal mast/boom clamp. Suitable for medium and long-distance reception. Price: £4.60 (plus VAT).

### FM264 Mushkiller ★

Six-element folded dipole array. Complete with universal mast/boom clamp. Top model in the Antiferrence Mushkiller range for medium and long distance FM stereo reception. Price: £6.95 (plus VAT).

### TRR/V receiver transformer

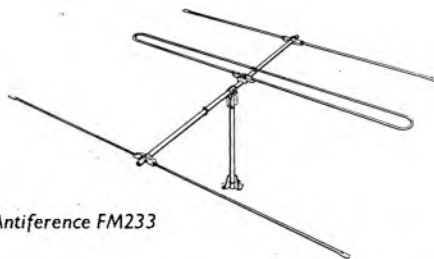
Matches 75 ohm coaxial input feeder into 300 ohm aerial sockets on continental and Japanese tuners and tuner/amplifiers. Price: £1.13 (plus VAT).

## ■ BEN NEVIS AERIALS

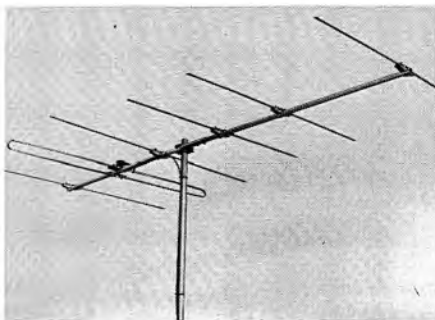
Belmont Works, Belmont Site, Lewis Street,  
Stranraer, Scotland, DG9 7AS.  
Tel: Stranraer 2677/8.

### Ben Nevis TM902-1

Band II single dipole with stand-off arm and



Antiferrence FM233



Antiferrence FM264 Mushkiller

★ Indicates entry is illustrated

universal mast clamp for 1-2in masts. Price: £2.10 (plus VAT).

#### **Ben Nevis TM902-2**

Band II dipole and reflector with boom and stand-off arm and universal mast clamp. Price: £2.60 (plus VAT).

#### **Ben Nevis TM902-3**

Band II three-element array comprising director, folded dipole and reflector, with stand-off arm and universal mast clamp. Price: £3.75 (plus VAT).

#### **Ben Nevis TM902-4**

Band II four-element array comprising two directors, folded dipole and reflector, with stand-off arm and universal mast clamp. Price: £5.25 (plus VAT).

VHF aerials custom-built to individual customer's specification.

#### ■ EXATOR

Distributors: Audio Workshops Ltd,  
29 High Street, Robertsbridge, Sussex.  
Tel: Robertsbridge (0580) 880580.

#### **Exa UKW2**

Two-element aerial comprising folded dipole and reflector. Correct matching to coaxial or balanced twin feeder. Full European band coverage. Gain: average 3dB. Front-to-back ratio: average 9dB. Price: to be announced.

#### **Exa Stereo**

Five-element aerial comprising folded dipole, three directors and one reflector. Correct matching to coaxial or balanced twin feeder. Full European band coverage. Gain: average 7dB. Front-to-back ratio: average 22.5dB. Price: £8.90 (including VAT).

#### **Exa Ringdipol**

Small window-mounting AM/FM aerial. Supplied complete with mounting accessories and five metres of twin feeder. Price: £5.49 (including VAT).

#### ■ FUBA

Distributors: Audio Workshops Ltd,  
29 High Street, Robertsbridge, Sussex.  
Tel: Robertsbridge (0580) 880580.

#### **Uka Stereo 2**

Two-element aerial comprising folded dipole and reflector. Full European coverage. Correct matching to coaxial or balanced twin feeder. Gain: up to 3.3dB. Front-to-back ratio: 7-12dB (average 10dB). Price: £6.40 (including VAT).

#### **Uka Stereo 5**

Five-element aerial comprising folded dipole, two directors and double reflector. Full European coverage. Correct matching to coaxial or balanced twin feeder. Gain: up to 8dB. Front-

to-back ratio: 18-26dB (average 23dB). Price: £13.30 (including VAT).

#### **Uka Stereo 8**

Eight-element aerial comprising folded dipole, five directors and double reflector. Full European coverage. Gain: up to 9.9dB. Front-to-back ratio: 20-27dB (average 24dB). Price: £18.90 (including VAT).

#### **RF A-013**

Small window-mounting AM/FM aerial. Price: £6.40 (including VAT).

#### **USW100**

Aerial combining unit. One broadband input covering Band II, one narrow band adjustable input for long range directional aerial which may be adjusted to anywhere in Band II. Inputs and outputs 75 ohms. Price: £6.47 (including VAT).

#### ■ J. BEAM

J. Beam Aerials Ltd,  
Rothersthorpe Trading Estate,  
Northampton, NN4 9JD.  
Tel: Northampton (0604) 63531. Telex: 311101.

#### **Stereobeam SBM1 ★**

Band II folded dipole with 6in stand-off arm for attaching to existing mast. Suitable for local service areas. Price: £2.10 (plus VAT).

#### **Stereobeam SBM2 ★**

Band II folded dipole and reflector on boom. Supplied complete with fixing clamp for masts up to 2in diameter. Gain: 3dB. Reduces interference from rear. Price: £2.80 (plus VAT).

#### **Stereobeam SBM3 ★**

Band II aerial comprising folded dipole, reflector and director on boom. Supplied complete with clamp to fit masts up to 2in diameter. Gain: 6dB. Gives protection against signals more than 40° off bearing. Price: £4.20 (plus VAT).

#### **Stereobeam SBM4 ★**

Band II aerial comprising folded dipole, reflector and two directors on boom. Supplied complete with clamp to fit masts up to 2in diameter. Suitable for medium fringe areas where large input signal is required for optimum performance. Gain: 7dB. Price: £4.60 (plus VAT).

#### **Stereobeam SBM6 ★**

High-gain Band II aerial comprising folded dipole, reflector and four directors on boom. Supplied with clamp to fit masts up to 2in diameter. Suitable for use over the whole of the FM/VHF band, including the more powerful continental stations in favourable locations. Gain: 8.5dB. Price: £6.95 (plus VAT).

#### **Stereobeam room aerial**

Band II compressed dipole using inductive loading. Suitable for areas of high signal strength. Can be stood on base or fixed to wall. Supplied



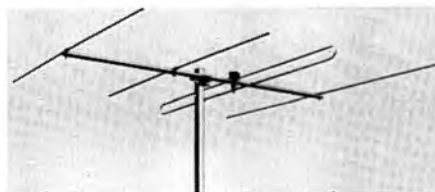
*J Beam Stereobeam SBM1*



*J Beam Stereobeam SBM2*



*J Beam Stereobeam SBM3*



*J Beam Stereobeam SBM4*



*J Beam Stereobeam SBM6*

complete with lead and plug. Price: £2-20 (plus VAT).

**Stacking kit PM3**

For extreme long range reception two SBM4 or SBM6 arrays can be stacked together using phasing and matching harness PM3. Price: £2-10 (plus VAT).

**2010/220 Aerial Rotator**

Control unit with position selector knob, plus motor unit for driving aerial. Operation indicated by signal lamps. Motor 20V 65W. 360° rotation. Suitable for 220-240V AC only. Speed: one revolution in 50 sec. Magnetic disc brake and self-restraining worm gear drive hold aerial in chosen position. Five-core control cable available separately (see below). Price: £27-50 (plus VAT).

**3001/220 Aerial Rotator**

Control unit with manual selection of left or right direction, plus motor unit for driving aerial. Operation indicated by direction pointers. Motor 20V 65W. Similar motor drive unit to the 2010/220 above. Price: £22 (plus VAT).

**Control cable**

Five-core colour-coded control cable available in 20yd or 50yd lengths. Price: C6/20 £3-50 (plus VAT); C6/50 £8-75 (plus VAT).

**RZ100**

Alignment bearing suitable for use with the above-mentioned equipment. Price: £7-25 (plus VAT).

■ **K.V.A. ELECTRONICS**

40 Monarch Parade, London Road, Mitcham, Surrey. Tel: 01-648 4884.

**FML**

Band II loft dipole. Two-screw fixing bracket, rotatable base, arms of dipole adjustable to V for optimum results or to clear obstructions. Price: £1 (plus VAT).

**FM.SD/W**

Band II wall-mounting single dipole with fixing bracket, stand-off arm and provision for swivelling aerial for optimum results. Price: £2 (plus VAT).

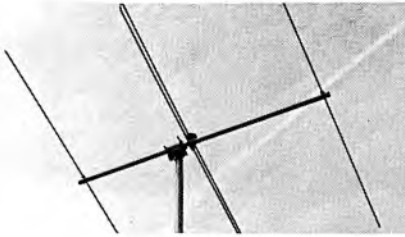
**FML/H**

Band II loft-type H aerial comprising dipole, reflector, mounting boom and stand-off arm. Fixing bracket permits aerial to be orientated for best results. Price: £2 (plus VAT).

**FML/Y3**

Band II three-element loft array comprising director, folded dipole and reflector with stand-off arm and fixing bracket. Particularly suitable in areas where signal strength is poor or where 'ghosting' causes distortion. Price: £3-25 (plus VAT).





Maxview D/FD3

**FML/Y4**

Similar to FML/Y3 but with two directors.  
Price: £3.50 (plus VAT).

■ **MAXVIEW AERIALS LTD**

Maxview Works, Setch, King's Lynn, Norfolk.  
Tel: Watlington (Norfolk) 376.

**Maxview D/DW**

Band II wall-mounting dipole with stand-off arm and adjustable swivel fitting. Price: £2.15 (plus VAT).

**Maxview D/DM**

Band II dipole array with bracket for mast fitting. Price: £1.83 (plus VAT).

**Maxview D/HM**

Band II array comprising dipole and reflector on boom. Bracket for mast mounting. Price: £2.54 (plus VAT).

**Maxview D/S3**

Band II three-element array comprising director, dipole and reflector. Bracket for mast mounting. Price: £2.94 (plus VAT).

**Maxview D/FD3 ★**

Band II three-element array comprising director, folded dipole and reflector. Bracket for mast mounting. Price: £3.67 (plus VAT).

**Maxview D/STB**

Band II Twig stub add-on units for TV aerials to boost Band II reception. Price: 67p (plus VAT).

