STEREO DIRECTORY & BUYING GUIDE 1975

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includes special four-channel section

Bonus!
What Every Hi-Fi Shopper Should Know Before Buying!
Hermetically sealed microcircuits
FET circuitry
2.0 uv FM sensitivity
Solid-state ceramic FM IF filters

S-7210
FMS Power: 31 + 31 watts
[8 ohms] @ 1 kHz
Solid-state ceramic FM IF filters
Hermetically sealed microcircuits & field effect transistors
1.9 uv FM sensitivity [IHF]

Front panel switching of
4-channel decoder [doubles as second tape monitor]
Built-in Dynaquad 4-channel matrix circuit

S-7310
RMS Power: 43 + 43 watts
[8 ohms] @ 1 kHz
Solid-state ceramic FM IF filters
Hermetically sealed microcircuits & field effect transistors
1.8 uv FM sensitivity

Front Panel switching of
4-channel decoder [doubles as second tape monitor]
Built-in Dynaquad 4-channel matrix circuit
Sherwood Electronics Laboratories
4300 North California
Chicago, Illinois 60618

Sherwood
The word is getting around.
you can still enjoy most of the benefits.

Considering the Best Buy ratings and favorable reviews, it's not surprising that a growing number of audiophiles are settling for nothing less than Sherwood's top-of-the-line stereo receiver. Of course, not everyone needs the high power output and operational flexibility offered by the S790CA. Which is why we produce other, more economical models.

Like the S7900, each piece of equipment in the Sherwood line provides a performance capability unsurpassed in its price category. There are no use-ess gimmicks. No misleading claims. And no disappointments. The specifications we post for our products are generally quite conservative. And we utilize only the finest of proved componentry.

After all, you shouldn't have to sacrifice quality, just because you require a little less than the state-of-the-art.

S-7010
RMS Power: 10 - 10 watts [3 ohms] @ 1 KHz
Direct Coupled Amplifier
2.8 uv FM Sensitivity [HF]
FET Front End

S-7110
RMS Power: 20 + 20 watts [8 ohms] @ 1 KHz
Direct-coupled amplifier yields power bandwidth c: 9-50 KHz
If you can’t afford the State-of-the-Art...

S-7900A

RMS Power: 60 + 60 watts
[8 ohms] @ 20-20,000 Hz
Direct-coupled output circuitry with electronic relay protection
Front panel four-channel provision [doubles as second tape monitor]
Ceramic FM IF Filtering; FET’s, microcircuits
Four-gang tuning capacitor
Built-in Dynaquad 4-channel matrix circuit
This is a Program Panel. With it you can make B·I·C” programmed turntables do things no turntable has ever done before.

The B·I·C 980 and 960, like many fine turntables, use a belt drive system.

What’s unusual, however, is that B·I·C turntables can be programmed to play a single side as many as 6 times... or to play as many as 6 records in series. ’Til now, no belt-drive turntable has been able to do that.

How it works

The program lever (second from the bottom in the picture at left) gives you 22 possible ways to play your records in manual and automatic modes.

By moving the lever to “MAN”, the turntable is turned on and can be operated as a manual unit.

By moving the lever to “1”, and tapping the cycle button lightly, one record can be played fully automatically.

By moving the lever to 2, 3, 4, 5 or 6, you can play a single record 2, 3, 4, 5 or 6 times.

And this same program lever controls multiple play. If, for example, you want to play 2 records, simply put them on the spindle and move the lever to “2”. Or move the lever to “3” and the second record will repeat once. Or move it to “4” and the second record will repeat twice. And so on, and so forth.

Must be seen to be appreciated

This program system is news all by itself. But it’s far from the whole story.

The B·I·C tone arm has features found on no other tone arm.

The B·I·C motor is a major improvement over motors in other belt and idler drive turntables.

But features aside, what’s truly worth close scrutiny is how all these new ideas are welded into a perfectly balanced system which performs impeccably.

We’ll send you more information about the 980 and 960 if you write to:
Andrew Stephens, Dept. SD75
British Industries Co., Westbury, L.I. 11590.

But you really must examine them, touch them and compare them, to appreciate their fundamental excellence. After you’ve looked them over at your B·I·C dealer’s (the leading audio specialist in your area) we think you’ll be impressed.

This is the 980 with solid state speed control and strobe. About $200.

The 960 is identical except for these two features. About $150.
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**COVER**

Equipment pictured on the front cover typifies hi-fi component types you’ll see at high-fidelity specialist-dealers. Components shown are:

1. Sherwood S-7900A stereo receiver
2. Wollensak 4765 stereo cassette deck
3. dbx 119 dynamic range enhancer
4. ASD Electronics FEW-4 four-channel frequency equalizer
5. Technics SL-1300 direct-drive turntable with arm
6. BIC 980V automatic turntable
7. Switchcraft Quadraswitcher II dealer components switch panel
8. Pickering OA3 stereo headphones
9. Marantz 4400 2-ch/4-ch receiver
10. Pioneer RT-1002L 2-ch/4-ch tape deck (shown with 7" reels; can handle 10½" reels)
11. Shure 565D cardioid-pattern microphone
12. KLH 28 speaker system plus base pedestal
13. Ohm "F" speaker system
14. Jensen floor and bookshelf speaker systems
15. Blank tapes are by BASF, Capitol, Maxell, TDK, and 3M

Cabinet courtesy Hi-Fi Expo (New York’s permanent hi-fi exhibit)
The lowest-priced Dual may well be all the turntable you're ever likely to need.

The least you should require of a turntable is the assurance that its tonearm can track flawlessly with the most sensitive cartridges available, and that its drive system will introduce no audible rumble, wow, or flutter. To accept less means risking damage to your precious record collection and producing sounds from your system which were never recorded.

Happily, the lowest-priced Dual, the 1225, provides this assurance and much more at just $129.95. For it is the perfect example of Dual's basic design concept: to build every Dual turntable with more precision than you are ever likely to need.

In the case of the 1225, this means a vernier-adjust counter-balanced tonearm capable of flawless tracking at as low as one gram. Stylus pressure is applied exactly as in costlier Duals; around the vertical pivot, maintaining perfect balance in all planes. Anti-skating force is also applied exactly as in the highest-priced Dual: with separate calibrations for conical, elliptical and CD-4 stylis.

Other features the 1225 shares with the more costly Duals include pitch control, viscous-damped cueing and a precision drive system. The 1225's hi-torque motor maintains speed within 0.1%, even when line voltage varies as much as 20%, and its hefty 3-3/4 lb. platter provides effective flywheel action that minimizes the audible effect of any possible speed variations.

All of this explains why even Dual's lowest-priced models have been so well accepted by audio experts. (Many tell us their original Duals which were bought early in their careers are still in service.)

Considering all this, why do so many serious music lovers spend as much as $259.95 for the 1229Q? (Readers of the leading music/audio magazines own more Duals—at every price level—than any other quality turntable.)

Although the 1225 has all the precision your records need, the 1229Q has refinements that you may well want. For example, the 1229Q is a full-sized turntable with a 12” dynamically-balanced platter, driven by the powerful Continuous-Pole/ synchronous motor. Its gimbal-mounted 8-3/4” long tonearm can track at as low as 0.25 gram, and has provision for adjusting its vertical tracking angle. It also has an illuminated strobe, and cueing is damped in both directions to prevent bounce.

Dual's other two multi-play turntables, the 1226 at $159.95 and the 1228 at $189.95, offer one or more of these refinements. Which may bring you to this question: having decided that you and your records deserve a Dual, which one should you buy?

For the answer, we suggest you visit your franchised United Audio dealer where the new generation of Dual turntables is now on display.
DIRECTORY OF HI-FI MANUFACTURERS

If you have any additional questions about products described in this Guide, write direct to the company.

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STEREO DIRECTORY & BUYING GUIDE

This is an official Altec studio monitor loudspeaker—the 9846-8A. It's designed to do just one job. Deliver the purest, most accurate possible definition of every detail of every sound. A precision device whose worth is judged not by how good it looks, but by how well it tells the truth.

In a recording studio, truth is a must. Every professional recording engineer knows that the quality of his final product is greatly dependent on the quality of the tools he uses to produce and evaluate it. His mikes, boards, amps must deliver clean, uncolored signal to the monitor loudspeaker. And the monitor loudspeaker must reproduce it without altering the truth it was told.

Altec knows it takes a special kind of craftsmanship to build a fine studio monitor, and builds them accordingly.

Officially, they're the Altec 887A Capri and 891A Bookshelf. But most people call them "Mini-Monitors." That's because their performance characteristics are amazingly similar to our actual studio systems. The same clarity and definition. The same flat frequency response. The same crisp transient response. Just lower acoustic output, bookshelf dimensions, rich styling, and—most important—prices anyone can live with.

Why buy them? Because Altec Mini-Monitors let you hear music the way it was first heard in the recording studio—truthfully real. And if anyone should know about monitors, it's us.

Altec has almost as many loudspeaker installations in U.S. studios as all other brands combined. And we can prove it. Here's the latest U.S. studio data published in Billboard Magazine's 1974 International Directory of Recording Studios.

Throughout the world, more musical decisions are made on Altec monitors than any other brand. Recording professionals listen to music to earn a living. If they choose Altec, do they know something you don't?

1515 S. Manchester Avenue, Anaheim, Calif. 92803
WHAT EVERY HI-FI SHOPPER SHOULD KNOW BEFORE BUYING

A practical guide to selecting stereo and quadraphonic hi-fi components

BY JULIAN D. HIRSCH
Hirsch-Houck Laboratories

Even for the most knowledgeable audiophile, entering a well-equipped dealer's hi-fi showroom can be an overwhelming experience. Small wonder, then, that a newcomer to the world of high fidelity is often tempted to turn tail and flee when faced with row upon row of tuners, amplifiers, receivers, and tape decks, usually terminating in a complex switching panel that channels any selected output to a wall-to-wall, floor-to-ceiling array of loudspeakers!

Before panic sets in, stop to consider that a hi-fi system, from the simplest to the most elaborate, consists of only a few basic components. With the application of a little common sense and some study of the subject, it is easy to avoid incompatible combinations of equipment. Here are guidelines to making your shopping visits to audio dealer showrooms more rewarding.

In its most basic form, a stereo music system consists of a program source (tuner, records, or tape), an amplifier, and two speaker systems. Depending on your location and personal preferences, you may choose to dispense with FM radio programming in favor of commercially produced records or tapes, or conversely may opt for "free" music "off-the-air" rather than a substantial investment in recorded music. In some rural areas, inadequately served by FM, an AM tuner may be necessary. Most tuners and receivers provide both FM and AM reception, although AM quality is usually little better than that offered by a small transistor radio. In any case, it is adequate for news broadcasts, sports events, and "talk" shows.

Before getting down to the serious business of selecting the components for your music system, you should become familiar, in a general way, with the different categories of equipment and their place in the system. Later, we will go into more detail on each type of component, but first let us take a walk around that hypothetical audio showroom and examine its offerings.

Besides its basic function of amplifying (about which more later), the amplifier serves as a control center for the system and selects any of several program sources for your listening pleasure. Even if you initially purchase only a record player, other source equipment—a tape deck, for example—can be added at any later time without obsoleting your system.

You will notice, especially in the higher price and power brackets, that the amplifier is sometimes built as two separate units, called the preamplifier and the main amplifier or power amplifier. This is done principally to keep size and weight within reasonable bounds. A powerful amplifier may weigh 30 to 40 pounds or more and is correspondingly large. By separating the control section (the preamplifier) from the heavy power amplifier, the latter can be placed out of sight, making for a more attractive installation. In the low-to-medium power range (say, up to 40 or 50 watts per channel) the power amplifier adds little to the bulk of the unit and the two sections are usually combined to form an integrated amplifier. Many manufacturers offer their amplifiers in both integrated and separated form, with the latter frequently having somewhat more control flexibility to justify their slightly higher cost.

One section of the dealer's display will be devoted to tuners. This is the part of the system that receives broadcast signals and converts them to an electrical form which can be processed by the amplifier and eventually heard from the speakers. Like amplifiers, tuners are available in a wide range of prices, with features and performance to match. You will recognize the tuner at a glance by its tuning dial (generally a large rectangular area on the panel, often "blacked out" when the unit is turned off, but colorfully lit when it is in use). Most tuners have only a couple of control knobs, in addition to the tuning knob.

You will probably find that the bulk of the electronic components on display are receivers, or combinations of tuner and amplifier in a single unit. The receiver is the most popular form of hi-fi electronic component, and for
good reason. It occupies little more space than either a tuner or an amplifier, alone, and usually costs somewhat less than separate components of similar ratings. The cost savings are achieved, for the most part, by using a common chassis, power supply, and cabinet (if you price the wooden cabinets offered as accessories by many manufacturers, you will appreciate the economic advantage of using one cabinet instead of two!). Best of all, there is usually little or no sacrifice of performance or versatility in a good receiver, as compared to equivalent separate components.

Not long ago, record players were classified either as changers (or automatic turntables), or manual players. Today, most automatic features are found on single-play turntables as well, so that fully manual record players are the choice of audio purists who prefer to "do it themselves" while the great mass of audiophiles use some form of automatic turntable, whether it be a changer or a single-play unit.

Tape recorders (more properly called tape decks when they are used as a part of a high-fidelity system) can be classified as open-reel or cassette types. There are also units which will play 8-track cartridges (the kind used in automobile tape players) through a home music system, and a few which can make recordings on blank 8-track cartridges. A few low-to-medium priced open-reel tape decks are still manufactured, but the bulk of that market is devoted to the more refined and expensive equipment, selling for $500 or more. At lower prices, the cassette is king, although there are several cassette decks selling for close to $500 and a couple of professional-quality units at even higher prices.

High-fidelity performance can be expected from a good cassette deck, especially when you record your own cassettes from radio or records. Lower priced models (under $150-$200) are often capable of surprisingly good quality, but lack the refinements of the more expensive decks. Open-reel recorders are a "must" if you expect to edit your tapes (virtually impossible with cassettes) or if you will settle for nothing less than the finest, state-of-the-art sound quality.

And now we come to the loudspeaker, the most important part of a hi-fi system and unquestionably one of the most difficult to categorize from the standpoint of suitability for a particular installation or individual taste. You will find a greater range of price (and size) among loudspeakers than anywhere else in the high-fidelity scene. Excluding the many speakers whose sound falls short of high-fidelity standards, it is possible to spend less than $50 or more than $1000 for one speaker—and you will need two for stereo, or four for quadrophonic.

Unlike the other audio-system components, loudspeaker performance—the actual sound quality you hear in your home—varies drastically from model to model. It is almost literally true that no two types of speaker systems sound alike. Unfortunately, no measurements thus far devised can do more than give a rough idea of a speaker's sound. Listening is the only way, which is why that solid wall of speakers faces you as you step into the dealer's demonstration room.

There are still a few pitfalls to watch out for. Since speakers tend to sound quite different when heard in different rooms, and some speakers sound their best only with certain kinds of music, it is all too possible to become completely "sold" on a particular model in the showroom, only to find it a disappointment in your own home. We will have more to say about speaker selection later.

There are many accessories that can add to the enjoyment and utility of your music system. Prominent among these are stereo headphones, whose popularity has grown with public awareness of "noise pollution." Headphones, like speakers, vary widely in sound, style, and price, with the additional consideration that they must be comfortable to wear.

Four-channel (quadraphonic) sound is now an accepted part of the audio scene. We will deal with the special characteristics and problems of 4-channel in a later section, but for now it will suffice to know that a basic four-channel system must have four speakers, together with a four-channel amplifier (or two stereo amplifiers with an adapter unit). Stereo systems can usually be converted to 4-channel by adding another amplifier and adapter, plus the two rear speakers. Alternatively, you can start with a four-channel amplifier or receiver, using it as a stereo unit until you are ready to add the rear speakers.

Now that you have been introduced to the basic high-fidelity components, let us consider each of them in more detail.
Why nearly every record player is like a car that doesn't steer straight.

If you've even driven a car with badly aligned front wheels or a defective steering mechanism, you know what we're talking about.

It's a queasy feeling when you can't make the car point in the same direction as the road is pointing.

There happens to be a distinctly comparable problem with record players, except that it's a nearly universal deficiency, not just a malfunction.

Of course, in this case there's no human life at stake, only the fidelity of the reproduced sound. And sometimes the life of the record.

Like a car, the phono cartridge (or pickup head) should point where it's going. Right down the middle of the groove. Not at an angle to it.

A more scientific way of saying the same thing is that the head should remain perpendicular to the line drawn through the stylus tip and the turntable spindle.

Any deviation from this ideal is known as tracking error. It's measured in degrees and it causes distortion. Inevitably.

The trouble is that there's no way to avoid tracking error and the resulting distortion with any conventional pivoted tonearm. Why? Because the head swings in an arc and is therefore at a continuously changing angle to the groove as it travels across the record. The problem has remained fundamentally the same since the Emile Berliner gramophone of 1887. It has been minimized, thanks to improvements in tonearm, geometry, but it hasn't been eliminated.

With one important exception.

In the current line of Garrard automatic turntables, the top models are equipped with Garrard's unique Zero Tracking Error Tonearm.

This remarkable invention ends tracking error once and for all. The head is always properly lined up with the groove because it's hinged instead of fixed and keeps adjusting its angle during play. A simple idea, yes, but the engineering details took the world's leading manufacturer of turntables seven years to perfect.

The Zero Tracking Error Tonearm is a major technological coup, not just a glamour feature. You can hear the difference.

The "Acoustics" column of Rolling Stone magazine, for example, reported that the original Garrard turntable equipped with the new arm "sounded markedly 'crisper' than other turntables" under otherwise identical test conditions.

It's true. Just like a car that doesn't steer straight, tracking error can make a nasty sound.

It can even cause unnecessary record wear. The information engraved in the grooves of the new CD-4 discrete four-channel records is so finely detailed that it can be partially wiped out by a stylus that doesn't sit absolutely square and true.

Ask your nearest Garrard dealer about the Zero Tracking Error Tonearm.

It's absurd to tolerate a problem that somebody has already solved.

Top of the line: Garrard Zero 100c, $209.95.
Other Garrard automatic turntables from $49.95 up.
To get your free copy of the new 16-page full-color Garrard Guide, write Garrard, Dept. SD-10, 100 Commercial Street, Plainview, N.Y. 11803.
levels, when driven by a 60-watt amplifier than by a 20-watt amplifier, and there is usually no danger to the speaker from such operation. An exception might be the pairing of a "super-power" amplifier (150 watts per channel or more) with small speakers intended for amplifiers of one tenth that rating.

Because of the interdependence of speakers and amplifiers, you should consider them together when planning a system. Don't worry about a discrepancy of 100%, or even more, between their power "ratings"—as we have said, they are very general in nature. Simply avoid a huge mismatch (10 to 1 or more, for example). Bear in mind that while a powerful amplifier can only enhance the sound of almost any speaker, an inefficient speaker can prove to be a severe disappointment if the amplifier is underpowered.

Current advertising standards imposed by the Federal Trade Commission, effective November 1974, require amplifiers to be rated with all channels driven simultaneously, under standardized test conditions. Older specification sheets may be in circulation for some time with variations, also required by the FTC ruling? The power figures. All specifications, are not minimum for a true high-fidelity product. Incidentally, power bandwidth as defined by the FTC is not the same as the old IHF power bandwidth standard, and slightly. Power bandwidth as defined by the FTC is not the same as the old IHF power bandwidth standard, and there is no simple relationship between them.

The audible effects of various distortions are debatable but, by current standards, a distortion of 1% at rated power would be reasonable for a lower priced amplifier, with the medium priced units typically rated at 0.5% or less. The finest amplifiers carry distortion ratings as low as 0.1%.

Every amplifier (and preamplifier) has a number of controls which allow you to modify the sound to suit your taste. Tone controls typically increase or reduce the level at low frequencies and high frequencies, with little or no effect on the mid-range. Most good tone controls use negative-feedback circuits (sometimes called Baxandall circuits, after the British engineer who introduced them some years ago). These have the capability of controlling response only at the frequency extremes, where correction is most often needed, with less mid-range interaction than non-feedback controls. There is a trend, in the middle and high price brackets, to provide additional tone-control flexibility. This may take the form of a third "mid-range" control, or of a choice of several switch-selected turnover frequencies beyond which the control action begins. One manufacturer provides two additional controls, whose effects are confined to the extremely low and high frequencies. The ultimate in versatility is offered by graphic equalizers, which have individual adjustments (usually sliders, whose positions suggest the overall response shape, hence the term "graphic") for each of five to ten continuous frequency bands covering the entire audio range.

The utility of tone controls and equalizers increases in proportion to their complexity (and cost). Many people—perhaps most—will be perfectly satisfied with a basic two control system, but for those who know what they want to hear, the more complex controls are well worth their extra cost. Most tone controls, incidentally, affect the left and right channels of a stereo system simultaneously, which is quite satisfactory when both speakers are identical (as they should be). Some amplifiers have separate controls for left and right channels, which is a nicety, but not of much practical significance.

Other "frequency-contouring" amplifier controls include loudness compensation and filters. The former boosts the low frequencies (and sometimes the highs as well) relative to the mid-range when the volume control setting is lowered. Ostensibly this is to preserve a correct audible balance among all frequencies at low volume levels, where the ear loses sensitivity to the frequency extremes. The majority of such compensation systems fall far short of their objective, usually imparting a heavy and unnatural quality to the sound. They can be switched out, however, so that you can follow your own inclination with respect to this feature. Occasionally an amplifier or receiver appears with non-defeatable loudness compensation. Such a product is unsuitable for high-fidelity use.

Filters, which are found in most amplifiers, attenuate the low-frequency and high-frequency response to reduce turntable rumble, record scratch, and similar unwanted noises. Most of them are of little value, due to their gradual cut-off slopes (6-dB level change per octave of frequency) which cause them to remove as much of the program as they do the noise. Tone controls usually are at least as effective for this purpose. There are some exceptions, generally in the higher priced equipment. Look for a specification of 12-dB-per-octave filter slopes if you expect to make effective use of audio filters.

The input selector switch, mentioned previously, will have a minimum of three positions, for Phono, Tuner, and Aux sources. The latter (from Auxiliary) can be used for an extra tape deck, tuner, TV sound, or other high-level program source. The Phono input connects the pickup output to a special amplifier that raises its level to approximately the one volt of a typical high-level input, and also equalizes it to obtain flat frequency response when playing records. Amplifier specifications usually include a phono sensitivity rating (such as 2.5 mV) which is the signal level required from the pickup (at 1000 Hz) to drive the amplifier to its rated power. The range of pickup outputs and amplifier sensitivities is relatively small, so that almost any currently available pickup and amplifier should be compatible in this respect. One item not always found in amplifier specifications is the phono overload rating. A high-output cartridge, playing a record with very loud passages, can overload some amplifiers, even with the volume turned low, and cause distortion. An overload rating of 50 mV or higher is desirable, especially if your cartridge has a rated output greater than 5 mV.

Other amplifier features may or may not be of importance to you. These include switching for two or three sets of speakers, tape dubbing connections for copying from one tape deck to another, and additional input capabilities. Some deluxe amplifiers can handle two phono
pickups and two or three tape decks, plus two to four other high-level sources. All high-fidelity component amplifiers should have a Tape Monitor switch, which allows you to connect any selected program to a tape deck, while simultaneously listening to the playback of the same program from the recorder. The Tape Monitor circuit is important even if you do not expect to use a tape deck, since it can be used to connect external accessories such as quadraphonic adapters, equalizers, noise reduction devices, etc.

Almost every amplifier has a headphone jack on its front panel, suitable for driving any stereo headphone except electrostatic types. The microphone inputs offered on some models are of little value unless you plan to use the amplifier for public address announcements as well as hi-fi listening.

Check the back of the amplifier to see if it has enough a.c. outlets for the other parts of your system. At least two outlets, one of them switched, are highly desirable if you expect to use a tuner and a record player in your system.

**SECOND TUNERS**

**THE** tuner is the “radio” portion of your music system. Although most tuners cover the AM and FM broadcast bands (and proposed government legislation now makes this mandatory), the following comments apply specifically to FM tuners.