■ **PREMIER**

Premier Installations Ltd, 343/345 High Street, Cheltenham Spa, Gloucestershire GL50 3HS.  
Tel: Cheltenham (0242) 27782.

**Clarity C4**

Four-element Band II array comprising two directors, folded dipole and folded reflector. Price: £5 (plus VAT).

**Clarity C6**

Six-element Band II array comprising four directors, folded dipole and folded reflector. Price: £8.26 (plus VAT).

**Clarity PH/ST**

Phasing harness for coupling two C4 or two C6

arrays for extra long distance reception. Price: £1.60 (plus VAT).

■ **SPECTRUM AERIALS LTD**

Thirsk Place, Osmaston Park Industrial Estate, Derby DE2 8JJ. Tel: Derby 32094/362936.

**Dipole**

Band II VHF radio dipole. Price: £1.20 (plus VAT).

**H Array**

Band II VHF radio H array. Price: £1.88 (plus VAT).

**Three-element dipole**

Band II VHF radio array comprising director, dipole and reflector. Price: £3 (plus VAT).

**Three-element folded dipole**

Band II VHF radio array comprising director, folded dipole and reflector. Price: £3.20 (plus VAT).

**Four-element**

Band II VHF radio array comprising two directors, dipole and reflector. Price: £4 (plus VAT).

■ **VISTA GAIN**

Vista Gain Sales Co, 123-124 Newgate Street, London, EC1A 7AA.  
Tel: 01-600 3030.

**K.2**

Band II indoor dipole. Heavily-plated three-step telescopic dipole adjustable for optimum results. Capacity coupled elements for complete safety. Heavy base. Supplied with three yards low-loss coaxial cable. Price: approximately £2.70 (plus VAT).

■ **WOLSEY ELECTRONICS**

Cymmer Road, Porth, Rhondda, Glamorgan CF39 9BT. Tel: Porth (044 361) 2711.  
Telex: 49606.

**FM/DD**

Band II single dipole for loft or room mounting. Price: £1.55 (plus VAT).

**FM/DU**

Band II single dipole for outside masthead mounting. Supplied with fixing clamp. Price: £1.70 (plus VAT).

**FM/HU**

Band II dipole with reflector for outside mounting. Supplied with fixing clamp. Price: £2.80 (plus VAT).

**FM/4U**

Band II four-element array comprising folded dipole, two directors, one reflector. Supplied with fixing clamp. Price: £4.30 (plus VAT).

# FM STEREO aerials



NEW AND PATENTED AERIALS FOR STEREO RECEPTION  
**STEREO BEAM**  
the best on balance



## STAR FEATURES OF THESE SUPERB AERIALS

*Every model incorporates the patented 'Inverse Balun' an exclusive design feature which provides*

- \* ELIMINATION OF 'PICK-UP' ON DOWN LEAD REDUCING INTERFERENCE & DISTORTION FROM MULTIPATH RECEPTION
- \* REACTANCE COMPENSATION TO GIVE WIDE BAND WIDTH & EQUAL PERFORMANCE ON ALL STATIONS IN THE F. M. SPECTRUM
- \* MAXIMUM SIGNAL PICK-UP FREE FROM 'HISS' & EXTRANEOUS BACKGROUND NOISES

*Ask your nearest distributor for full details of the 'Stereobeam' range or write directly to:*

**J. BEAM AERIALS LIMITED**

**NORTHAMPTON NN4 9JD Tel: 0604 63531 (10 lines) Telex 311101**

*A member of the J. Beam Group of Companies*

*see it  
and  
hear  
it all...  
at Laskys*

Now that you've read about the latest models in the Hi-Fi Year Book, come to Laskys where you can see, hear and compare them all and hear what we have to say about them.

We stock an incomparable range of equipment which with expert guidance from our staff enables you, in one place, at one time, to select the system best suited to your requirements at the price you can afford.

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Telephone: 01-205 5651

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109 Fleet Street, London EC4 01-353 5812  
207 Edgware Road, London W2 01-723 3271

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# Directory of Manufacturers

- Abstracta Equipment Ltd**, Netil House, 1-7 Westgate Street, London, E8 3RB. Tel: 01-986 3131.
- Acos**, Cosmocord Ltd, Eleanor Cross Road, Waltham Cross, Herts, EN8 7NX. Tel: Waltham Cross 27331.
- Acoustical Manufacturing Co Ltd**, St Peter's Road, Huntingdon, Hunts, PE18 7DB. Tel: Huntingdon (0480) 52561.
- Acoustic Enterprises Ltd**, Unit 7, Space Way, North Feltham Trading Estate, Feltham, Middlesex, TW14 0TZ. Tel: 01-751 0141.
- Acoustic Research International**, High Street, Houghton Regis, Beds. Tel: Dunstable 603151.
- Adastra Electronics Ltd**, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288.
- AEG Telefunken (UK) Ltd**, Bath Road, Slough, Bucks. Tel: Slough (75) 33311.
- Aerialite Aerials Ltd**, Radnor Park Trading Estate, West Heath, Congleton, CW12 4PX. Tel: Congleton 3892.
- Agfa-Gevaert**, Unity House, Great West Road, Brentford, Middlesex. Tel: 01-560 2131.
- Akai**, Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR. Tel: 01-568 9222.
- AKG Equipment Ltd**, 182-184 Campden Hill Road, Kensington, London, W8 7AS. Tel: 01-229 3695/6.
- Alba (Radio & Television) Ltd**, Tabernaacle Street, London, EC2A 4DY. Tel: 01-253 1322.
- Albany House**, Intercoati Electronics Ltd, Petty France, London, SW1H 9EA. Tel: 01-222 2523.
- Richard Allan Radio Ltd**, Bradford Road, Gomersal, Cleckheaton, Yorkshire, BD19 4AZ. Tel: Cleckheaton 2442/3.
- Allotrope Ltd**, 90 Wardour Street, London W1V 3LE. Tel: 01-437 1892.
- Alpha**, Hightate Acoustics, 38 Jamestown Road, London NW1 7EJ. Tel: 01-267 4937/8.
- Altec Lansing (Domestic speakers)**, Acoustico Enterprises Ltd, Unit 7, Space Way, North Feltham Trading Estate, Feltham, Middlesex, TW14 0TZ. Tel: 01-751 0141.
- Altec Lansing (Professional equipment)**, Ling Dynamic Systems Ltd, Baldock Road, Royston, Herts SG8 5BQ. Tel: Royston 42424.
- Amcron**, Macinnes Laboratories Ltd, Stonham, Stowmarket, Suffolk, IP14 5LB. Tel: Stonham 044 971 486.
- Amerex (UK) Ltd**, 96 Piccadilly, London, W1V 9HB. Tel: 01-499 3537/8.
- Ampex (Domestic)**, Tape Music Distributors Ltd, 114 Ashley Road, St Albans, Herts, AL1 5JR. Tel: St Albans 64337.
- Ampex G.B. Ltd**, Acre Road, Reading, RG2 0QR. Tel: Reading 84411.
- Amplivox Ltd**, Beresford Avenue, Wembley, Middlesex. Tel: 01-902 8991.
- Amos of Exeter Ltd**, Weircliffe Court, Exwick, Exeter, Devon. Tel: 72132.
- Amstrad**, A.M.S. Trading (Amstrad) Ltd, 89 Ridley Road, London, E8. Tel: 01-249 5237.
- Amtron (UK) Ltd**, 4-7 Castle Street, Hastings, Sussex, TN34 3DY. Tel: 2875.
- Antiference Ltd**, Bicester Road, Aylesbury, Bucks. Tel: Aylesbury 82511.
- Association of Public Address Engineers Ltd**, 6 Conduit Street, London, W1R 9TG. Tel: 01-493 5256.
- ARD**, Audio Research and Development Ltd, PO Box 73, Hounslow, Middlesex, TW3 1RD. Tel: 01-570 0471.
- Ariston**, C. W. & J. Walker, Brentwood, Red Lane, Frodsham, Warrington, WA6 6RA. Tel: Frodsham (0928) 33326.
- Armstrong Audio Ltd**, Warlters Road, Holloway, London, N7 0RZ. Tel: 01-607 3213.
- Arnex Products Ltd**, London Road, Daventry, Northants. Tel: Daventry (03272) 2231.
- ASA (UK) Television & Radio Ltd**, 31/35 High Street, Shirlhampton, Bristol, BS11 0DX. Tel: 0272 684801.
- Astronic**, Associated Electronic Engineers Ltd, Dalston Gardens, Stanmore, Middlesex, HA7 1BL. Tel: 01-204 2125.
- ADC (Audio Dynamics Corporation)**, Hisonic Ltd, Tovil, Maidstone, Kent. Tel: Maidstone 57258.
- Audiodecks Ltd**, Farnell House, 81 Kirkstall Road, Leeds, LS1 1HR. Tel: Leeds 35111.
- Audio Developments**, B. H. Morris & Co (Radio) Ltd, Trio House, The Hyde Industrial Estate, The Hyde, London, NW9 6JP. Tel: 01-205 6441.
- Audio Magnetics (UK) Ltd**, 12 Fife Road, Kingston-on-Thames, Surrey, KT1 1SZ. Tel: 01-549 3271/2.
- Audio Packs Ltd**, 206-210 Ilderton Road, London, SE15 1NS. Tel: 01-639 7844.
- Audio Research & Development Ltd**, PO Box 73, Hounslow, Middlesex. Tel: 01-570 0471.
- Audio Services Ltd**, 82 East Barnet Road, New Barnet, Herts. Tel: 01-449 6605.
- Audiosonics**, J. Parkar & Co (London) Ltd, Parkar House, Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.
- Audio Technica**, Shiro (UK) Ltd, 42 Russell Square, London, WC1B 5DF. Tel: 01-580 6996.
- Audio Workshops Ltd**, 29 High Street, Robertsbridge, Sussex. Tel: Robertsbridge 580.
- Avel-Lindberg Ltd**, 13-16 Ayron Road, South Oxenden, Essex, RM15 5TD. Tel: South Oxenden 2263.
- Baker Reproducers Ltd**, Bensham Manor Road Passage, Thornton Heath, Surrey. Tel: 01-684 1665.
- Bang & Olufsen UK Division**, Eastbrook Road, Gloucester, GL4 7DE. Tel: Gloucester 21591.
- BASF United Kingdom Ltd**, Knightsbridge House, 197 Knightsbridge, London, SW7 1SA. Tel: 01-584 5080.
- F. W. O. Bauch Ltd**, 49 Theobald Street, Boreham Wood, Herts. Tel: 01-953 0091.
- Ben Nevis Aerials Ltd**, Belmont Works, Belmont Site, Lewis Street, Stranraer, Scotland, DG9 7AS. Tel: Stranraer 2677/8.
- Beyer Dynamic (GB) Ltd**, 1 Clair Road, Haywards Heath, Sussex. Tel: Haywards Heath 51003.
- Bias Electronics Ltd**, Unit 8, Coombe Trading Estate, 112-120 Coombe Lane, London, SW20 0BA. Tel: 01-947 3121.
- Bib Sales**, PO Box 78, Maylands Avenue, Hemel Hempstead, Herts. Tel: 0442 3636 Ext 100.
- Bigston**, J. Parkar & Co (Radio) Ltd, Parkar House, Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.
- Black Knight Rumblecure**, Bank Top, Currier Lane, Ashton-under-Lyne, Lancs OL6 2TA. Tel: 061-330 2836.
- Bogen**, Cole Electronics Ltd, Church Road, Croydon, CR0 1SG. Tel: 01-686 7581.
- Bosch Ltd**, Rhodes Way, Radlett Road, Watford, Herts. WD2 4LB. Tel: 44233.
- Bose**, Expotus Ltd, 10 Museum Street, London, WC1. Tel: 01-836 3747. Distributors: Acoustico Enterprises Ltd.
- Bradmatic Ltd**, 338 Aldridge Road, Streetly, Sutton Coldfield, Warwickshire. Tel: 021-353 3171.
- Braun**, Hisonic Ltd, Tovil, Maidstone, Kent, ME15 6QP. Tel: Maidstone (0622) 57258.
- Brahms Manufacturing and Development Co**, Unit E, Rochester Airport, Maidstone Road, Rochester, Kent, ME1 3QJ. Tel: Medway 48816.
- Brenell Engineering Co Ltd**, 231-5 Liverpool Road, London, N1 1LY. Tel: 01-607 8271.
- Britimpex Ltd**, 8-12 Rickett Street, London, SW6. Tel: 01-385 0883.
- Bryan Amplifiers Ltd**, 18 Greenacres Road, Oldham, Lancs, OL4 1HA. Tel: 061-624 4074.
- BSR McDonald**, B.S.R. Ltd, Monarch Works, Cradley Heath, Warley, Worcs. Tel: Cradley Heath 69272.
- Bush-Arena**, Rank Radio International Ltd, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.
- Bush Nelson Ltd**, Bush House, 6 Yattendon Road, Horley, Surrey. Tel: Horley 5983.