The tuner’s function is to separate one desired signal from the many intercepted by the antenna, amplify it millions of times, convert its frequency modulation to an exact facsimile of the original program, and if it is a stereo program) subject the detected signal to a complex process which separates it into left and right stereo channels.

Like amplifiers, most tuners tend to sound pretty much alike on ordinary program material. Many people place great store on such specifications as sensitivity and selectivity. Actually, neither of these is easy to reduce to a single convenient number that defines that aspect of the tuner’s performance. They are used in that manner, of course, but as a result are frequently misunderstood or misinterpreted.

Sensitivity refers to the ability of a tuner to receive a weak signal with acceptably low noise and distortion. The IHF Usable Sensitivity rating is most often quoted, although it does not correspond to a really listenable signal. Most good tuners have an IHF sensitivity of less than 3 µV, and some are as low as 1.5 µV. Although in practice it would not be possible to detect any real difference between two tuners whose sensitivities differed by a factor of two (all else being equal), there is a tendency to make much of differences of a few tenths of a microvolt, which are quite insignificant. More meaningful is the 50-dB Quieting Sensitivity rating included in a new IHF tuner standard, but not yet in widespread use. Our test reports in STEREO REVIEW do include it, however. This is usually in the range of 3 to 7 µV and represents the weakest mono signal that can be received without excessive background hiss. For stereo reception, all these sensitivity figures should be multiplied by a factor of ten, which may explain why stereo sensitivity ratings are not widely publicized.

Of course, these sensitivity numbers have no absolute meaning to the consumer who cannot know the actual received signal strengths in his area. In urban areas, one can indeed find signals of a few microvolts, and sometimes the highest possible tuner sensitivity is needed in such locations. At most urban and suburban locations, the tuner receives hundreds or even thousands of microvolts from the antenna from dozens of stations.

Clearly, high sensitivity is not likely to be an important tuner rating for the city dweller. What about selectivity? FM channels in any given area are assigned at 400-kHz intervals (alternate-channel spacing). If you are located close to a powerful FM station and wish to receive a far-off station only 400 kHz removed, you will need high alternate-channel selectivity. Most FM tuners have selectivity ratings between 45 and 60 dB, which is generally adequate for interference-free reception. If you have a “problem,” there are some tuners whose alternate-channel selectivity is 90 dB or more. They are expensive, but well worth it if you need their special qualities.

High AM rejection (ratings in excess of 50 dB are good, and a few are as high as 70 dB). You should be aware that no tuner can be completely immune to multipath distortion and that the best cure for this and most other FM reception problems is a good directional antenna which can be rotated to obtain best results.

The tuner distortion rating should be well under 1%, and most good tuners are rated between 0.2% and 0.5% in mono, and about twice as much in stereo. Stereo channel separation varies with modulating frequency, but is often specified at 400 Hz or 1000 Hz, where it is greatest. Comprehensive ratings include a definition of separation over a range of frequencies, such as 100 to 10,000 Hz. If the separation exceeds 20 dB over most of the audio range, you can be assured of a satisfactory stereo effect. Many tuners in all price ranges have 30 to 40 dB of separation over most of the audio band.

Many important tuner differences relate to their ease of operation, rather than to their electrical performance. The tuning dial should be legible and well calibrated (some tuners, even high-priced units, are difficult to set accurately to a known frequency because of inadequate dial calibration). The tuning “feel” should be smooth and
positive. Tuning indicators, whether meters or lights, should give an accurate indication of correct tuning. Interstation noise muting circuits should be free from bursts of noise as one tunes through a station (although many are not). All of these characteristics are easy to judge for yourself and require no technical knowledge.

There are several tuners with digital frequency readouts instead of the usual mechanical dial system. This eliminates any problems of dial calibration but adds appreciably to the cost of the tuner. Compensating for their higher prices is the fact that most digital tuners also have above average performance in most other respects.

EVERYTHING in the preceding sections applies with equal force to the receiver, which is a combination tuner and amplifier. Some receivers even have separate preamplifier outputs and power amplifier inputs, making them the equivalent of a three-piece combination of separate components. In general, receivers sacrifice little or none of the flexibility of separate components. Some deluxe models, for example, have provision for two or three tape decks and can dub from one to another through their internal circuits.

Are there any valid objections to the use of receivers? Perhaps their only operational limitation is imposed by size and weight considerations, which make it impractical to provide the huge power outputs found in some power amplifiers. The limited space available for power-supply components sometimes restricts the maximum power output at the lowest audio frequencies. Nevertheless, some of the newer receivers can hold their own against any separate amplifier in this respect.

While most receivers are moderate powered (say, up to 40 watts per channel), the upper limit has been steadily increasing and 60 watts per channel or more is available from a number of receivers. A couple of the top units can approach 100 watts per channel.

Since the total power available from a receiver is ultimately limited by the power supply, it is usual for four-channel receivers to have about half the power per channel that can be gotten from two-channel receivers of comparable size. By a novel circuit connection known as "bridging" or "strapping," some manufacturers of four-channel receivers combine the outputs of the front and rear amplifiers to more than double the power per channel in the two-channel stereo mode. Using this technique, a couple of the heaviest four-channel receivers actually approach 100 watts per channel.

What about the possibility of obsolescence of an expensive receiver, which cannot be up-dated piece-meal? This is actually a "paper tiger," since the performance and flexibility of any receiver rival those of comparably rated separate components. It is difficult to imagine any technological change which would obsolete a modern receiver, unless it were so drastic that all high-fidelity components were made obsolete. Even four-channel FM broadcasting, should one of the several proposed systems be accepted by the FCC, would probably be compatible with the special detector outputs built into many tuners and receivers.

One of the few real drawbacks to the use of a receiver, especially a high-powered unit, is its bulk. Shelf mounting is out of the question for most receivers and some of the larger units require a large, sturdy supporting surface. On the other hand, most of the maze of system wiring is eliminated, together with the possibility of intermittent or noisy connections. Only the speaker leads, the record player or tape deck cables, and the antenna need be connected to the receiver to have a complete, fully functional high-fidelity system.

A RECORD player consists of a turntable, a tone-arm, and a cartridge. The turntable rotates the record at a constant speed, usually 33 1/3 or 45 rpm, while the arm holds the cartridge as its jewel stylus follows the spiral groove on the disc. The cartridge, in turn, translates the microscopic "wiggles" of the groove walls into minute electrical signals which correspond to the recorded program and which are suitable for amplification.

Beyond these basic similarities, record players are highly diverse in their design and operating details. Most people use automatic record changers, which can hold a stack of six to ten discs (usually required to be of the same size and speed) and play them in sequence. Record changers whose quality meets high-fidelity standards (usually referred to as automatic turntables) generally have interchangeable center spindles for multiple and single-play operation. Many people prefer to change records manually, while retaining the convenience of automatic arm indexing and end-of-play shut-off.

At the opposite extreme is the classic manual record player. After switching on the turntable, the user positions the arm by hand and places the stylus in the desired groove. At the end of play, the pickup must be returned to its rest and the motor shut off manually.

Few single-play turntables today are completely without automation. Many are designed to turn on the motor when the arm is lifted from its rest. Others shut off after play, sometimes raising the pickup from the record. Finally, there is a strong trend to what might be called an automatic single-play turntable, which operates exactly...
As a British company we'd like to explain our 810 QX automatic turntable in plain English.

How the 810 QX reproduces recorded music accurately.

The BSR 810 QX has a sophisticated synchronous motor spinning a heavy 7-lb. platter for accurate speed (regardless of voltage supply or record load) and all-but-nonexistent wow and flutter. Anti-skating force may be adjusted for optimum pressure with either conical or elliptical styli, so stylus sits perfectly centered in groove for precise stereo separation without audible distortion or uneven groove wear. A strobe disc is integrated into the platter design and a variable speed control is provided should you want to vary from, and later return to, the normal speeds. The tone arm will track as low as 0.25 grams to make use of finest lightweight, high-compliance cartridges for maximum fidelity and dynamic range.

How the 810 QX protects records and cartridge stylus assembly.

Tone arm descent is viscous-damped in automatic operation and also when using the manual cue and pause control, for gentle contact with record surface. Platter rubber mat protects records during play and cushions discs during automatic drop. Automatic spindle uses umbrella-type suspension without outboard balance arm. Stub spindle rotates with record to prevent distortion of center hole. Stylus setdown adjustment prevents stylus damage if dropped outside of entry groove range. Tracking pressure adjustable down to 0.25 grams for newest lightweight cartridges for minimum record wear. Stylus brush whisk dust off stylus between plays. Lock automatically secures tone arm to prevent damage to stylus from accidental movement. Stylus wear meter records accumulated stylus use in hours. Knowing when to replace a worn stylus protects your records.

How the 810 QX provides convenient operation in any desired mode.

After touching a single feather-weight button, the 810 QX can either play a stack of records, shutting off after the last one, play a single record and shut off, or play a single record and repeat it indefinitely until you stop it. Manual operation uses a single button to start the motor and the cue control to lower the stylus.

How the 810 QX operates quietly, emitting no sound that can intrude on the music.

The 810 QX uses a unique sequential cam drive mechanism. It is a rigid precision assembly that replaces the plumber's nightmare of rotating eccentric plates and interlocking gears that other changers use. Unlike other changers, there are no light metal stampings that can go out of alignment and make a lot of noise, from being carried, bumped, or just from use. For literature write to BSR (USA) Ltd., Blauvelt, N.Y. 10913.

1975 EDITION

CIRCLE NO. 7 ON READER SERVICE CARD
like a record changer except that it does not change records.

A good turntable should have a constant (and accurate) speed, free from momentary wavers and fluctuations. It should be unaffected by reasonable line voltage changes or how many records are on it. Depending on their rate of occurrence, these short term speed changes are described as “wow” or “flutter,” and produce the audible effects suggested by their names. Vibrations, from the motor or other sources, must be kept to a minimum and in any case must not be allowed to move the arm or cartridge, relative to the turntable platter. The result of such movement is called rumble, a low-pitched sound that sometimes can be heard during quiet passages in the music. If lifting the pickup from the record does not stop the sound, it is power-line hum rather than rumble.

Wow, flutter, and rumble are minimized by careful assembly and precise mechanical tolerances in the turntable and its drive system. Such methods are expensive, with the result that with turntables we find a definite correlation between price and quality.

Heavy “platters,” which may weigh as much as nine pounds, also contribute to low flutter and rumble. However, one cannot assume that a turntable with a light platter is inferior to one with a heavier platter, since many other factors are involved. Low-speed motors are used in many of the better single-play turntables, since their vibration rates place the rumble components below the audible frequency range. Perhaps the ultimate turntable design is the direct-drive motor offered by a number of manufacturers in their top-of-the-line record players. The electronically controlled motor rotates at the record speed, eliminating the need for belts and idler wheels and reducing rumble and flutter to nearly unmeasurable levels. Direct-drive turntables are expensive—$300 to $400—but appear to offer the closest approach to ideal performance.

Rumble is expressed in decibels, relative to a standard recorded level, and is sometimes weighted to allow for the relative audibility of different vibration frequencies. Low-priced record changers may have unweighted rumble levels of ~20 dB to ~30 dB, while the better automatic turntables typically measure in the ~32 dB to ~38 dB range. The rumble of the finest single-play turntables may be as low as ~45 to ~50 dB. With audiobility weighting, this becomes ~50 to ~55 dB, while the best direct-drive units may measure as low as ~60 to ~65 dB. Since there is more than one standard of measurement, be sure that you don’t compare “apples with oranges.” Popularly used standards include NAB and D1N.

Flutter and wow are measured by the percentage of frequency modulation they impart to a constant-frequency recorded tone. A low-priced turntable may have as much as 0.25% flutter, which can be objectionable with many types of sustained music, but most reasonably good units measure 0.15% or less. The finest turntables have as little as 0.05% flutter and wow.

The tonearm and cartridge characteristics are closely related, although most arms are designed to accept any cartridge having the standard 1/2" mounting centers. A good arm should be balanced by a counterweight and have low friction pivots. The precision of the arm design and assembly becomes increasingly important as we go to lower cartridge-tracking forces. Expensive, highly compliant cartridges, which can operate as low as 1 gram, can only be used in arms of the highest quality, such as those in the most expensive automatic turntables or their equivalent in separate tonearms. Many record changers selling for less than $100 are compatible with cartridges designed to track in the 2 to 3 gram range.