- B & W Electronics**, Meadow Road, Worthing, Sussex. BN11 2RX. Tel: Worthing 205611/4.
- Calrec Audio Ltd**, Haningroyd Lane, Hehden Bridge, Yorks, HX7 7DD. Tel: Hehden Bridge 2159.
- Calyx Shelving Systems Ltd**, Stanley Works, Belgrave Road, London. SE25 5AN. Tel: 01-771 1221.
- Cambridge Audio Ltd**, The River Mill, St Ives, Huntingdon. PE17 4EP. Tel: St Ives (Hunts) 62901.
- Canterbury Audio**, 4 Station Road West, Canterbury, Kent. Tel: Canterbury 60431.
- Carol Cinesound**, Cresta Electronics Ltd, 72 Loom Lane, Radlett, Herts. WD7 8PA. Tel: Radlett 5342 and Harpenden 60397.
- Celestion**, Rola-Celestion Ltd, Ditton Works, Foxhall Road, Ipswich, Suffolk, IP3 8TP. Tel: Ipswich 73131.
- CHB Supplies Ltd**, Oldington Trading Estate, Stourport Road, Kidderminster, Worcs. Tel: Kidderminster (0562) 4861.
- Chilton**, Magnetic Tapes Ltd, Chilton Works, Garden Road, Richmond, Surrey. Tel: 01-876 7957.
- City Audio Services Ltd**, 144 Lavender Hill, London, SW11 5RA. Tel: 01-223 2496.
- Clark**, Sonah Ltd, PO Box 4, Oldfield Road, Hampton, Middlesex, TW12 2HN. Tel: 01-879 0134.
- Clark Speakers**, 122 Hull Road, Anlaby, Hull, HU10 6UV. Tel: Hull (0482) 656706.
- Cleen**, Kirkman (Crawley) Ltd, 40 The Broadway, Crawley, Sussex. Tel: Crawley 26670.
- Clemdisc (Mail Order) Ltd**, 7 Trinity Court, Gray's Inn Road, London. WC1X 3TX. Tel: 01-837 9088.
- Cole Electronics**, 7-15 Lansdowne Road, Croydon, CR9 2HB. Tel: 01-686 7581.
- Colton**, Musonic Ltd, 34-38 Verulam Road, St Albans, Herts. Tel: St Albans 50611/2.
- Comherton**, CHB Supplies Ltd, Oldington Trading Estate, Stourport Road, Kidderminster, Worcs. Tel: Kidderminster (0562) 4861.
- Condor Electronics Ltd**, 100 Coombe Lane, London, SW20 0QY. Tel: 01-946 0033.
- Connoisseur**, A. R. Sugden & Co (Engineers) Ltd, Connoisseur Works, Atlas Mill Road, Brighouse, Yorks, HD6 1ES. Tel: Brighouse 2142.
- CosmoCORD Ltd**, Eleanor Cross Road, Waltham Cross, Herts, EN8 7NX. Tel: Waltham Cross 27331.
- Cresta Electronics**, 72 Loom Lane, Radlett, Herts. WD7 8PA. Tel: Radlett 5342 and Harpenden 60397.
- Crown Radio**, 128/9 Shoreditch High Street, London, E1 6JE. Tel: 01-739 2382.
- Darby Industries**, 38-42 Chestnut Grove, New Malden, Surrey, KT3 3JW. Tel: 01-942 1598.
- A. Davies & Co**, 56 Wellesley Road, London, NW5. Tel: 01-485 5775.
- Decca Radio & Television**, Neachells Lane, Willenhall, Wolverhampton, Staffs. Tel: 0902 67367.
- Decca Special Products**, Ingate Place, Queenstown Road, London, SW8 3NT. Tel: 01-622 6677.
- Decca Record Co**, Decca House, 9 Albert Embankment, London, SE1 7SW. Tel: 01-735 8111.
- Deimos Ltd**, 8 Corwell Lane, Hillingdon, Middlesex. Tel: 01-573 3561.
- Denham & Morley (Overseas) Ltd**, 453 Caledonian Road, London, N7 9RA. Tel: 01-607 6568.
- Derwent**, Nichols Acoustic Fittings, Church Street, Bubwith, Near Selby, Yorkshire. Tel: Bubwith 206.
- Deutsche Grammophon**, Polydor Ltd, 17 Stratford Place, London, W1N 0BL. Tel: 01-499 8686.
- Dual**, Audiodecks Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS1 1HR. Tel: Leeds 35111.
- Duette**, I. I. Silber Ltd, 11 Northburgh Street, London, EC1. Tel: 01-253 8031.
- Dynaco**, Howland West Ltd, 2/5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.
- Dynastatic**, Audio Services Ltd, 82 East Barnet Road, New Barnet, Herts. Tel: 01-449 6605.
- Dynatron Radio Ltd**, St Peter's Road, Maidenhead, SL6 7QY Berks. Tel: Maidenhead 23331.
- Eagle International**, Heather Park Drive, Wembley, HA0 1SU. Tel: 01-903 0144.
- Eaton Audio Fittings**, Leopold Street, Long Eaton, Nottingham, NG10 4QF. Tel: Long Eaton 2662 and 2818.
- Fehn**, Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288.
- Edward Michelsen Custom Cabinets**, "Sound Ideas" 216 Brampton Road, Bexleyheath, Kent. Tel: 01-303 9272.
- Fkren, Pye Ltd**, PO Box 49, St Andrews Road, Cambridge, CB4 1DS. Tel: Cambridge 58985.
- Elac**, (Speakers and enclosures) Electro Acoustic Industries Ltd, Stamford Works, Broad Lane, Tottenham, London, N15. Tel: 01-808 0505.
- Electronic Manufacturing Co (UK) Ltd**, Devonshire House, High Street, Derwent, Birmingham, B12 0LP. Tel: 021-772 7145/3669.
- Electro-Voice**, Gulton Europe Ltd, Special Products Division, The Hyde, Brighton, BN2 4IU. Tel: 0273 66271.
- Elgar**, English Audio (1970) Ltd, North Station Road, Colchester, Essex. Tel: Colchester (02061) 73467.
- Elite**, Viceroy Manufacturing Group, PO Box 102, Watford, Herts WD1 4EE. Tel: 01-229 7743.
- Elowi**, Lynton Factors, 90 Dragon Parade, Harrogate, Yorks, HG1 5DQ. Tel: Harrogate 3540.
- EMI Records Ltd**, EMI House, 20 Manchester Square, London, W1. Tel: 01-486 4488.
- EMI Service Division**, EMI Sound and Vision Equipment Ltd, 252 Blyth Road, Hayes, Middlesex, UB3 1HW. Tel: 01-573 3888.
- EMI Sound & Vision Equipment Ltd**, EMI Pathe Division, 252 Blyth Road, Hayes, Middlesex, UB3 1HW. Tel: 01-573 3888.
- EMI Tape Ltd**, Tape House, Dawley Road, Hayes, Middlesex, UB3 1BT. Tel: 01-573 3888.
- Emphasis**, 50a The Avenue, Kilburn, NW6. Tel: 01-451 0517.
- Empire Scientific Corporation**, Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR. Tel: 01-568 9222.
- E.M.T. Franz Vertriebsgesellschaft mGH F.W.O. Bauch Ltd**, 49 Theohald Street, Boreham Wood, Herts. Tel: 01-953 0091.
- English Audio (1970) Ltd**, North Station Road, Colchester, Essex. Tel: 73467.
- E. R. Factors Ltd**, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.
- Europa Electronics Ltd**, 9 Howard Place, Shelton, Stoke-on-Trent, ST1 4NW. Tel: Stoke-on-Trent 29316.
- Eurotronic**, 2 Gerrard Gardens, Eastcote Pinner, Middlesex. Tel: Ruislip 36316.
- Exator**, Audio Workshops Ltd, 29 High Street, Robertsbridge, Sussex. Tel: Robertsbridge (0580) 880580.
- Excel Sound Corporation**, Mathers Photographies Ltd, 35 John Dalton Street, Manchester 2. Tel: 061 834 6133.
- Excelsior**, Oscar Radio Company, 56-63 Goswell Road, London, E.C.1. Tel: 01-253 1802.
- Executive Audio**, 10 Goldsmith Street, Nottingham, NG1 51R. Tel: Nottingham (0602) 44223.
- Expert Pickups Ltd**, PO Box No. 3, Ashtead, Surrey. Tel: Ashtead 36604.
- Expotus Ltd**, 10 Museum Street, London, WC1. Tel: 01-836 3747.
- FAL**, Futuristic Aids Ltd, 104 Henconner Lane, Leeds, LS13 4LO. Tel: Pudsey 5478.
- Falcon**, John Street (Manufacturers) Ltd, Falcon Works, Barmston Road, Catford, SE6. Tel: 01-698 1177.
- Falcon Electronics**, Components Division, 33 Station Road, Bexhill-on-Sea, Sussex. Tel: Bexhill 1908.
- Jonathan Fallowfield**, Strathcona Road, North Wembley, London HA9 8QL. Tel: 01-904 0141.
- Fane Acoustics Ltd**, Hick Lane, Batley, Yorks. Tel: Batley 6431.
- Fantavox**, Joint distributors: Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288. E. R. (Factors) Ltd, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.

- A. C. Farnell Ltd**, Kenyon Street, Sheffield, S1 4BD. Tel: 0742 78901.
- Farnell-Tandberg Ltd**, Consumer Division, Farnell House, 81 Kirkstall Road, Leeds, LS3 1HR. Tel: Leeds 35111.
- Feldon Audio Ltd**, 126 Great Portland Street, London, W1N 5PH. Tel: 01-580 4314.
- Ferguson**, Thorn Consumer Electronics Ltd, 284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.
- The Ferrograph Co. Ltd**, Auriema House, 442 Bath Road, Cippenham, Slough, Bucks. SL1 6BB. Tel: Burnham 062-86 62511.
- Fidelity Radio Ltd**, 6 Olaf Street, London, W1. Tel: 01-727 0131.
- Film Industries Ltd**, Station Avenue, Kew Gardens, Surrey. Tel: 01-940 8078.
- Fisher**, ICP Ideal Computer Processors Ltd, Hainault House, Hainault Street, New Eltham, London, SE9. Tel: 01-850 0828.
- Foster**, Joint distributors: E. R. Factors Ltd, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361. Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1JU. Tel: 01-452 6288.
- A. R. Franklin** (Audio engineer) 4 Birch House, Howard Road, Penge, London, SE20 8HJ. Tel: 01-659 0912.
- Fuba**, Audio Workshops Ltd, 29 High Street, Robertsbridge, Sussex. Tel: Robertsbridge (058088) 580.
- Futuristic Aids Ltd**, 104 Henconner Lane, Leeds, 13. Tel: Pudsey 5478.
- Gabraphone**, Modern Engineering & Technology, 4 Station Road West, Canterbury, Kent. Tel: Canterbury 60431.
- Gale Electronics Ltd**, 39 Upper Brook Street, London, W1Y 1PE. Tel: 01-499 2030.
- Gardners Transformers Ltd**, Christchurch, Hampshire, BH23 3PN. Tel: Christchurch (02015) 2284.
- Garrard Engineering Ltd**, Newcastle Street, Swindon, Wilts. Tel: Swindon 5381.
- Golding Audio Ltd**, Marks Tey, Colchester. Tel: Colchester 210433.
- Golding Ltd**, 10 Bayford Road, Hackney, London, E8 3SE. Tel: 01-985 1152.
- Goodmans Loudspeakers Ltd**, Downley Road, Havant, Hants, PO9 2NL. Tel: Havant 6344.
- Grado**, Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293/4/5.
- Grampian Reproducers Ltd**, 19 Hanworth Trading Estate, Feltham, Middlesex. Tel: 01-894 9141.
- Groovac**, R. I. Audio, Kernick Road, Penryn, Cornwall. Tel: Penryn (032-67) 2753.
- Grundig (Great Britain) Ltd**, Hi-Fi Division, Sydenham, London, SE26 5NQ. Tel: 01-778 2211.
- Gulton Europe Ltd**, Special Products Division, The Hyde, Brighton, BN2 4JU. Tel: 0273 66271.
- Hacker Radio Ltd**, Norreys Drive, Cox Green, Maidenhead, Berks, SL6 4BP. Tel: Maidenhead (0628) 22261.
- G. F. C. Hadcock**, Audio Division, The Old Vicarage, Doveridge, Derby, DE6 5NN. Tel: Uttoxeter 2452.
- C. E. Hammond & Co Ltd**, Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551.
- Hampstead High Fidelity**, 91 Heath Street, Hampstead, London, NW3. Tel: 01-435 6377 and 0999.
- Hanimex (U.K.) Ltd**, Hanimex House, 15-24 Great Dover Street, London, SE1. Tel: 01-407 8161.
- Harman-Kardon**, Highgate Acoustics Ltd, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.
- Harris & Russell Ltd**, 124-130 East Road, London, N1. Tel: 01-253 7551.
- Harwell Instruments**, 5-9 Anerley Station Road, London, SE20. Tel: 01-778 9456.
- Hayden Laboratories Ltd**, Hayden House, 17 Chesham Road, Amersham, Bucks, HP6 5AG. Tel: Amersham (0240-3) 5511.
- Heathkit**, Heath (Gloucester) Ltd, Bristol Road, Gloucester, GL2 6EE. Tel: Gloucester 29451.
- P. F. and A. R. Helme**, Summerbridge, Harrogate, HG3 4DR, Yorks. Tel: Darley 279.
- H/H Electronic**, Industrial Site, Cambridge Road, Milton, Cambridge, CB4 4AZ. Tel: Cambridge 65945/6.
- Hi-Fi Sound (Test Record)**, Howland-West Ltd, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.
- Highgate Acoustics Ltd**, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.
- Hisonic Ltd**, Tovil, Maidstone, Kent. Tel: Maidstone 57258.
- Hitachi Sales (UK) Ltd**, New Century House, Coronation Road, Park Royal, London, NW10 7QS. Tel: 01-965 9861.
- H. L. Audio Ltd**, 9b Garman Road, Tottenham, London, N17. Tel: 01-808 6127.
- HMV**, Thorn Consumer Electronics Ltd, 284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.
- Hokushin Audio Visual Ltd**, 2 Ambleside Avenue, London, SW16. Tel: 01-677 9919.
- Holder Pearce Ltd**, 66 Grove Road, Eastbourne, Sussex, BN21 4UH. Tel: Eastbourne 26565.
- John Horwitz**, 305 Kenton Road, Kenton, Harrow, Middlesex, HA3 0HP. Tel: 01-907 6667.
- Howland-West Ltd**, 3-5 Eden Grove, London, N7 8EQ. Tel: 01-609 0293.
- Ideal Computer Processors Ltd**, Hainault House, Hainault Road, New Eltham, London, SE9. Tel: 01-850 0828.
- IMF Products (GB)**, Westbourne Street, High Wycombe, Bucks. Tel: High Wycombe 35166.
- Imhofs Ltd**, 112-116 New Oxford Street, London, WC1A 1HJ. Tel: 01-636 7878.
- Impex**, McArdie & Brainsby (Import & Export) Ltd, PO Box 2BB, Newcastle upon Tyne, NE99 2BB.
- Interconti Electronics Ltd**, Albany House, Petty France, London, SW1H 9EA. Tel: 01-222 2523.
- Isophon-Werke**, Hayden Laboratories Ltd, Hayden House, 17 Chesham Road, Amersham, Bucks, HP6 5AG. Tel: Amersham (0240-3) 5511.
- ITT Consumer Products (UK) Ltd**, Maidstone Road, Sidcup, Kent, DA14 5HT. Tel: 01-300 7733.
- ITT-STC**, ITT Components Group Europe, Standard Telephones and Cables Ltd, Electro-Mechanical Product Division, West Road, Harlow, Essex. Tel: Harlow 26811.
- Jacrex Marketing Ltd**, 40 Bell Street, Reigate, Surrey, RH2 7BA. Tel: Reigate 40540.
- J. Beam Aerials Ltd**, Rothersthorpe Trading Estate, Rothersthorpe Crescent, Northampton, NN4 9JD. Tel: Northampton (0604) 63531/6.
- Jordan Watts Ltd**, Benlow Works, Silverdale Road, Hayes, Middlesex, UB3 3BW. Tel: 01-573 6928.
- JVC-Nivico**, Denham and Morley (Overseas) Ltd, 453 Caledonian Road, London, N7 9BA. Tel: 01-607 6568.
- J. W. (Wholesale) Ltd**, 26 Rosoman Street, London, EC1. Tel: 01-837 3041.
- Kalimar**, Highgate Acoustics Ltd, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.
- KEF Electronics Ltd**, Tovil, Maidstone, Kent. Tel: Maidstone 57258.
- Keletron**, K & K Electronics Ltd, 60 St Mark's Rise, London, E8 2NR. Tel: 01-254 9941/4.
- Kellar Electronics Ltd**, Lopen Works, Lopen Road, Edmonton, London, N18. Tel: 01-807 49860.
- K.F. Products Ltd**, Brookfield House, Hopes Carr, Stockport, Cheshire. Tel: 061-480 7428.
- Kingstereo**, Lionel Murray Ltd, 7 West Halkin Street, Belgrave Square, London, SW1. Tel: 01-235 6424/6.
- Kingsway Mills Ltd**, 5 Worship Street, London, EC2. Tel: 01-628 6157.
- Kirkman (Crawley) Ltd**, 40 The Broadway, Crawley, Sussex. Tel: Crawley 26670.
- K & K Electronics Ltd**, 60 St Mark's Rise, London, E8 2NR. Tel: 01-254 9941/4.
- Klein and Hummel**, F. W. O. Bauch Ltd, 49 Theobald Street, Boreham Wood, Herts. Tel: 01-953 0091.
- Klinger Controls**, 7 Chalcot Road, London, NW1 8LU. Tel: 01-586 2922/3.