Almost all good arms now have anti-skating compensation, which corrects for the lateral forces developed by friction between the stylus and the record material. Cueing lifts are also in general use. The better ones are damped for a slow and smooth movement as the arm is raised or lowered. If you prefer to position the arm manually, check to see that the finger lift is easy to use (some are rather clumsy) and that the cueing lift does not allow the arm to drift outward as it descends under the influence of the anti-skating force.

With a conventional tonearm, pivoted at one end, the cartridge can be tangent to the record groove at only two points on the record surface. Tangency is a requirement for low distortion, but fortunately any well-designed arm will have an insignificant tracking error. Tracking error, in theory at least, can be completely eliminated by special arms which change the cartridge angle as it moves across the record, or by radial arms whose motion matches that of the recording cutter. These techniques work as claimed, although their benefits are not likely to be audible to most listeners. The radial arm, which is not available on automatic players, has the more important advantage of freedom from skating force and therefore requires no anti-skating compensation.

The phono cartridge converts the movements of a diamond stylus tracing the record groove modulation to electrical outputs. In the interests of retarding wear of the soft vinyl record and the diamond stylus, a low vertical force is desirable. This goes hand-in-hand with a light and relatively delicate stylus system so that the best cartridges tend to be somewhat fragile and should be handled with reasonable care (their use in children’s phonographs is definitely not recommended).

Almost all hi-fi cartridges are magnetic types, although there are a number of design differences among them. The audible differences between most competitive cartridges in a given price range are usually subtle, but many people nevertheless have definite preferences. The improved clarity and freedom from distortion of the top-quality cartridges, which are priced between $50 and $100, are easily audible by comparison with the budget-priced units in the $15 to $20 range. But, as we have shown, their use is restricted to the better quality tonearms.

It is impractical to select a cartridge on the basis of its electrical specifications, such as frequency response or channel separation, since almost all cartridges sold for high-fidelity use have essentially identical specifications! The best clue to cartridge quality (other than listening to it, which is really the best way to make a judgment) is the recommended range of tracking forces. In most cases, a cartridge rated for operation between 3/4 gram and 1 1/2 grams will be of higher quality than one with a 2 to 3 gram rating. Do not place too much emphasis on the lower figure of a range of forces, since no cartridge will deliver its best performance at its minimum force. Very few cartridges are capable of proper operation at less than 1 gram, and then only in the finest arms. On the other hand, avoid using cartridges with rated forces exceeding 3 grams, since this is an indication of a relatively massive and stiff stylus assembly which usually has limited tracking ability.
The stylus tip may have either a spherical or elliptical shape. A spherical stylus with a radius of 0.7 mil (0.0007") is optimum for playing most stereo LP records. The elliptical stylus may have a smaller edge radius of 0.2 to 0.4 mil, which allows it to trace the higher recorded frequencies more accurately, together with a radius across the groove width of 0.7 and 0.9 mil so that it maintains proper contact with the groove walls.

Many people feel that the elliptical stylus provides slightly better sound on stereo records and it is generally agreed that it is superior to the 0.7-mil spherical stylus for playing older mono LP discs. On the other hand, it is more expensive and may not be worth the added cost when a choice is offered. The best cartridges usually come equipped with elliptical styli, however.

THE tape recorder is an active, creative part of a music system, which probably explains its unique appeal to the general public as well as to audio hobbyists. The ability to make your own high-quality recordings, either “live” or by dubbing, has a powerful attraction for many people.

As compared to phonograph records, cartridge and cassette tapes have a clear advantage in size and convenience of use. Open reel tape has a slight size advantage over records, but is clumsier to handle. Pre-recorded tapes of any kind are considerably more expensive than records and their quality is usually below today’s disc standards.

For the audiophile who makes his own tape recordings, the choice lies between cassette and open-reel formats. There are a few 8-track cartridge recorders which are suitable for making your own tapes to be used in automobile players, but most of them cannot match the quality of the other tape formats and are much less convenient to use.

For years, the open-reel format was the only one used in home tape recorders. Most home machines record and play back on four parallel tracks across the 3/8” tape width. Stereo machines use two tracks at a time and when the reels are interchanged after one pass and run in the other direction, the other tracks are used. Four-channel recorders use all four tracks on a single pass of the tape.

Standard tape speeds of 1-1/2, 3-1/2, and 7-1/2 inches per second (ips) are used in most home machines. Sometimes the slowest speed is omitted and on a few high-quality recorders is replaced by 15 ips. In general, quality improves with increasing tape speed, but in practice the full potential of most home machines can be realized at 7-1/2 ips, and sometimes even at 3-3/4 ips. The higher speeds are easier to edit and have a higher dynamic range, making them preferable for live recording. Some “semi-pro” recorders, which usually have the 15-ips speed, can also accommodate the 10-1/2” professional size reel, but the 7” reel is generally used in non-professional recording.

Most open-reel recorders have three heads (erase, record, and playback) with separate recording and playback electronics. This lets you monitor a recording through the playback head an instant after it was recorded, using the tape monitoring facilities found in almost all amplifiers and receivers.

Lower priced open-reel transports (under about $400) usually use a single motor to drive the capstan and the reel hubs. At higher prices, it is usual to find three-motor transports, frequently controlled by electro-mechanical solenoids. Three-motor transports generally have lower flutter, gentler tape handling, and higher fast-forward and rewind speeds. Many solenoid-operated transports can be operated through remote-control accessories.

As with record players, a good tape transport should have less than 0.15% unweighted flutter. Typical single-motor transports have between 0.1% and 0.15%, while a good three-motor machine may have as little as 0.07% or even 0.05%. The noise level (referred to a signal level which produces a playback distortion of 3%) is likely to be from -45 dB to -55 dB, depending on the specific machine and the tape speed. The finest home recorders reduce noise to the -65 dB or -70 dB range. A few high-priced recorders have built-in Dolby noise reduction circuits, but their effect is less obvious (and less needed) than in cassette recorders with their inherently higher noise levels.

A cassette recorder is a miniature of an open-reel machine, with the tape and both “reels” encased in a small plastic cassette. The tape is about half the width of open-reel tape and runs at 1-1/2 ips—a combination of circumstances which would seem to forever consign cassette recording to the “lo-fi” category. Happily, this is not the case.

Special cassette tapes have been developed which can store more energy in their magnetic coatings (especially at high frequencies) than contemporary open-reel tapes. In addition, improved tape coatings and manufacturing techniques have greatly reduced the “dropouts” and amplitude irregularities that plagued early cassette tapes. Finally, the mechanical design of the cassette itself has been improved so that jamming and tape breakage are relatively rare (at least, among high-quality cassettes, which are the only kind an audiophile should be using).

Simultaneously with the tape developments, recorder manufacturers have created new heads, featuring extended frequency response and longer life. One of the supposedly inherent limitations of the cassette medium was the provision for only a single combined record/playback head, contacting the tape through a small opening in the cassette. Since the design parameters for recording and playback heads are different, a compromise is necessary when the functions are combined. Now, ingenious recorder designers have found ways to insert a separate playback head into the tiny access opening, and three-head cassette recorders with full off-the-tape monitoring capability and professional quality are available (at a rather high price, however).

Cassette recorders have been criticized for their relatively high flutter level. Actually, this reputation was
earned by some of the early cassette transports, but seems to have lingered on long after the problems have been corrected. In recent years, good-quality cassette transports have usually had flutter percentages between 0.15% and 0.2%, and much of the time these did not offend the ears of the listeners. However, there are a number of people who can detect, and are disturbed by, flutter levels of 0.1% or less. For these sensitive listeners it would seem that cassettes were out of the question. A number of cassette decks we have tested recently, however, have shown less than 0.1% flutter, with a couple reaching 0.07% and rivaling good open-reel machines. True, this caliber of performance is found only in relatively expensive machines, but there are many in the $200 to $250 range which should satisfy most users.

With a cassette recorder, the Dolby system is a necessity. Boosting the high frequencies at low signal levels during recording, and reducing them by the same amount during playback, the Dolby system improves the S/N ratio by 8 to 9 dB. This can make the difference between good hi-fi quality and a "hissy," sub-standard recording. If a cassette deck lacks the Dolby system (as most under $150 do), it can be added externally. However, it is probably more economical, and certainly more convenient, to buy a recorder with the circuits built in. You can expect a cassette recorder without Dolby to have a noise level of -40 to -50 dB, while the better Dolby decks can achieve a -60 to -65 dB or even lower noise level, again rivaling a good open-reel recorder.

Almost all good cassette recorders have a reasonably flat response from 50 Hz to 12,000 Hz with good low-noise tape. They often reach 15,000 Hz or higher with chromium-dioxide tape or the new dual-layer tapes which do not require special biasing. In practice, these frequency limits match the program bandwidth of phonograph records and FM broadcasts, which helps to explain why a cassette recorder can usually make "perfect" copies from these sources.

Although 8-track cartridges have the potential for true hi-fi performance, their major use is in automobiles where wide frequency range and low noise are not necessary. As a result, little effort has been made to improve either cartridges or players, except in areas affecting reliability. An 8-track cartridge contains a single pack of tape, which is pulled out from the center and rewound on the outside of the pack. This requires careful assembly of the cartridge, and specially lubricated tape, to insure reliable and jam-free operation. Some cartridge transports have a "fast-forward" mode, which advances the tape at 3 to 5 times its normal 3¾ ips speed. However, rewinding is impossible, making location of a specific portion of the tape a cumbersome and lengthy process. Editing is impossible.

In spite of these inconveniences and limitations, many people prefer to record their own cartridges, giving them a wider choice of programs for their cars as well as at home. Although the limited frequency response and high noise level of most cartridges cannot be heard in a moving car, they are only too audible through a good home music system. Recently, one company announced a new deluxe 8-track cartridge deck, using a special "Scotch" cartridge tape and having built-in Dolby circuits, which appears to have specifications rivaling those of a good cassette recorder. As the new tape becomes generally available, we can expect improved recorders from other manufacturers as well.

THE loudspeaker is the most important component of a hi-fi system and often the most expensive. But its performance is very difficult — perhaps impossible — to define in objective yet meaningful terms. The frequency response, distortion, and noise levels of most other system components can be measured accurately and, in any case, are so nearly ideal that the differences between competitive units are relatively subtle. On the other hand, anyone who has compared the sound of different loudspeakers knows that few of them sound alike and that the variations in listening quality are often very large even within the same price class.

Clearly, speakers have not yet attained the degree of refinement found in other components. In fact, there is no consensus as to exactly what characteristics an ideal speaker should have! This situation does not necessarily place the shopper at a disadvantage since it gives him a chance to express his individual taste in sound when selecting a speaker system.

Most speakers radiate their acoustic output in a forward direction, facing the listeners. There is a tendency for the higher audio frequencies to "beam" so that they are heard at full strength only in a limited region in front of the speaker system. Some of the methods employed to disperse all frequencies equally through the listening area include using multiple speakers oriented in different directions, hemispherical convex dome radiators, and acoustic lenses (and combinations of these techniques).

Omnidirectional (or quasi-omnidirectional) speakers have enjoyed considerable popularity in recent years. They often have a spacious, open quality which is considered by many people to give a more convincing illusion of a live musical performance. Others claim that the stereo image is blurred by omnidirectional speakers. Obviously, this is a controversial subject — listen for yourself, and be assured that, whatever your decision, you will have plenty of company.

It is agreed by all that a single conventional cone speaker cannot cover the full audio range adequately. If it is large enough to radiate the low bass frequencies, it will have a sharply beamed and attenuated treble response. In addition, the output in the important middle frequency range will be irregular, adding a coloration to the sound. For these reasons, it is customary to divide the audio band into two or more segments, each radiated by a separate driver unit (sometimes with more than one effective in a certain frequency band). A crossover network channels the various frequency ranges to the appropriate drivers.

Most speaker systems are either two-way or three-way systems, although a few split the audio band into four segments. There is some disagreement among speaker designers over the optimum number of frequency bands in a multi-way system, but excellent speakers are available in each of the above categories.