**Korting**, Europa Electronics Ltd,  
9 Howard Place, Shelton,  
Stoke-on-Trent, ST1 4NW  
Tel: Stoke-on-Trent 29316.

**Koss**, Tape Music Distributors Ltd,  
114 Ashley Road, St Albans, Herts.  
AL1 5JR. Tel: St Albans 64337.

**Keyo**, Kingsway Mills Ltd 5 Worship  
Street, London, EC2. Tel: 01-628 6157.

**KVA Electronics Ltd**, 40 Monarch  
Parade, London Road, Mitcham, Surrey.  
Tel: 01-648 48884.

**Thomas Laney Audio**, Electronic  
Manufacturing Co (UK) Ltd, Devonshire  
House, High Street, Deritend,  
Birmingham, B12 0LP.  
Tel: 021-772 7145

**James B. Lansing**, Feldon Audio Ltd,  
126 Great Portland Street, London,  
W1N 5PH. Tel: 01-580 4314

**Larson**, Cole Electronics Ltd, Church  
Road, Croydon, CR0 1SG.  
Tel: 01-686 7581.

**Leak**, Rank Radio International Ltd,  
Power Road, Chiswick, London,  
W4 5PW. Tel: 01-994 6491

**Leeson Audio Ltd**, Burrel Road, St Ives,  
Huntingdonshire.  
Tel: St Ives (Hunts) 0480 64124

**Leavers-Rich Equipment Ltd**,  
319 Trinity Road, Wandsworth,  
London SW18 3SL. Tel: 01-874 9054/6.

**LEM**, Douglas A. Lyons and Associates  
Ltd, 99 Larkhall Lane, London SW4.  
Tel: 01-622 0287.

**Lennard Developments Ltd**, 206 Chase  
Side, Enfield, Middlesex, EN2 0QX.  
Tel: 01-363 8238.

**L. & H. Britimpex Ltd**, 8-12 Rickett  
Street, London, SW6. Tel: 01-385 0883.

**Ling Dynamic Systems Ltd**, Baldock  
Road, Royston, Herts SG8 5BQ.  
Tel: Royston 42424

**Linn Products Ltd**, Drakenire Drive,  
Glasgow G45 9SZ. Tel: 041 634 3860.

**L.N.B. Audio Ltd**, The Factory, Duke  
Street, Loughborough Leicesters.  
Tel: Loughborough 61229.

**Lockwood and Co. (Woodworkers) Ltd**,  
63 Lowlands Road, Harrow, Middlesex.  
Tel: 01-422 3704/0768.

**Loewe Opta**, Joint Distributors, SED  
Television Ltd Salisbury Wills,  
Tel: 0722 4261 Hokushin Audio Visual  
Ltd, 2 Ambleside Avenue, London,  
SW16. Tel: 01-677 9919.

**Lowther Acoustics Ltd**, Lowther House,  
St Mark's Road, Bromley, Kent,  
BR2 9HQ. Tel: 01-460 5225.

**Lustraphone**, St George's Works,  
Regents Park Road, London, NW1 8XG.  
Tel: 01-722 8244/6.

**Lustraphone Hi-Fi Ltd**, Unit 2,  
Browells Lane Feltham Middlesex,  
TW13 7EL. Tel: 01-890 0887/9.

**Lux**, Howland-West Ltd, 3/5 Eden  
Grove, London, N7 8EQ.  
Tel: 01-609 0293.

**Luxor**, Highgate Acoustics Ltd,  
58 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8.

**Lynton Factors**, 90 Dragon Parade,  
Harrigate, HG1 5DQ.  
Tel: Harrigate 3540.

**Douglas A. Lyons & Associates Ltd**,  
99 Larkhall Lane, London, SW4.  
Tel: 01-622 0287.

**MAC**, Modular Audio Components Ltd,  
Canterbury Road, Nottingham,  
NG8 1PQ. Tel: 79797.

**Macinnes Laboratories**. See Amcron.  
**Marantz**, Pysier-Britex (Swift) Ltd,  
Fircroft Way, Edenbridge, Kent.  
Tel: Edenbridge (0732-71) 4111.

**Marconiphone**, Thorn Consumer  
Electronics Ltd, 284 Southbury Road,  
Enfield, Middlesex. Tel: 01-366 1155.

**Marriott Magnetics Ltd**, Penryn,  
Cornwall. Tel: Penryn (032-67) 2267.

**Marsden Hall Manufacturing Co Ltd**,  
High March, Long March Industrial  
Estate, Daventry, Northants.  
Tel: Daventry (03272) 4011/3.

**Martin**, Cosmocord Ltd, Eleanor Cross  
Road, Waltham Cross, Herts.  
Tel: Waltham Cross 27331.

**Mastertape (Magnetic) Ltd**,  
Blackthorne Road, Poyle Trading Estate,  
Colnbrook, Near Slough, Bucks,  
SL3 0AQ. Tel: 01-964 2431

**Mathers Photographics Ltd**, 35 John  
Dalton Street, Manchester 2.  
Tel: 061-834 6133.

**Maxell**, Harris and Russell Ltd,  
124-130 East Road, London, N1.  
Tel: 01-253 7551.

**Maxview Aerials Ltd**, Maxview Works,  
Setch, Kings Lynn, Norfolk.  
Tel: Watlington (Norfolk) 376.

**Medway**, Brahms Manufacturing &  
Development Co, Unit E, Rochester  
Airport, Maidstone Road, Rochester,  
Kent, ME1 3QJ.  
Tel: Medway (0634) 48816.

**Melodium**, Keith Monks (Audio) Ltd,  
26-30 Reading Road South, Fleet, Near  
Aldershot Hants.  
Tel: Fleet (02514) 7316 and 3566.

**Memorex (UK) Ltd**, 50 Salisbury Road,  
Hounslow West, Middlesex.  
Tel: 01-570 7716.

**Metrosound Audio Products Ltd**,  
Cartersfield Road, Waltham Abbey,  
Essex, EN9 1JF.  
Tel: Waltham Cross 31933

**Micro**, Howland-West Ltd, 3-5 Eden  
Grove, London, N7 8EQ.  
Tel: 01-609 0293.

**N. Miers & Co Ltd**, 28 Piercing Hill,  
Theydon Bois, Epping, Essex, CM16 7LE.  
Tel: 037 881 2611.

**Millbank Electronics Group**, Bellbrook  
Estate, Uckfield, Sussex, TN22 1PS.  
Tel: Uckfield (0825) 4166.

**Mitsubishi Corporation**, Bow Hills  
House, Broad Street, London, EC4.  
Tel: 01-248 3292.

**MMG Associates Ltd**, 19 Southfield  
Road, Flackell Heath, Near High  
Wycombe, Buckinghamshire.  
Tel: Bourne End 21048.

**3M (UK) Ltd**, 3M House, Wigmore  
Street, London, W1. Tel: 01-486 5222

**Modern Engineering & Technology**,  
4 Station Road West, Canterbury, Kent.  
Tel: Canterbury 60431.

**Modular Audio Components Ltd**,  
Canterbury Road, Nottingham,  
NG8 1PQ. Tel: 79797 or 73075

**Keith Monks (Audio) Ltd**, 26-30 Reading  
Road South, Fleet, Near Aldershot.  
Tel: Fleet 7316 and 3566

**Mordaunt-Short Ltd**, The Courtyard,  
Heath Road, Petersfield, Hampshire,  
GU31 4DX. Tel: Petersfield 4761

**B. H. Morris & Co (Radio) Ltd**,  
Trio House, The Hyde Industrial Estate,  
The Hyde, London, NW9 6JP.  
Tel: 01-205 6441.

**Motion Electronics Ltd**, Addestead  
Farm, Tonbridge Road, East Peckham  
Kent. Tel: 0622 871354.

**Multicore Solders Ltd**, Bib Sales  
Division, Maylands Avenue, Hemel  
Hempstead, Herts.  
Tel: Hemel Hempstead 3535 ext. 100

**Lionel Murray Ltd**, 7 West Halkin Street,  
Belgrave Square, London, SW1.  
Tel: 01-235 6424/6

**Musonic Ltd**, 34-38 Verulam Road,  
St Albans, Herts. Tel: St Albans 50611/2.

**Nagra**, Hayden Laboratories Ltd,  
Hayden House, 17 Chesham Road,  
Amersham, Bucks.  
Tel: Amersham 5511

**National Panasonic (UK) Ltd**, Building  
No 63, Whitby Road, Trading Estate,  
Slough, Bucks. Tel: Slough 34522.

**Neumann GMBH**, F. W. O. Bauch Ltd,  
49 Theobald Street, Boreham Wood,  
Herts. Tel: 01-953 0091

**New Classic**, J. W. (Wholesale) Co.,  
26 Rosoman Street, London, EC1.  
Tel: 01-837 3041

**Nichols Acoustic Fittings**, Church  
Street, Bubwith, Near Selby, Yorks.  
Tel: Bubwith 206

**Nikko**, Howland-West Ltd, 3/5 Eden  
Grove, London, N7 8EQ.  
Tel: 01-609 0293.

**Nordmende**, H. Vesshof & Co Ltd  
(Vessco Vision & Radio) 62 Woodbridge  
Road, Guildford, Surrey, GU1 4RD.  
Tel: Guildford (0483) 77877