Even those manufacturers who use crossover networks
Empire Speakers named “Best buy of the year”

Empire Speakers were named “1974 Best Buy of the Year” by Consumers Digest Stereo. Consumers Digest was enthusiastic about our moderately priced, wide ranging, well balanced sound with its rich bass and exemplary high frequency dispersion. With their optional imported marble tops they felt “that Empire Speakers were handsome pieces of furniture that don’t look like just speakers.”

Designed for super stereo or exciting 4 channel, Empire’s unique cylinder speaker produces the kind of sound no ordinary box can deliver.

The all-around sound is simply phenomenal... it radiates in all directions: front, rear, left and right. These perfect 3-way systems use a heavy down-facing woofer for bass you can feel as well as hear. A powerful mid-range for crisp, clear alto and voice tones and an ultrasonic tweeter with 180 degree dispersion. The power handling capacity of Empire Speakers is awesome. They can take all the power your receiver can give them without overload, burnout or strain.


Ask your favorite dealer to let you hear Empire’s great speakers and write for our free full color “Guide to Sound Design.”

EMPIRE SCIENTIFIC CORP.
Dept. D, Garden City,
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CIRCLE NO. 15 ON READER SERVICE CARD
consider them a necessary evil. One very popular speaker system avoids crossover problems completely with a number of small cone drivers handling the full frequency range and reflecting most of their output from the wall behind the speaker. The dispersion of this array is not far from omnidirectional and its frequency response characteristics are corrected by an active equalizer that boosts both low and high frequencies in the amplifier section.

Reproducing each portion of the audio spectrum presents its own unique problems. For the low bass, there must be a compromise, or “trade off,” among size, efficiency, and the lower frequency limit. Small bookshelf speakers are available with outstanding bass performance (down to 30 Hz in some cases), but a price is paid in efficiency, so that more amplifier power is needed for a given sound level. Other speakers of the same size have a higher efficiency, but sacrifice their response below about 50 Hz to achieve this. For many people, this is a worthwhile trade-off, since most music has little content below 50 Hz, but it is one of the factors which must be considered when planning a hi-fi system. Of course, it is possible to have high efficiency and deep bass response, but this calls for a large speaker enclosure.

At the high frequencies, the basic question is how to start and stop the motion of the cone or radiating surface in a very short time. Low moving mass is important, hence the widespread use of tiny “tweeters” less than one inch in diameter, even with the largest enclosures. For many years, electrostatic speakers have been used for tweeters, since they have many of the properties of an ideal reproducer. However, they are directional, and are fairly expensive. A recent speaker design uses a very light array of ribbon conductors in a powerful magnetic field to produce a very uniform and well dispersed output up to super-audible frequencies.

A few speaker manufacturers produce what might be termed “exotic” speaker systems, unconventional in appearance and performance, and sometimes quite expensive.

As we pointed out earlier, the speaker efficiency and amplifier power ratings must be coordinated. Once you have established an approximate efficiency category, listen to a number of speakers to get a “feel” for their distinctive sound qualities. Try to use your own records, rather than a dealer’s demonstration material (which can mask certain speaker defects or enhance their positive qualities). When you find a sound that pleases you, even if the speaker is beyond your budget, listen to less expensive speakers from the same manufacturer. Usually, a manufacturer’s concept of good sound will be carried through his entire product line. At times you can get most of the qualities that attracted you to a $400 speaker in a $100 unit from the same company.

When comparing speakers, be sure that their sound levels are matched. Even a slightly louder sound can give the impression that a speaker sounds “better.” See that the amplifier tone controls are “flat” and that the loudness compensation is switched off. Listen at levels you find comfortable and to the kind of music you prefer. Try not to be unduly impressed by “flashy” sound, such as sparkling highs or thudding bass. A really good speaker, in any price range, is usually rather unassuming (sonically speaking), so that it becomes easy to forget that you are listening though a loudspeaker. If this happens to you, the chances are that you have found the “best” speaker for you!
FOUR-CHANNEL, or quadraphonic, sound is an extension of stereophony, in much the same manner as stereo evolved from mono. By recording and reproducing through four program channels, an added sense of depth and spaciousness can be imparted to the music. Also, it becomes possible to write or arrange music to be heard from different directions with the listener in the center of the stage. Although not what most of us are used to hearing, this is a legitimate musical experience which is made possible only by four-channel recording and reproduction.

Four-channel tape recordings have been with us for many years, although an insignificant number of commercially recorded four-channel tapes is available (in open-reel form, at least). However, a growing number of four-channel tape decks is appearing on the market and we can probably expect new tape releases to follow this trend.

Most four-channel tapes are in the form of Q-8 cartridges, playable on home or car cartridge decks which are designed for their use (these can also play the more common stereo cartridges). The Q-8 cartridges have all the advantages and disadvantages of the cartridge format, but the sonic impact of four-channel reproduction often overshadows any deficiencies in the tape system.

Theoretically, four-channel cassettes should be possible, but a combination of technical and patent licensing problems has so far blocked the entry of cassettes into the four-channel tape market.

Phonograph records dominate the quadraphonic scene and will probably continue to do so. Matrix records, such as Columbia's SQ and the Sansui QS system employed by a number of smaller record companies, can provide a moderate-to-good "quad" effect, although the four recorded channels are intermingled to a considerable degree. Special decoder "logic" circuits can greatly enhance the separation of matrixed four-channel recordings, and anyone with a serious interest in quadraphony should invest in a good logic decoder. These are available as add-on accessories and are built into a few four-channel receivers and amplifiers. You should be aware that most four-channel receivers claiming SQ capability do not have logic enhancement and cannot be expected to give a definite sense of channel separation.

The other major quadraphonic disc system is the CD-4 "compatible discrete" system developed by Victor Company of Japan. The majority of CD-4 records in this country are issued by RCA Victor, but other labels are joining them as the system becomes more widespread. Unlike matrix records, which can be played by any stereo phono cartridge and can be transmitted over FM radio, the CD-4 system requires a special cartridge, with a frequency response extending to 45 kHz, and a separate decoder. It cannot be broadcast in 4-channel form. On the other hand, the CD-4 system has superior four-channel separation, producing a distinctly different overall effect than matrixed records, even when they are played through a full logic decoder.

Fortunately, all quadraphonic records, whether SQ, QS, or CD-4, can be played as stereo discs, without loss of content and with full fidelity. In this sense, they are compatible—but with stereo reproduction rather than with each other.

If you are planning a complete four-channel system, or intend to make a major changeover from an older stereo system, a receiver is the most logical choice for the central component. The better four-channel receivers have adequate power (25 to 50 watts per channel) for most purposes, and many of them have decoding facilities for all types of four-channel records. However, no single receiver or decoding accessory gives optimum performance with all three record types. Each favors one of the systems, to the detriment of the others. In every case, however, an external SQ or CD-4 accessory can provide full flexibility and performance for the least favored system. Another point to watch for is the very low audio power ratings of some lower priced four-channel receivers. Often able to deliver between 7 and 10 watts per channel, these may not be suitable for driving many popular low-efficiency speakers except in a very small room.

It is easy to convert a stereo system to four channels, without any obsolescence. Connect a good full-logic SQ decoder, or a CD-4 demodulator, to the amplifier's tape recording outputs. The decoder front channels return to the tape monitoring inputs and the rear channels go to a second stereo amplifier which drives the rear speakers. The decoder acts as a system control unit and master volume control and its tape outputs, in turn, can be used for a different type of four-channel decoder, or for a tape deck.

If your system is to include the CD-4 system, check to see that your record player tonearm has low capacitance wiring, a necessity for most of the new CD-4 cartridges if their high-frequency response is to be maintained. Check with the manufacturers of the cartridge and the record player if you have doubts. If you simply install a CD-4 cartridge in your old record player, you may be disappointed in the results.

There are no hard and fast rules on speaker choice or placement for quadraphonic listening. As with stereo, the better the speaker, the better the sound. It is not necessary to have identical speakers for all channels, but they should have roughly similar sound qualities. Often it is possible to use smaller speakers in the rear channels (from the same manufacturer as your front speakers) with completely satisfactory results.

As for speaker placement, in most cases existing architecture or furnishings will prevent setting the rear speakers in the corners of the basic quadraphonic rectangle. This rarely impairs their effectiveness, but some experimentation is usually necessary for best results.

There are several four-channel headphones on the market. Although they do not sound like stereo phones (on four-channel material), they do not in the least simulate the effect of four-channel speaker listening. But, neither do stereo phones sound like stereo speakers!
This is what makes the Sansui 771 so great:


Sansui, already famous for quality and value, has again outdone itself with the 771 receiver. Look at the specs: powerful 80 watts RMS total, both channels driven into 8 ohms—more than enough to power two pair of speaker systems—at very low 0.5%, total harmonic distortion, an FM sensitivity of 2.0 µV (IHF).

Look at the features: two tape monitors, two auxiliary inputs, three pairs of speaker selectors, two filters (hi & lo) and more—even a microphone circuit. Visit your nearest Sansui franchised dealer and listen to the tremendous Sansui 771. Then listen to the price.
AUDIONICS

ASA-300 Stereo Amplifier
Medium-power amplifier providing 100 W/ch at 8 ohms; 150 W/ch at 4 ohms. THD 0.1%; IM 0.1%. Response 5-70,000 Hz –3 dB; S/N –95 dB below rated output. $350.00

Audio Research

Dual 76 Stereo Power Amplifier
75 W/ch continuous power with both channels driven (mid-band power about 90 W/ch with both channels operating). Power bandwidth 15-30,000 Hz. HD 0.1% at mid-band & at rated output (0.25% at 30 Hz). Sensitivity: 1.5 V. Vacuum-tube design with solid-state power supply. $995.00

SP-3 Stereo Preamp
Response 15-30,000 Hz ±1 dB. THD 0.005% at 5 V rms output. Maximum output 25 V rms at 1000 Hz. (S + N)/N (aux.) 90 dB. 15¼" x 5" x 12½ D $695.00

BGW

1000 Stereo Power Amplifier
250 W/ch continuous power into 8 ohms with both channels driven (500 W/ch into 4 ohms; 750 W/ch into 2 ohms). Response 2-80,000 Hz +0, –3 dB; hum & noise 100 dB below rated output into 8 ohms; input sensitivity 2 V for 40 V output (200 W, 8 ohms); damping factor 1000 at low frequencies; HD 0.1% at 250 W/ch. Features crowbar circuitry for surge protection; forced-air cooling; IC op amp front end; plug-in module construction. 19" standard rack panel with cast aluminum handles $695.00

500R Stereo Power Amplifier
200 W/ch continuous power into 8 ohms with both channels driven (300 W/ch into 4 ohms). Response 2-65,000 Hz +0, –3 dB; hum & noise 105 dB below rated output into 8 ohms; input sensitivity 2 V for 40 V out (200 W, 8 ohms); damping factor 1000 at low frequencies into 8 ohms. Features crowbar protection circuit; IC op amp front end; current limiting circuit; plug-in module construction. Welded steel chassis frame for rugged operational applications. 19" standard rack panel x 5¼" H x 11¼" D $1295.00

250 Stereo Power Amplifier
Smallier version of the Model 500R. 100 W/ch into 8 ohms (150 W/ch into 4 ohms); HD 0.2% at rated power; response 5-65,000 Hz +0, –3 dB; 20-20,000 Hz +0, –0.25 dB; hum & noise 100 dB below rated output; input sensitivity 1.5 V in for 30 V out at ±1%; damping factor 500 at 500 Hz or less. 19" rack panel x 5¼" H. $449.00

750 Stereo Power Amplifier
220 W/ch continuous power into 8 ohms with both channels driven (350 W/ch into 4 ohms, for 40 V out (200 W, 8 ohms); damping factor 1000 at low frequencies into 8 ohms. Features crowbar protection circuit; IC op amp front end; current limiting circuit; plug-in module construction. Welded steel chassis frame for rugged operational applications. 19" standard rack panel x 7" x 11¾" D $899.00