**Nucleus**, 22 Hyde Green, Marlow, Bucks  
Tel: Marlow 3787

**McArdle & Brainsy (Import & Export)  
Ltd**, PO Box 2BB, Newcastle upon  
Tyne, NE9 92BB.

**Macinnes Laboratories Ltd**, Stonham,  
Stowmarket, Suffolk IP14 5LB  
Tel: Stonham 486

**Onkyo**, J. Parkar & Co (London) Ltd,  
Parkar House, Beresford Avenue,  
Wembley, HA0 1YX. Tel: 01-903 5211

**Orbit**, Highgate Acoustics Ltd,  
38 Jamestown Road, London, NW1 7EJ.  
Tel: 01-267 4937/8

**Ortufun**, Metrosound (Sales) Co Ltd,  
Cartersfield Road, Waltham Abbey,  
Essex, EN9 1JF.  
Tel: Waltham Cross 31935

- Oscar Radio Company**, 56-63 Goswell Road, London, EC1. Tel: 01-253 1802.
- Osmabert Ltd**, 46 Kenilworth Road, Edgware, Middlesex, HA8 8YG. Tel: 01-958 9314.
- Pageantry Radio & TV Co Ltd**, 104 Felsham Road, Putney, SW15. Tel: 01-788 5588.
- J. Parker & Co (London) Ltd**, Parker House, Beresford Avenue, Wembley, Middlesex, HA0 1YX. Tel: 01-903 5211.
- Parry Electronic Developments Ltd**, Assay House, 28 Greville Street, London, EC1N 8SU. Tel: 01-242 1100.
- PD Connectors**, Parry Electronic Developments Ltd, Assay House, 28 Greville Street, London, EC1N 8SU. Tel: 01-242 1100.
- Pearl**, Allotrope Ltd, 90 Wardour Street, London, W1V 3LE. Tel: 01-437 1892.
- Peerless**, P. F. and A. R. Helme Ltd, Summerbridge, Harrogate, HG3 4DR. Tel: Darley 279.
- Perpetuum-Ebner**, Highgate Acoustics Ltd, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.
- Philco Great Britain Ltd**, Philco House, Sterling Trading Estate, Rainham Road South, Dagenham, Essex, RM10 8TX. Tel: 01-593 8613.
- Philips (Microphones)**, Pye Business Communications Ltd, Cromwell Road, Cambridge, CB1. Tel: Cambridge 45191.
- Philips Electrical Ltd**, Century House, Shaftesbury Avenue, London, WC2H 8AS. Tel: 01-437 7777.
- Phoenix**, H. L. Audio Ltd, 9B Garman Road, Tottenham, London, N17. Tel: 01-808 6127.
- Pickering**, Highgate Acoustics, 38 Jamestown Road, London, NW1 7EJ. Tel: 01-267 4937/8.
- Pioneer**, Shriro (UK) Ltd, 42 Russell Square, London, WC1B 5DF. Tel: 01-580 6996.
- Planet Projects Ltd**, Goodman Works, Belvue Road, Northolt, Middlesex. Tel: 01-845 1775.
- Playfair**, Leonard Developments Ltd, 206 Chase Side, Enfield, Middlesex, EN2 0QX. Tel: 01-363 8238.
- Polydor Records Ltd**, 17-19 Stratford Place, London, W1N 0BL. Tel: 499 8686.
- Premier Installations Ltd**, 343/345 High Street, Cheltenham Spa, Gloucestershire, GL50 3HS. Tel: Cheltenham (0242) 27782.
- P & S (Pohler & Schilling)**, Lynthorpe Factors, 90 Dragon Parade, Harrogate, HG1 5DQ. Tel: Harrogate 3540.
- Pye Radio and Television Ltd**, St Andrews Road, Cambridge, CB4 1DS. Cambridge 58985.
- Pye Business Communications Ltd**, Cromwell Road, Cambridge, CB1 3HE. Tel: Cambridge 45191.
- Pyral (UK) Ltd**, Airport House, Purley Way, Croydon, Surrey, CR0 0XZ. Tel: 01-681 2833.
- Pyser-Britex (Swift) Ltd**, Fircroft Way, Edenbridge, Kent. Tel: 0732-71 4111.
- QAS**, Quality Audio Supplies, Wollaton Road, Beeston, Nottingham, NG9 2PB. Tel: 0602 25222/256141.
- Quad**, Acoustical Manufacturing Co Ltd, St Peters Road, Huntingdon, PE18 7DB. Tel: Huntingdon (0480) 52561.
- Quadrasonics**, Spencer House, Brettenham Road, Edmonton, London, N18. Tel: 01-807 5544/5999.
- Radford Audio Ltd**, Ashton Vale Road, Bristol, BS3 2HZ. Tel: Bristol 662301.
- Radio & Electronic Distribution Co**, 55-63 Goswell Road, London, EC1. Tel: 01-253 1802.
- Radon Industrial Electronics Co Ltd**, Brooklands Trading Estate, Orme Road, Worthing, Sussex. Tel: Worthing 34904.
- Rank Audio Visual**, PO Box 70, Great West Road, Brentford, Middlesex. Tel: 01-568 9222.
- Rank Radio International**, PO Box 596, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.
- Record Housing Ltd**, Brook Road, London, N22. Tel: 01-888 7487.
- Reps (Tape Recorders) Ltd**, 11-13 Regina Road, Southall, Middlesex. Tel: 01-574 3645.
- Resolound Ltd**, Spring Gardens, London Road, Romford, Essex, RM7 9LJ. Tel: Romford 61926.
- Revox**, C. E. Hammond & Co Ltd, Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551.
- RGD**, ITT Consumer Products Ltd, Maidstone Road, Sidecup, Kent, DA14 5HT. Tel: 01-300 7733.
- R. I. Audio**, Kernick Road, Penryn, Cornwall. Tel: Penryn (032-67) 2753.
- Richardson Electronics Ltd**, 57 Jamestown Road, London, NW1 7EJ. Tel: 01-267 0723/4874.
- Rogers Developments (Electronics) Ltd**, 4-14 Barmeston Road, Catford, London, SE6 3BN. Tel: 01-698 7424/4340.
- Ronette**, Condor Electronics Ltd, 100 Coombe Lane, London, SW20 AOY. Tel: 01-946 0033.
- Rotel**, Rank Audio Visual Ltd, PO Box 70, Great West Road, Brentford, Middlesex, TW8 9HR. Tel: 01-568 9222.
- Saba Television Ltd**, 6-12 Cornbrook Park Road, Manchester, M15 4EE. Tel: 061-872 7661.
- Sansui**, Vernitron Ltd, Thornhill, Southampton, SO9 5QF. Tel: Southampton 4448 11.
- Sanyo Marubeni (UK) Ltd**, Sanyo House, Bushey Mill Lane, Watford, Herts, WD2 4UQ. Tel: Watford (92) 30421.
- Scandinavian Audio Systems**, Sun Alliance Buildings, 65 London Road, Gloucester GL1 3HF. Tel: Gloucester (0452) 32791/2.
- Scan-Dyna**, Scandinavian Audio Systems Ltd, Sun Alliance Buildings, 65 London Road, Gloucester, GL1 3HF. Tel: Gloucester (0452) 32791/2.
- Schott**, Jacrex Marketing Ltd, 40 Bell Street, Reigate, Surrey, RH2 7BA. Tel: Reigate 40540.
- Scientelec**, 35a Beddington Lane, Croydon, Surrey, CR0 4TB. Tel: 01-686 9341/4.
- Scopetronics Ltd**, Crown Works, Church Road, Kingston-upon-Thames, Surrey. Tel: 01-546 1275 and 4135.
- Scotch**, 3M (UK) Ltd, 3M House, Wigmore Street, London, W1. Tel: 01-486 5222.
- SED Television Ltd**, Salisbury, Wilts. Tel: Salisbury (0722) 4201.
- S.D.L.**, Adastra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Clarendon Road, London, NW2 1TU. Tel: 01-452 6288.
- Sennheiser Electronic**, Hayden House, 17 Chesham Road, Amersham, Bucks, HP6 5AG. Tel: Amersham (0240-3) 5511.
- Servo-Sound**, (Cybernetic Hi-Fi), Lamb House, Church Street, London, W4 2PB. Tel: 01-995 4551.
- Sharp Electronics (UK) Ltd**, 48 Derby Street, Manchester, M8 8HN. Tel: 061-832 6115.
- Shepherd Audio Ltd**, 275 Watling Street (A5), Radlett, Herts, WD7 7LA. Tel: Radlett 5440.
- Shriro (UK) Ltd**, 42 Russell Square, London, WC1B 5DF. Tel: 01-580 6996.
- Shure Electronics Ltd**, Eccleston Road, Maidstone, ME15 6AU. Tel: Maidstone (0622) 59881.
- Siemens**, Interconti Electronic Ltd, Albany House, Petty France, London, SW1H 9EA. Tel: 01-222 2523.
- J. J. Silber Ltd**, 11 Northburgh Street, London, EC1. Tel: 01-253 8031.
- Silcon**, Arthur Dennis Taylor, 211 Field Heath Road, Hillingdon, Middlesex. Tel: Uxbridge 38843.
- Sinclair Radionics**, London Road, St Ives, Huntingdonshire, PE17 4HJ. Tel: St Ives (Hunts) 04806 4311.
- Skandia Electronics**, Golding Audio Ltd, London Road, Marks Tey, Colchester, Essex. Tel: Marks Tey (0206 21) 433.
- S.M.E. Ltd**, Steyning, Sussex, BN4 3LN. Tel: Steyning (0903) 814321.
- Sonotone**, Vernitron Ltd, Thornhill, Southampton, SO9 5QF. Tel: Southampton 44811.
- Sonab Ltd**, PO Box 4, Oldfield Road, Hampton, Middlesex, TW12 2HN. Tel: 01-979 0134.
- Sony (UK) Ltd**, Pyrene House, Sunbury Cross, Sunbury on Thames, Middlesex. Tel: Sunbury on Thames 87644/7.
- Soundex Ltd**, 18 Blenheim Road, London, W4. Tel: 01-995 1661.
- The Sound Studio Ltd**, 33-35 Camden Road, Tunbridge Wells, Kent. Tel: Tunbridge Wells 32153 and 30314.