BOSE

1801 Dual-Channel Power Amplifier
Will deliver 250 W/ch rms into an 8 ohm load; 400 W/ch rms into 4 ohm load; 800 W total into 4 ohms and 500 W total into 8 ohms. Response 30-10,000 Hz flat within ±0.25 dB; 10,000 –15,000 Hz flat within ±0.7 dB; 20-30 Hz and 15,000-20,000 Hz within ±1.0 dB. Has indicators which incorporates the a.c. on/off switch and controls desired combination of VU meters and LED monitors in the display option, separate controls for each channel to provide a gain range of 0 to 30, input selector permits choice of two inputs and can also be used to switch between equalized and unequalized sources; main/remote speaker switching. Input sensitivity 1.5 V for 250 W output into 8 ohms. $799.00

Cerwin-Vega

A-3000 Stereo Power Amplifier
450 W rms/ch into 8 ohms with both channels driven (750 W/ch into 4 ohms); d.c.-60,000 Hz +0, –1 dB; power bandwidth d.c.-20,000 Hz +0, –1 dB; THD 0.25% max., typically 0.01%; damping factor 500 at 1000 Hz, hum & noise 100 dB below full power, features IC front crossover 50 dB at 1 kHz, tone-control range ±12 dB at 10,000 Hz treble, 100 Hz bass. Has electronic switch and fuses for circuit protection. Black enclosure. 16¼” W x 2½” H x 9¾” D $450.00

For 4-Channel Components . . . See SECTION 9
end, "Tri-Tangential" protection circuits; dual VU meters; switchable subsonic filter; plug-in drive circuitry; brushed aluminum finish with blackout display panel. 19" W (rack mount) x 8" H x 11 1/2" D. $1115.00

A-1800 Stereo Power Amplifier
250 W rms/ch into 8 ohms with both channels driven (350 W/ch into 4 ohms), all other specs identical to A-3000 except has no VU meters. $499.00

C/M LABS
CC-2 Stereo Preamp
Response 1-100,000 Hz ±0.3 dB; THD & IM dist. 0.1% at 2 V rms; hum & noise 80 dB below 10 mV input (phono), 80 dB below full output (high-level); features input & mode selectors; tone controls; balance control; volume & loudness controls; tape monitor switch; sub-sonic filter; has two a.c. convenience outlets (one switched). 12 1/2" W x 8 1/2" H x 11 1/2" D. $540.00

911 Stereo Power Amplifier
100 W rms/ch into 8 ohms; 60 W/ch into 16 ohms; 90 W/ch into 4 ohms; power bandwidth 10-30,000 Hz; -0.3 dB at 0.5% THD; response 20-20,000 Hz ±0.5 dB; 1-100,000 Hz ±3 dB; IM 0.5% between 1 W and 100 W; hum & noise 70 dB below full rated output; independent level controls for sensitivity adjustment of each channel. Brown enamelled and brush gold anodized cage. 14 1/4" W x 8 1/4" H x 11 1/4" D. $700.00

CC-50S Integrated Amplifier
50 W rms/ch into 8 ohms; response 20-20,000 Hz ±5 dB; power bandwidth 10-30,000 Hz; -0.3 dB; IM 0.5% at 20 W; hum & noise 70 dB below 10 mV low-level input, 70 dB below 0.25 V high-level input, has full complement of inputs, outputs, controls, and switches. 17" W x 6" H x 13" D. $525.00

912 Power Amplifier
150 W rms/ch into 8 ohms (20-20,000 Hz) 200 W rms/ch into 4 ohms with both channels driven; power bandwidth 5-75,000 Hz; response 1-100,000 Hz at 1 W; THD 0.1%; IM dist. 0.1%; 5 1/4" H x 19" (relay rack) W x 13" D. $650.00 Optional wood cabinet. $39.00

CROWN INTERNATIONAL
D-150 Power Amplifier
120 W/ch dynamic output at 8 ohms. Response 4-10,000 Hz ±0.75 dB at 1 W. IM 0.05% at rated output. Sensitivity 1.2 V at 75 W, 8 ohms, 5 1/4" H x 17" W x 9" D. $399.00 Walnut cabinet. $33.00 Mode AT; Front panel (required for cabinet or panel mount). $30.00

DC300A Laboratory Power Amp
210 W/ch dynamic output at 8 ohms. Response 0-0.002 kHz ±0.1 dB at 150 W. IM 0.05% at rated output. Sensitivity 1.75 V at rated output. $695.00 Walnut cabinet. $37.00

D-60 Power Amplifier
52 W/ch dynamic output at 8 ohms. Response 3.2-100,000 Hz ±1.2 dB at 1 W. IM 0.05% at rated output. Sensitivity 0.75 V at rated output, with front-panel adjustments. Stereo headphone output. 13 1/2" H x 17" W x 8 1/2" D. $249.00 Walnut cabinet. $29.00

IC-150 Preamplifier
IM 0.01% at 2.5 V output; hum & noise 40 dB at phone input. Has high-cut & low-cut filters; loudness compensation switch; ganged tone controls; and two tape-monitoring facilities. 5 1/4" H x 8 5/8" D. $299.00 Walnut cabinet. $33.00

DCE
Dreadnaught 1000 Power Amp
250 W continuous sine wave power/ch into 8 ohms with both channels driven from 20-20,000 Hz; power at clipping 300 W/ch into 8 ohms, 520 W/ch into 4 ohms; IHF power bandwidth 10-225,000 Hz; HD & IM 0.025%; input sensitivity 1.75 V rms for full output; input impedance 100,000 ohms; hum & noise 100 dB below full output; features true complementary direct-coupled output with ten 1A power transistors per channel. Controls: power "on-off" switch, individual channel level controls. 19" W x 7" H x 15" D. Uncased rack mount. $799.00 Deluxe version with 2% panel meters. $899.00 Solid walnut case. $80.00

Dreadnaught 500 Power Amp
Same as Model 1000 except 150 W/ch continuous sine wave power into 8 ohms; power at clipping 165 W/ch into 8 ohms, 300 W/ch into 4 ohms; input sensitivity 1.2 V rms for full output. 19" W x 12" D x 7" H. Uncased rack mount. $499.00 Deluxe version with 2% panel meters. $549.00 Solid walnut case. $45.00

Model 100 Integrated Amplifier
Same power amplifier as Model 500 but with ultra-low-noise FET preamp; phono S/N 85 dB; phono overload 180 mV. $849.00 Solid walnut case. $45.00

DYNAKO
SCA-80Q Stereo Amplifier
Combines a two-channel amplifier (Model 80) with Quadaptor decoder circuitry for recovering 4-ch information from 2 channels. Preamp has most features of the company's PAT-4. 40 W/ch continuous sine wave into 8 ohms from 20-20,000 Hz at 0.5% HD with both channels driven. IHF bandwidth 8-50,000 Hz. Sensitivity, phono 3 mV; aux. 0.13 V. 13 1/2" x 10" x 4 1/2". Kit. $185.00 Assembled. $299.00

Stereo 400 Power Amplifier
200 W/ch continuous power at 8 ohms from 20-20,000 Hz at 0.25% THD & 0.1% IM with both channels driven (300 W/ch at 4 ohms). Response 8-50,000 Hz ±0.5 dB. THD & IM 0.05% at 2 V output. Hum & noise -70 dB at phono input. Has 3-step high-cut filter, and low-cut filter, loudness compensation, independent tone controls, a stereo blend control, and tape monitoring facilities. 4 1/4" H x 13 1/4" W x 9 1/4" D. Kit. $119.00

PAT-4 Preamp
Response 1-100,000 Hz ±0.5 dB. THD & IM 0.05% at 2 V output. Hum & noise -70 dB at phono input. Features the "Dynaguard" power limiting capability to protect speakers. Has over 1000 sq. in of heat-sink radiating area. Includes input level controls, high- and low-filters, fuses on front panel, relay-operated d.c. protection circuit 17" x 14" D x 7" H. Kit. $449.00 Assembled. $599.95

PAS-3X Preamp
Vacuum-tube preamp with loudness compensation, independent tone controls, a stereo blend control, and tape monitoring facilities. 4 1/4" H x 13 1/4" W x 9 1/4" D. Kit. $119.00

PAT-5 Stereo Preamp
Response 10-50,000 Hz ±1 dB (high level inputs); 30-15,000 Hz ±1 dB (low-level inputs), THD 0.05% (0.01% typical) 20-20,000 Hz; IM 0.05% (0.005% typical) with any combination of test frequencies; hum & noise: mag. phono 70 dB below 10 mV input at 1000 Hz, high level 85 dB below 0.5 V input, low filter -12 dB at 15 Hz 6 dB/octave, high filter -10 dB at 10,000 Hz 15 dB/octave, separation at 2 V output into 10,000 ohms; undriven input terminated at 9000 ohms. 20 & 2000 Hz 70 dB, 20,000 Hz 45 dB minimum. Features two RIAA equalized magnetic phono inputs, two tape inputs, tuner, spare, external processor loop, amplifier connections; outputs: two tape ahead of controls, EPL output after volume/balance controls, two audio outputs, front panel headphone, speaker connections. Has full complement of controls. 13 1/4" W x 4 1/4" H x 11 1/2" D. Kit. $179.00 PAT-5/A. Assembled. $199.00

Mark III Power Amplifier
Vacuum-tube mono power amplifier. 60 W output.
Stereo 150 Power Amplifier
75 W rms/ch output at 8 ohms with both channels driven (20-20,000 Hz); 150 W rms at 8 ohms mono; power bandwidth 5-40,000 Hz at 0.25% THD; half-power output, 8 ohms load. Response +0.1 dB at 8-50,000 Hz at 1 W into 8 ohms; +0.5 dB 20-20,000 Hz at 75 W; hum & noise 90 dB below rated output, full spectrum; IM 0.15% at any power level up to 75 W rms/ch into 8 ohms with any combination of test frequencies. Kit $225.00
Assembled $225.00
MC-3 Meter kit $125.00

Stereo 120 Power Amplifier
100 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz) at 0.2% THD; power bandwidth 10-52,000 Hz at 0.2% THD; frequency response 20-20,000 Hz ±0.1 dB; 10-100,000 Hz ±0.5 dB; 10-180,000 Hz ±0.3 dB; S/N 100 dB; features voltage, current, and thermal overload indicators; built-in multiple speaker selector; speaker and a.c. fusing; automatic thermal shut-off switch; input level sets for max. S/N performance; scope output for visual monitoring. 18½" W x 12½" D x 7½" H (19" rack mount kit available). $649.00

Stereo 70 Power Amplifier
Vacuum-tube stereo amplifier. 35 W/ch power output at 4, 8, or 16 ohms. Response 15-40,000 Hz ±0.5 dB; IM & THD 1% at rated output. Sensitivity: 1.5 V for rated output. 4½" H x 13½" W x 10½" D. Kit $179.00
Assembled $249.00

Stereo 80 Power Amplifier
40 W/ch output at 8 ohms. Response 15-50,000 Hz ±0.5 dB. THD 0.5% at rated output; IM 0.1% at rated output. Sensitivity: 1.3 V for rated output. 6½" H x 13½" W x 19½" D. Kit $129.00
Assembled $199.00

SCA-35 Integrated Amplifier
Vacuum-tube stereo unit. 17 W/ch power output at 8 or 16 ohms. Response 20-20,000 Hz ±0.25 dB, IM 1% at rated output. Sensitivity: mag. phono 4.0 mV; tape head 2.5 mV; has high-cut filter, loudness compensation, and ganged tone controls. 4½" H x 13½" W x 10½" D. Kit $129.00

HARMAN/KARDON
Citation 11 Stereo Preamp
Response 1-250,000 Hz ±0.5 dB. HD & IM less than 0.01%. Has high-cut & low-cut filters, loudness compensation, equalizer tone controls, multiple speaker switching, and headphone output. Walnut cabinet $395.00
Citation 12 Stereo Power Amp
60 W/ch rms at 8 ohms. Power bandwidth 5-35,000 Hz, response 5-75,000 Hz ±0.5 dB. HD & IM less than 0.8% at rated output; hum and distortion less than 0.01%. Has high-cut & low-cut filters, with both channels driven. Power bandwidth 5-100,000 Hz with ooth channels driven (20-20,000 Hz) at 0.2% THD; power bandwidth 10-20,000 Hz ±0.5 dB; frequency response 20-20,000 Hz ±0.1 dB; 10-100,000 Hz ±0.25 dB; 10-180,000 Hz ±0.3 dB; S/N 100 dB; features voltage, current, and thermal overload indicators; built-in multiple speaker selector; speaker and a.c. fusing; automatic thermal shut-off switch; input level sets for max. S/N performance; scope output for visual monitoring. 18½" W x 12½" D x 7½" H (19" rack mount kit available). $649.00.
Amplifiers