- Spendor**, Kings Mill, Kings Mill Lane, South Nutfield, Redhill, Surrey, RH1 5NF. Tel: Nutfield Ridge 2554.
- Standard Telecenters (London & Provincial) Ltd**, Standard House, 1-2 Church Way, Edgware, Middlesex, HA8 9AA. Tel: 01-952 7488.
- Staples and Co Ltd**, Staples Corner, Junction Edgware Road and North Circular Road, London, NW2. Tel: 01-452 1144/8.
- Stax**, Wilmet Ltd, Stax Division, 24-26 Ensign Street, London, E1. Tel: 01-949 2545.
- Steepleton Products Ltd**, Cinema House, Middle Barton, Oxford, OX5 4DA. Tel: Steeple Aston 7116.
- Ste-Ma**, K & K Electronics Ltd, 60 St Mark's Rise, London, E8 2NR. Tel: 01-254 9941/4.
- Stentorian**, Whiteley Electrical Radio Co Ltd, Radio Works, Victoria Street, Mansfield, Notts, NG18 5RW. Tel: Mansfield 24762.
- Stereosound Productions**, Capital Works, Wakefield Road, Brighouse, Yorks. Tel: Brighouse 4355.
- Stereostage**, Nucleus, 22 Hyde Green, Marlow, Bucks. Tel: Marlow 3787.
- John Street (Manufacturers) Ltd**, Falcon Works, Barmston Road, Catford, London, SE6. Tel: 01-698 1177.
- Studer**, F W O Bauch Ltd, 49 Theobald Street, Boreham Wood, Herts. Tel: 01-953 0091.
- A. R. Sugden & Co (Engineering) Ltd**, Connoisseur Works, Atlas Mill Road, Brighouse, Yorks, HD6 1ES. Tel: Brighouse 2142.
- J. E. Sugden and Co Ltd**, Carr Street, Cleckheaton, Yorks, BD19 5LA. Tel: Cleckheaton 2501.
- Superec**, Acoustic Research International, High Street, Houghton Regis, Bedfordshire. Tel: Dunstable 603151.
- Sykes - Hirsch Ltd**, Templewood House, Templewood Lane, Stoke Poges, Slough, Bucks, SL2 4AP. Tel: 01-850 4127.
- Symphony**, J. W. (Wholesale) Co., 26 Rosoman Street, London, EC1. Tel: 01-837 3041.
- Synchrone**, Adstra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU. Tel: 01-452 6788.
- Tak Continental Importers**, 16a High Street, Stone, Staffordshire. Tel: Stone 3737/3.
- Tandberg**, Farnell-Tandberg Ltd, Farnell House, 81 Kirkstall Road, Leeds, LS3 1HR. Tel: Leeds 35111.
- Tannoy Products Ltd**, Norwood Road, West Norwood, London, SE27 9AB. Tel: 01-670 1131.
- Tape Recorder Developments 1 Ltd**, Hall Lane, Walsall Wood, Staffordshire. Tel: Brownhills 5351.
- Tape Music Distributors 1 Ltd**, 114 Ashley Road, St Albans, Herts, AL1 5JR. Tel: St Albans 64337.
- Tape Recorder Spares Ltd**, Harmsworth House, 9 Harmsworth Street, London, SE17 3TL. Tel: 01-735 9683.
- Tate Audio Transmission Equipment Ltd**, 57 Covent Garden, Cambridge, CB1 2HS. Tel: Cambridge (0223) 6787/3.
- TDK Electronics**, Peter Bowthorpes & Associates Ltd, 33 Holmethorpe Avenue, Holmethorpe Trading Estate, Redhill, Surrey. Tel: Redhill 67411.
- Teac**, Acoustico Enterprises Ltd, Unit 7, Space Way, North Feltham Trading Estate, Feltham, Middlesex, TW14 0TZ. Tel: 01-751 0141.
- Teleh**, Rola Celestion Ltd, Ditton Works, Foxhall Road, Ipswich, Suffolk, IP3 8JP. Tel: Ipswich (0473) 73131.
- Telefunken**, AEG Telefunken (UK) Ltd, Bath Road, Slough, Bucks. Tel: (75) 33311.
- Telecenters (London & Provincial) Ltd**, Standard House, 1-2 Church Way, Edgware, Middlesex, HA8 9AA. Tel: 01-952 7488.
- Teleton Electro (UK) Co Ltd**, Teleton House, Waterhouse Lane, Chelmsford, Essex, CM1 1BD. Tel: Chelmsford (0245) 62442.
- Tellux (Sound Productions) Ltd**, Talon Road, Hutton Industrial Estate, Brentwood, Essex. Tel: Brentwood 214708/9.
- Thorns**, Metrosound Audio Products Ltd, Cartersheld Road, Waltham Abbey, Essex, EN9 1JF. Tel: Waltham Cross 31933.
- Thorn Consumer Electronics Ltd**, 234 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.
- Transcriptors Ltd**, 2 Theobald Street, Boreham Wood, Herts. Tel: 01-953 0771.
- Triu**, B. H. Morris & Co (Radio) Ltd, Trio House, The Hyde Trading Estate, The Hyde, London, NW9 6JP. Tel: 01-205 6441.
- Tripletone**, K & K Electronics Ltd, 60 St Mark's Rise, London, E8 2NR. Tel: 01-254 9941/4.
- TTC**, Adstra Electronics Ltd, Unit 22, Cricklewood Trading Estate, Claremont Road, London, NW2 1TU. Tel: 01-452 6233/9. Joint distributor: E. R. (Factors) Ltd, 374-378 Harrow Road, Paddington, London, W9. Tel: 01-286 0361.
- Tudor Tape**, A. C. Farnell Ltd, Kenyon Street, Sheffield, S1 4BD. Tel: 0742 78901.
- Turner**, Millbank Electronics Ltd, Bellbrook Estate, Uckfield, Sussex. Tel: Uckfield 4166.
- Tutchings Electronics Ltd**, 14 Rook Hill Road, Friars Cliff, Christchurch, Hants. Tel: Highcliffe 2019.
- Tyson's Sound Engineers**, 41 Russell Street, Leamington Spa. Tel: Leamington Spa 24935.
- Uher**, Bosch Ltd, PO Box 166, Rhodes Way, Radlett Road, Watford, Herts, WD7 4LB. Tel: Watford (97) 44733.
- Ultra**, Thorn Consumer Electronics Ltd, 284 Southbury Road, Enfield, Middlesex. Tel: 01-366 1155.
- Unimixer**, Soundex Ltd, 18 Blenheim Road, London, W4 1ES. Tel: 01-995 1661.
- Unison**, Concord Electronics Ltd, 100 Coombe Lane, London, SW20 0AY. Tel: 01-946 0033.
- Valek Ltd**, Lark Street, Darwen, Lancs, BB3 2L1. Tel: Darwen 71881.
- Valradio Ltd**, Browells Lane, Feltham, Middlesex. Tel: 01-890 4837 and 4242.
- Van der Molen Ltd**, 1 Midway Road, Romford, Essex, RM7 7DA. Tel: Romford 41904 and 46911.
- Vernitron Ltd**, Thornhill, Southampton, SO9 5QF. Tel: Southampton 44811.
- Vero Electronics Ltd**, Industrial Estate, Chandler's Ford, Eastleigh, Hants, SO3 3ZK. Tel: Chandler's Ford 2952.
- H. Vesshoff & Co Ltd**, (Vessco Vision & Radio) 62 Woodbridge Road, Guildford, Surrey, GU1 4RD. Tel: Guildford (0483) 77577.
- Viceroy Acoustical Manufacturing Group**, PO Box 102, Watford, Herts, WD1 4EE. Tel: 01-229 7743.
- Videoton**, Radio & Electronic Distribution Co., 55-63 Goswell Road, London, EC1. Tel: 01-253 1802.
- Vista Gain Sales Ltd**, 123/4 Newgate Street, London, EC1A 7AA. Tel: 01-600 3030.
- Vitavox Ltd**, Westonzoyland Road, London, NW9 9JK. Tel: 01-204 4234.
- Vortexion Ltd**, 257/263 The Broadway, Wimbledon, London, SW19 1SF. Tel: 01-542 6242/4.
- WAL**, A. C. Farnell Ltd, Kenyon Street, Sheffield, S1 4BD. Tel: 0742 78901.
- C. W. & J. Walker Ltd**, Brentwood, Red Lane, Frodsham, Warrington, WA6 6RA. Tel: Frodsham (0928) 33326.
- Cecil E. Watts Ltd**, Darby House, Sunbury on Thames, Middlesex. Tel: Sunbury-on-Thames 3252.
- Weircliffe**, Amos of Exeter Ltd, Weircliffe Court, Exwick, Exeter, Devon. Tel: Exeter 72132.
- Wharfedale**, Rank Radio International Ltd, Power Road, Chiswick, London, W4 5PW. Tel: 01-994 6491.
- Wilkinson/Form**, 1-2 Low Quay, Blyth, Northumberland, NE24 3AL. Tel: Blyth 3575.
- Wilmex Ltd**, 24/26 Ensign Street, London, E1 8JD. Tel: 01-949 2545.
- Wilson Stereo Library Ltd**, 104-106 Norwood High Street, London, SE27. Tel: 01-670 6394.
- Wolsey Electronics**, Cymmer Road, Porth, Rhondda, Glamorgan, CF39 9BT. Tel: Porth (044 361) 7711.
- L. G. Woollett & Co. Ltd**, 21 Anerley Station Road, London, SE20 8PY. Tel: 01-778 9003.
- Worden Audio Developments Ltd**, 54 Chepstow Road, London, W2. Tel: 01-729 4996.
- Wye Electronics Ltd**, Queen Street North, Chesterfield, Derbyshire. Tel: Chesterfield 51116.
- Yamaha**, Jonathan Fallowfield Ltd, Strathcona Road, North Wembley, London, HA9 8QL. Tel: 01-904 0141.

# Directory of Hi Fi Dealers

## IMPORTANT NOTE

The following list is of shops where stocks of equipment are kept, and where facilities for demonstration exist. It is not necessarily a complete list, and we invite new dealers to submit details for future publications.