HEATH
AA-29 Integrated Amplifier
Solid-state, 50 W/ch (dynamic) at 8 ohms integrated amplifier. Power bandwidth 5-30,000 Hz; response 7-60,000 Hz -1 dB at 1 W. HD 0.2% and IM 0.2% at 35 W; hum & noise -65 dB at phone input. Sensitivity: mag. phono 2.2 mV, aux. 180 mV, tape 180 mV. Has loudness compensation switch, ganged tone controls, multiple speaker switching, center-channel output, headphone output, and tape monitoring facilities. Damping factor 50. 53/8" H x 165/8" W x 13" D. ... $359.95

AA-14 Integrated Amplifier
Solid-state, 15 W/ch (dynamic) integrated amp. Response 15-60,000 Hz ±1 dB. Has ganged tone controls and headphone output. 31/2" H x 12" W x 91/2" D. Kit ... $64.95

AA-15 Integrated Amplifier
Solid-state, 75 W/ch (dynamic) at 8 ohms integrated amplifier. Power bandwidth 6-30,000 Hz; response 8-40,000 Hz ±1 dB at 1 W. HD and IM 0.5% at 50 W; hum & noise -60 dB at phone input. Sensitivity: mag. phono 2.2 mV, aux. 200 mV, tape 200 mV. Has loudness compensation switch, ganged tone controls, stereo null balancing, multiple speaker switch, headphone output and tape monitoring facilities. Damping factor 45. 41/4" H x 16" W x 121/2" D. Kit ... $199.95

AA-1214 Stereo Amplifier
15 W rms/ch into 8 ohms; suitable as second amp in 4-channel system; inputs for phono, tape, tuner & aux.; tape monitor jack; head- phone jack, level control for phono input. Push-button program source selection, mono or stereo mode, "on-off" control of speaker systems and power; master controls actuate bass, treble, balance, and volume. 31/2" H x 12" W x 12" D. Kit ... $99.95

HITACHI
IA-600 Integrated Amplifier
32 W/ch (IHF) into 8 ohms. Response 10-100,000 Hz ±1 dB. HD 0.1% at rated output; hum & noise -68 dB at phono input. Sensitivity: mag. phono 2.5 or 6.0 mV; aux. 200 mV, mike 2.5 or 6.0 mV. Features hi-cut filter, loudness compensation switch, ganged stepped tone controls, multiple speaker switching, and headphone output. Damping factor 50. Has tape monitoring facilities. 41/2" H x 161/2" W x 12" D ... $239.95

IA-1000 Integrated Amplifier
55 W/ch (IHF) into 8 ohms. Response 10-100,000 Hz ±1 dB. HD 0.1% at rated output; hum & noise -65 dB at phono input. Sensitivity: mag. phono 2.0-5.0 mV, aux. 140 mV, mike 2.5 or 6.0 mV. Has hi-cut and low-cut filters, loudness compensation switch, ganged tone controls, multiple speaker switching, headphone output, tape monitoring facilities, and VU meters. Damping factor 50. 51/4" H x 17" W x 13" D ... $359.95

INTEGRAL SYSTEMS
200 Stereo Power Amplifier
100 W/ch rms into 8 ohms from 20-20,000 Hz. Response 10-20,000 Hz ±1 dB at 1 W output; power bandwidth 20-25,000 Hz full power, 5-60,000 Hz half power. HD 0.2% 20-20,000 Hz; IM dist. 0.05% at any combination of frequencies between 20-20,000 Hz. Anodized chassis and 19-inch front panel. 19" x 121/2" x 91/2" x 51/4" ... $350.00

Model 400. Same as Model 200 except 200 W/ch, has thermal shut-down, three protection circuits; photo guard; SCR crowbar ... $500.00

Model 700. Same as the Model 400 except 350 W/ch; has LED power readouts; outputs for two sets of speakers; four protection circuits ... $800.00

10 Stereo Preamplifier
Designed to process a wide variety of audio signals. Control facilities include pushbutton input selection, adjustable phono sensitivity, dual tape monitors, speaker switching, steep-sloped high & low filters, and loudness contour as well as tone, balance, and volume adjustments. On-off status is indicated by a low-voltage LED. Bandwidth 20-100,000 Hz ±0.25 db; input impedance 250,000 ohms nominal. IM dist. 0.05% at 1 V rms; max. output voltage before clipping 4.0 V rms. Inputs: high-level 0.2 V/0.05 V; input (1 kHz) 4 mV/140 mV rms, 1 mV/35 mV rms; Comes with anodized chassis and 19-inch front panel ... $300.00

410 Integrated Amplifier
Combines the circuitry of the Model 400 power amplifier and Model 10 preamp ... $700.00

JVC
VN-700 Integrated Amplifier
35 W rms/ch into 8 ohms with both channels driven & at 0.05% THD. Power bandwidth 25-20,000 Hz at 8 ohms. Input sensitivity: mag. phono 2.5 mV; aux. & tape 200 mV. (S + N)/N -82 dB (aux.). Features dual facilities for tape monitoring & tape dubbing. Has 5-section tone control centering on 40, 250, 1000, 5000, and 15,000 Hz. 51/8" x 16" x 121/2" D ... $299.95

VN-900 Integrated Amplifier
50 W rms/ch into 8 ohms with both channels driven & at 0.05% THD. Power bandwidth 20-20,000 Hz. Input sensitivity: mag. phono 2.5 mV; aux. & tape 200 mV. (S + N)/N -86 dB (aux.). Has 7-section tone control centering on 40, 150, 400, 1000, 2400, 6000, and 15,000 Hz. 51/8" x 161/2" x 121/2" D ... $399.95

KENWOOD
700-M Power Amplifier
170 W rms/ch continuous power output with both channels driven into 8 ohms (20-20,000 Hz, THD 0.1%); power bandwidth 20-30,000 Hz, S/N 120 dB (IHF); input sensitivity/impedance 1 V/50,000 ohms; damping factor 40 at 8 ohms; impedance 4-16,000 ohms; response 20-20,000 Hz ±0.4 dB, -0.4 dB; subsonic filter 12 dB/octave at 18 Hz. Features direct-coupled amplifier with output stage powered by dual positive/negative supply; three Darlington amplifier stages/ch; relay-activated protection circuit; two VU meters with meter range buttons for 0 dB, -10 dB, -20 dB, plus "off"; separate left and right input-level controls; dual A-B input selector switch; 5-way speaker selector ... $749.95

700-C Preamp/Control
Designed to be used with the 700-M power amplifier; provides control flexibility with precise, resettable volume and tone controls calibrated in 2-db increments; selectable crossover frequencies of 200 & 400 Hz for bass, 3000 & 6000 Hz for treble; "off" position removes tone controls from circuit for flat response 20-20,000 Hz; two-step audio muting, two-step loudness control circuit, selectable low- and high-frequency filtering; selectable phono cartridge input impedance settings, "Tape-Through" circuit for playing any pro-

STEREO DIRECTORY & BUYING GUIDE
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<th>Model</th>
<th>Features</th>
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<tr>
<td>KA-8006 Stereo Amplifier</td>
<td>68 W rms/ch continuous power output with both channels driven into 8 ohms (20-20,000 Hz); 71 W rms/ch into 8 ohms at 1000 Hz; THD &amp; IM dist. at rated power 0.2%; power bandwidth (IHF) 6-45,000 Hz; damping factor 30 at 8 ohms; direct-coupled complementary symmetry output circuit with dual positive/negative power supply; &quot;Tape-Through&quot; circuit; step-type controls calibrated in 2-dB increments; two low- and one high-frequency filters; muting switch; 4-channel in/out terminals for addition of 4-ch decoder/amplifier.</td>
<td>17.5/8&quot; W x 6.75/8&quot; H x 12&quot; D ........................................... $439.95</td>
</tr>
<tr>
<td>KA-6006 Stereo Amplifier</td>
<td>48 W rms/ch continuous power output with both channels driven into 8 ohms (20-20,000 Hz); 53 W rms/ch into 8 ohms at 1000 Hz; THD &amp; IM dist. 0.3% at rated power; power bandwidth (IHF) 6-40,000 Hz; damping factor 30 at 8 ohms; direct-coupled complementary symmetry output circuit with dual positive/negative power supply; &quot;Tape-Through&quot; circuit; step-type tone controls; muting switch; 4-channel in/out terminals for addition of 4-ch decoder/amplifier.</td>
<td>17.5/8&quot; W x 6.75/8&quot; H x 12&quot; D ........................................... $359.95</td>
</tr>
<tr>
<td>KA-4006 Stereo Amplifier</td>
<td>34 W rms/ch continuous power output with both channels driven into 8 ohms (20-20,000 Hz); direct-coupled complementary symmetry output circuitry with dual positive/negative power supply; &quot;Tape-Through&quot; circuit; bass/treble/defeat switches; 4-channel in/out terminals for addition of 4-channel adapter or demodulator; high- and low filters; muting switch; THD &amp; IM dist. 0.5%: power bandwidth (IHF) 8-45,000 Hz. 17.5/8&quot; W x 65/8&quot; H x 12&quot; D.</td>
<td>........................ $259.95</td>
</tr>
<tr>
<td>LAFAYETTE LA-950A Integrated Stereo Amp</td>
<td>16V5 W rms/ch into 8 ohms at 0.8% THD (20-20,000 Hz) with both channels driven; power bandwidth 15-30,000 Hz; channel separation 65 dB at 1000 Hz; input sensitivity: aux. 250 mV, mag. phono 3.5 mV, ceramic phono 120 mV, tuner &amp; tape monitor 500 mV; hum &amp; noise: aux. &amp; tuner 0.0015% RMS; mag. phono 63 dB; features multiple-speaker switching and front-panel tape output jack. Walnut vinyl-clad metal cabinet. 391/4&quot; H x 12&quot; W x 9&quot;1/4&quot; D.</td>
<td>$119.95</td>
</tr>
<tr>
<td>LEAK Stereo 70 Integrated Amplifier</td>
<td>Solid-state integrated stereo amplifier. 35 W/ch at 8 ohms. Response 20-30,000 Hz. HD 0.1% at rated output; IM 0.3% at rated output. Hum &amp; noise ~66 dB (at aux. input). Sensitivity: mag. phono 2.0 or 4.0 mV. 400 mV turner 25-60 mV. Has high-cut filter, ganged tone controls, multiple speaker switching, headphone output, and tape monitoring facilities.</td>
<td>$299.00</td>
</tr>
<tr>
<td>MARANTZ 250 Power Amplifier</td>
<td>125 Wch rms at 8 ohms. Power bandwidth 5-45,000 Hz; response 20-20,000 Hz ±1 dB. HD &amp; IM 0.1% at rated output; hum &amp; noise ~106 dB. Sensitivity: 1.5 V for rated output. Has 8 ohm output &amp; output metering. Damping factor 100. 6% x H x 15% x W x 9% D ........................................... $499.95</td>
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</tr>
<tr>
<td>240 Power Amplifier</td>
<td>125 Wch continuous power into 8 ohms and at 0.1% THD with both channels driven (150 Wch at 4 ohms, 64 Wch at 16 ohms). Power bandwidth 5-45,000 Hz; response 2-100,000 Hz ±0.75 dB. (S + N)/N 106 dB. Input sensitivity 1.5 V. Has black anodized front panel. 15% x H x 9% x W x 9% D ........................................... $429.95</td>
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<tr>
<td>400 Power Amplifier</td>
<td>200 Wch continuous power into 8 ohms with both channels driven (20-20,000 Hz). IM &amp; HD 0.1% at rated power 20-20,000 Hz both channels driven; response 20-20,000 Hz =±0.1 dB (high-level input); input sensitivity 2 V, impedance 25,000 ohms; features relay-operated time-delay circuit, peak overload indicators.</td>
<td>$599.95</td>
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<tr>
<td>400M, Same specifications as the Model 400 except includes two illuminated output-level meters which monitor actual output power to speakers and indicate left/right channel balance; gain controls for left/right channels ........................................... $699.95</td>
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</tr>
<tr>
<td>500 Power Amplifier</td>
<td>250 Wch rms at 8 ohms. Power bandwidth 3-60,000 Hz; response 20-20,000 Hz=±0.1 dB. HD &amp; IM 0.05% at rated output; hum &amp; noise ~110 dB. Input sensitivity 1.5 V for rated output. Damping factor 500. Has power monitoring meters, LED output. 7&quot; H x 17% W x 16&quot; D ........................................... $1200.00</td>
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</tr>
<tr>
<td>3300 Preamp/Control Center</td>
<td>Features monitor switch for two stereo tape recorders, main/remote speaker switch, mike &amp; IM 0.15% at rated output; hum &amp; noise ~100 dB. Sensitivity: mag. phono 1.3 mV; aux. 100 mV. Has high-cut &amp; low-cut filters, loudness compensation switch, independent tone controls, multiple speaker switching, headphone output, tape monitoring facilities. Damping factor 100. 5.5&quot; H x 15% x W x 14 D.</td>
<td>$699.95</td>
</tr>
<tr>
<td>3600 Preamp/Control Center</td>
<td>Features graphic tone controls for bass, treble &amp; mid-range; low and high filters; precision-tracking volume control; tape monitoring circuitry for two decks; two sets of preamp-out jacks; front-panel mike jacks; response 20-20,000 Hz ≤0.25 dB; THD 0.02% at rated output; output level 3 V; impedance 150 ohms.</td>
<td>$439.95</td>
</tr>
<tr>
<td>1030 Integrated Amplifier</td>
<td>15 Wch rms at 8 ohms. Power bandwidth 15-40,000 Hz; response 20-40,000 Hz ≥±2 dB. HD &amp; IM 0.5% at rated output; hum &amp; noise ~67 dB at phono input. Sensitivity: 200 mV at 8 ohms. Has high-cut &amp; low-cut filters, loudness compensation switch, ganged tone controls, multiple speaker switching, headphone output, tape monitoring facilities, and mike input on front panel. Damping factor 50. 4.5&quot; H x 14.5&quot; W x 12&quot; D ........................................... $169.95</td>
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</tr>
<tr>
<td>1120 Integrated Amplifier</td>
<td>60 Wch continuous power at 4 &amp; 8 ohms and at 0.15% THD with both channels driven (30 Wch at 16 ohms). Power bandwidth 10-40,000 Hz. Input sensitivity: mag. phono &amp; mike 1.38 mV; aux. 138 mV. Has main/remote speaker switch, slide-type tone controls, high &amp; low filters, two tape monitor switches. 15% x H x 9% x W x 14&quot; D.</td>
<td>$269.95</td>
</tr>
<tr>
<td>1200B Integrated Amplifier</td>
<td>100 Wch rms at 8 ohms. Power bandwidth 10-40,000 Hz; response 20-20,000 Hz=±0.1 dB. HD</td>
<td>$499.95</td>
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</table>
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TRM-500 Integrated Stereo Amplifier
22 W/ch at 8 ohms with both channels driven (24 W/ch at 4 ohms). Response 20-30,000 Hz ±2 dB (Aux. input); power bandwidth 20-20,000 Hz, -1 dB at 0.8% THD. IM & HD 0.8%, at rated output. Features tape selector & monitor switch for operating two separate recorders for tape-to-tape duplication; two phono selector switches to control either of two magnetic phone players; 5-step bass & treble switches; input and output jacks on front panel; 4-channel input & output terminals with function switch for connecting 4-channel decoder, plus separate preamp output and main amp. input terminals to decouple them for multi-amp stereo system operation. (5 + R/N) 60 dB (phone), 80 dB response 20-30,000 Hz ±1 dB; THD & IM dist. 1.0% at rated output; damping factor 25 into 8 ohms; input sensitivities: phono 1 mV/50,000 ohms; tuner, tape, Aux. 200 mV/100,000 ohms; has full complement of controls & switches: 12 3/8" W x 9 1/4" D x 4 1/2" H. Comes in walnut-finished wood cabinet...