## LONDON AREA

**AUDIO SUPPLIES LTD**  
(The Big Discount House)  
50 Stamford Hill, N16  
120 Nottinghill Gate, W11

**AUDIO T**  
190 West End Lane  
West Hampstead, NW6

**AUDIO HOUSE LTD**  
5 Ashbourne Parade, Finchley Road,  
Temple Fortune, NW11

**BERRY'S RADIO LTD**  
319 High Holborn, WC1V 7PB

**BRAKEFIELDS SALES LTD**  
286/288 Sangley Road, SE6

**F. CAVE**  
21 Old Compton Street, W1

**CHAPPELL MUSIC CENTRES LTD**  
50 New Bond Street, W1

**DAVIS & KAYS PHOTOGRAPHICS**  
169 Fore Street, Edmonton, N18

**E.M.G. HANDMADE  
GRAMOPHONES LTD**  
26 Soho Square, W1V 6BB

**FRANCIS OF STREATHAM**  
169-173 Streatham High Road, SW16

**C. C. GOODWIN (SALES) LTD**  
7 The Broadway, High Road,  
Wood Green, N22 6DU

**GRAHAMS ELECTRICAL LTD**  
86-88 Pentonville Road, N1 9HS

**HAMPSTEAD HIGH FIDELITY**  
91 Heath Street, Hampstead, NW3

**HAVEN HI-FI (EALING) LTD**  
196-198 South Ealing Road, W5

**THOMAS HEINITZ  
MUSIC IN THE HOME**  
35 Moscow Road, W2 4AH

**HENRY'S RADIO LTD**  
303 Edgware Road, W2  
354-356 Edgware Road, W2

**HERMLYN HI-FI**  
230 Eltham High Street, SE9

**HI-FI AND COMPONENTS LTD**  
84 Battersea Rise, Clapham Junction,  
SW11 1EH

**ALFRED IMHOF (RETAIL) LTD**  
112-116 New Oxford Street, WC1A 1HJ

**LASKY'S RADIO LTD**  
42-45 Tottenham Court Road, W1  
33 Tottenham Court Road, W1  
207 Edgware Road, W2  
109 Fleet Street, EC4Y 1DJ

**LEE ELECTRONICS**  
400 Edgware Road, W2

**LEWIS RADIO COMPANY**  
100 Chaseside, Southgate, N14 5PL

**LIND-AIR (OPTRONICS) LTD**  
Kirkman House, 54a Tottenham Court  
Road, W1H 0HX  
227-229 Tottenham Court Road, W1  
241-242 Tottenham Court Road, W1

53-54 Tottenham Court Road, W1  
149 Fleet Street, EC4  
137 Charing Cross Road, WC2  
299-301 Edgware Road, W2

**MAC'S CAMERA SHOPS LTD**  
250-252 King Street, Hammersmith, W6

**MODERN ELECTRICS (RETAIL)  
LTD**  
120 Shaftesbury Avenue, W1V 7DJ

**MYERS AUDIO**  
199 Hoe Street, Walthamstow, E17

**NATIONAL RADIO SERVICE  
& TELEVISION CO**  
82 St John's Wood High Street,  
NW8 7SH

**NEWBURY RADIO (FOREST GATE)  
LTD**  
305 Romford Road, Forest Gate, E7

**NICHOLLS HI-FI**  
432 Lee High Road, Lee Green

**NUSOUND HI-FI & TAPE  
RECORDER CENTRES**  
82 High Holborn, WC1  
228 Bishopsgate, EC2  
36 Lewisham High Street, SE13

**M. O'BRIEN (HIGH FIDELITY  
SPECIALIST)**  
95 High Street, Wimbledon Village, SW19

**PEAK DISCOUNT AUDIO/HI-FI  
WAREHOUSE**  
242-244 Pentonville Road, N1

**PICTORIALS (JAMES RUSSELL &  
SONS (PHOTOGRAPHIC) LTD**  
459 Richmond Road West,  
East Sheen, SW14

**PERCY'S (ELECTRONICS) LTD**  
58-62 Lupus Street, Pimlico, SW1

**PREMIER RADIO (CANONDELL)  
LTD**  
23 Tottenham Court Road, W1  
56 George Street, W1

**THE RECORDER CO**  
186-188 West End Lane, West  
Hampstead, NW6

**R. E. W. AUDIO VISUAL CO**  
266-268 Upper Tooting Road, SW17 0DR  
146 Charing Cross Road, WC2  
R.E.W. House, Colliers Wood, High  
Street, SW19 2BE

**ROUNABOUT RECORDS LTD**  
8 Parsons Street, NW4

**JAMES RUSSELL & SONS (AUDIO)  
LTD**  
9-11 Wimbledon Bridge, SW19

**JAMES RUSSELL & SONS  
(CAMERAS) LTD**  
5 Wimbledon Bridge, SW19

**SANDS HUNTER & CO LTD**  
45 Hare Street, SE18  
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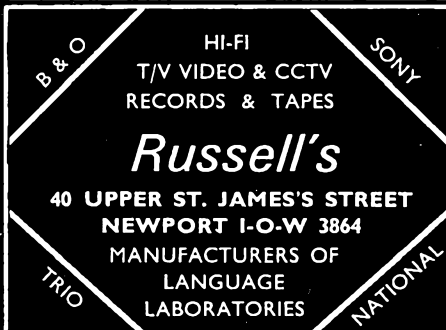


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Derby	96.5*	5.5k W	Oxford	95.0	4.5k W
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Humberside	95.3	4.5k W	Rotherham†	95.05	9W
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Leicester	95.2	140W	Stoke-on-Trent	94.6	2.5k W
London	95.3	16.5k W	Teeside	96.6	5k W
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\*Slant polarization; all other transmissions use horizontal polarization  
†Relay.

## Table of Tape Playing Times

Length of Tape (Feet)	3600	2400	1800	1700	1200	900	850
Size of Spool	8½ DP	7 DP 8½ LP	5 TP 7 LP 8½ S	5¾ DP	5 DP 5¾ LP 7 S	4 TP 5 LP	5¾ S
Maximum Playing Times	H M	H M	H M	H M	H M	H M	H M
1 Track	15 i/s	48	32	24	22	16	12
	7½ i/s	1 36	1 4	48	47	32	24
	3¾ i/s	3 12	2 8	1 36	1 30	1 4	48
	1⅞ i/s	6 24	4 16	3 12	3 1	2 8	1 36
2 Tracks	15 i/s	1 36	1 4	48	45	32	24
	7½ i/s	3 12	2 8	1 36	1 30	1 4	48
	3¾ i/s	6 24	4 16	3 12	3 1	2 8	1 36
	1⅞ i/s	12 48	8 32	6 24	6 2	4 16	3 12
4 Tracks	15 i/s	3 12	2 8	1 36	1 30	1 4	48
	7½ i/s	6 24	4 16	3 12	3 1	2 8	1 36
	3¾ i/s	12 48	8 32	6 24	6 2	4 16	3 12
	1⅞ i/s	25 36	17 4	12 48	12 5	8 32	6 24
Length of Tape (Feet)	600	450	400	300	200	150	
Size of Spool	4 DP 5 S	3 TP 4 LP	3½ LP	3½ LP 4 S	3¼ S	3 S	
Maximum Playing Time	H M	H M	H M	H M	H M	H M	
1 Track	15 i/s	8	6	5	4	2½	2
	7½ i/s	16	12	10	8	5	4
	3¾ i/s	32	25	21	16	10	8
	1⅞ i/s	1 4	48	42	32	21	15
2 Tracks	15 i/s	16	12	10	8	5	4
	7½ i/s	32	24	21	16	10	8
	3¾ i/s	1 4	48	42	32	21	16
	1⅞ i/s	2 8	1 36	1 25	1 4	42	32
4 Tracks	15 i/s	32	24	21	16	10	8
	7½ i/s	1 4	48	42	32	21	16
	3¾ i/s	2 8	1 36	1 25	1 4	42	32
	1⅞ i/s	4 16	3 12	2 50	2 8	1 25	1 4

**Note:** The 4 tape thicknesses are listed as S (Standard), LP (Long Play), DP (Double Play) and TP (Triple Play).



# Advertisers Index

Acoustic Research International	365	KEF Electronics Ltd	331
Acoustico Enterprises Ltd	228	K.F. Products Ltd	340
Acoustical Mfg. Co Ltd	<i>Front cover</i>	Koss (Tape Music Distributors) Ltd	446
Agfa Gevaert Ltd	268		
Alba Radio & Television Ltd	48	Lamb Laboratories	75, 202, 248, 313
Amtron (UK) Ltd	287	Lasky's Radio Ltd	482
Antiference Ltd	476	Lecson Audio Ltd	395
Armstrong Audio Ltd	119	Lennard Developments Ltd	50
A.S. Techniques Ltd	401	Lindair	96-97
Audio Decks (Farnell) Ltd	86	Linn Products Ltd	78
		Lowther Acoustics Ltd	396
Bang & Olufsen (UK) Ltd	110		
Beyer Dynamic (GB) Ltd	299	MacInnes Laboratories Ltd	147
Bib Hi-Fi Accessories Ltd	267	Markovitz, I. Ltd	318
Bryan Amplifiers Ltd	146	Metrosound Audio Products Ltd	201
B.S.R. Ltd	65	Miers, N. & Co Ltd	227
B. & W. Electronics	367	Millbank Electronics	161
		Morris, B. H. & Co (Radio) Ltd	180
Condor Electronic Ltd	48, 318, 455	Mundy Mills Ltd	421
Cosmocord Ltd	39, 45, 332		
		Parkar, J. & Co Ltd	162
Decca Radio & Television	429	Philips Electrical Ltd	464
Decca Special Products Ltd	31	Pye Ltd	439
De Banks Electronics Ltd	148	Pye Ltd (Ekco Division)	430-1
Denham & Morley (Overseas) Ltd	3		
Dynatron Radio Ltd	422	Quadrasonics	190
		Quality Audio Supplies	342
Eagle International	120-1, 150		
E.M.G. Handmade Gramophones Ltd	64	Richard Allan Radio Ltd	398
Eurotronic	340	Rola Celestion Ltd	344 <i>Back cover</i>
Fallowfield, Jonathan, Ltd	149, 224-225	Saba Radio & Television Ltd	122
Fidelity Radio Ltd	432	Sanyo Marubeni (UK) Ltd	440
Fountain Press	4	Shure Electronics Ltd	314
Francis of Streatham	145	S.M.E. Ltd	32, 412
		Sonab (of Sweden)	411
Garrard Engineering Ltd	66	Sony (UK) Ltd	51
Golding Audio Ltd	195, 227	Spendor	341
Goldingr Ltd	76-77	Sugden, A. R. & Co (Engineers) Ltd	85
Goodmans Loudspeakers Ltd	368	Sykes + Hirsch Ltd	95
Grampian Reproducers Ltd	146		
Gulton Europe Ltd	300	Tannoy Products Ltd	366
		Teleton Electro (UK) & Co Ltd	179
Hampstead Hi-Fidelity Ltd	220	Thorn Consumer Electronics Ltd	475
Heath (Gloucester) Ltd	288	Toshiba (UK) Ltd	98
Hitachi Sales (UK) Ltd	90		
		Watts, Cecil E. Ltd	52
IMF Electronics	343	Wireless World	86
Imhofs-Bedco Ltd	397		
J. Beam Aerials Ltd	481		

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