$199.95

TRM-210 Integrated Stereo Amplifier
12 W rms/ch with both channels driven into 8 ohms (1000 Hz); 10 W rms/ch (40-20,000 Hz), has a complementary symmetry, fused outputs, center-channel output; main amplifiers & preamps accessible by removing rear-panel jumpers; dual-concentric bass & treble controls; 5-position input selector (two phono, tuner, and two aux.); push-buttons for tape monitor, high filter, loudness, mono/stereo mode; separate main, remote, reverse speaker switches; tape in and out plus headphone jacks on front panel; master volume control; separate a.c. power button; rear panel switched and un-switched a.c. receptacles; back-lighted black-out panel. Walnut veneer wood enclosure...

$259.90

ONKYO
A-7055 Integrated Stereo Amp
26 W/ch continuous rms power into 8 ohms with both channels driven; 23 W/ch into 8 ohms with both channels driven 20-20,000 Hz. 0.5% distortion. THD 0.1% and IM 0.05%, both at rated output. Response 10-70,000 Hz ±0, -1 dB; power bandwidth 10-100,000 Hz (IHF -3 dB, THD 0.2%). Preamp input sensitivity: Phono #1 & #2 1.2, 2, 4.8 mV at 50,000 ohms; tuner, aux., tape play 100 mV at 100,000 ohms. THD 0.03% and IM 0.05%, both at rated output. Controls: power, speakers (off, A, B, A+B); selector; tape monitor; volume/balance; treble; bass; frequency shift; low- & high-filter; loudness, mode; amp muting; 3-position phono gain; and preamp/amp separating switch. 16 3/4" W x 5 1/4" H x 14 1/2" D. Walnut-finished wood case...

$239.95

A-7022 Integrated Stereo Amp
Same features and specifications as the A-7055 except 52 W/ch into 8 ohms with both channels driven at 1 kHz, 16 3/4" W x 5 1/4" H x 14 1/2". Walnut-finished wood cabinet...

$359.95

PHASE LINEAR
400 Power Amplifier
200 W/ch (rms) continuous power into 8 ohms with both channels driven from 5 to 20,000 Hz. Power at clipping. 250 W/ch into 8 ohms, 400 W/ch into 4 ohms; 125 W/ch into 16 ohms. Response 0-0.25 MHz at 1 W; HD 0.25%. Phase shift leading 0 degrees at 20 Hz, lagging 12 degrees at 20 kHz. Sensitivity 1.75 V. Light brushed gold, baked enamel and black anodized panel. 19" x 7" x 10" D....

$499.00

700B Power Amplifier
350 W/ch rms continuous power into 8 ohms with both channels driven from 0 to 20,000 Hz. Power at clipping. 450 W/ch into 8 ohms; 730 W/ch into 4 ohms; 270 W/ch into 16 ohms. Response 0-0.25 MHz at 1 V with direct-coupled inputs. HD 0.25% (typically 0.01%). Phase shift leading 0 degrees at 20 Hz, lagging 10 degrees at 20 kHz. Sensitivity 1.14 V. Light brushed gold, baked enamel panel...

$799.00

PILOT
225 Integrated Stereo Amplifier
25 W rms/ch into 8 ohms with both channels driven, 0.5% THD (20-20,000 Hz); response 20-20,000 Hz ±1 dB, IHF power bandwidth 10-20,000 Hz; has full complement of controls & switches; tone controls; loudness contour control. Has subsonic, low, and high filters; bass & treble tone controls; can handle two pairs of speaker systems, two auxiliary source sounds, a tuner, and a turntable. 16 1/4" W x 5 1/4" H x 13 3/4" D...

$139.00

PIioneer
SA-5200 Integrated Stereo Amp
10 W/ch continuous power output at 8 ohms from 20-20,000 Hz with both channels driven; 15 W/ch at 4 ohms at 1000 Hz. IM & HD 0.8% continuous power output. Power bandwidth 10-40,000 Hz (IHF, with both channels driven) at 0.8% HD. Output: speaker A, B, A+B (4 to 16 ohms); headphone 4 to 16 ohms. Input sensitivity/imp.: phono 2.5 mV, 50,000 ohms; tuner, aux. #1 & #2, tape monitor (1000 Hz), 2 V, 1500 ohms. Output level/imp.: tape recorder 150 mV, tape rec. (30 mV, 80,000 ohms. Has individual bass & treble tone controls. Can handle two pairs of speaker systems, two auxiliary source sounds, a tuner, and a turntable. 16 1/4" W x 5 1/4" H x 13 3/4" D...

$249.95

SA-7100 Integrated Stereo Amp
20 W/ch continuous power output at 8 ohms from 20-20,000 Hz with both channels driven (24 W/ch at 4 ohms). Power bandwidth 5-70,000 Hz (IHF, with both channels driven) at 0.5% HD. Response 7-80,000 Hz ±0 dB, -1 dB. IM & HD 0.5%. Output: speaker A, B, A+B (4 to 16 ohms); headphone 4 to 16 ohms. Input sensitivity/imp.: phono #1 & #2 2.5 mV, 50,000 ohms; mike 2.0 mV, 50,000 ohms; tuner, aux. #1 & #2 tape monitor #1 & #2, tape monitor 150 mV, 100,000 ohms. Output level/imp.: tape rec. 30 mV, 80,000 ohms; preamp out. 500 mV, 1500 ohms. Has bass & treble controls, loudness contour control.

$319.00

SA-8100 Integrated Stereo Amp
40 W/ch continuous power output at 8 ohms with both channels driven (48 W/ch at 4 ohms). Power bandwidth 5-40,000 Hz (IHF, with both channels driven). HD & IM 0.3%. Response 7-80,000 Hz ±0 dB, -1 dB. Output: speaker A, B, A+B (4 to 16 ohms); headphone 4 to 16 ohms. Input sensitivity/imp.: phono #1 & #2 2.5 mV, 50,000 ohms; mike 2.0 mV, 50,000 ohms; tuner, aux. #1, #2 tape monitor #1 & #2, tape monitor (30 mV, 80,000 ohms; aux. #2 150 mV to 15 V, 50,000 to 100,000 ohms. Has subsonic, low, and high filters; bass & treble tone controls; has subsonic filter; two a.c. outlets (one switched)...

$349.95

SA-9100 Integrated Stereo Amp
60 W/ch continuous power output at 8 ohms with both channels driven (75 W/ch at 4 ohms)...

$399.95

PHILIPS
SC-102 Stereo Preamplifier
Response 5-20,000 Hz ±0.1 dB; 2-120,000 Hz ±0.5 dB; high-level input (47k load) 2 V rms output; phono input ±1 dB (RIAA); THD 0.05%, IM dist. 0.02% both from any input, 2 V rms output, hum & noise 100 dB below I HF "A" weighted; phono 80 dB below 10 mV input; input impedance: high-level 50,000 ohms; phono 47,000 ohms; features input selector (low-level phono, high-level tape, tuner, aux.); mode selector; tone controls, balance, volume, and loudness controls; tape monitor jack; subsonic filter; two a.c. outlets (one switched)...

$299.50

from 20-20,000 Hz; HD & IM 0.1% continuous power output. Power bandwidth 5-40,000 Hz (IHF, with both channels driven) at 0.1% HD. Response 7-80,000 Hz ±0 dB, -1 dB. Output: speaker A, B, C, A+B, A+C (4 to 16 ohms); headphone 4 to 16 ohms. Input sensitivity/imp.: phono #1 & #2, 2.5 mV, 50,000 ohms; phono #2 2.5-10 mV, 25,000-50,000-100,000-200,000 ohms; mike 2.0 mV, 50,000 ohms; tuner, aux. #1, tape monitor #1 & #2, DIY (30 mV, 80,000 ohms; aux. #2 150 mV-1.5 V, 50,000-100,000 ohms; aux. #3 30 mV, 80,000 ohms; preamp out. 500 mV, 1500 ohms. Has bass & treble controls, loudness contour control.

Stereo Directory & Buying Guide
tape rec. #2 (DIN) 30 mV, 80,000 ohms; preamp out. 2 V, 80,000 ohms. Has subsonic, low, and high filters; bass & treble tone controls; loudness contour control. 16¼" W x 5½" H x 13¼" D. $449.95

RADFORD

HD250 Integrated Stereo Amp
60 W/ch stereo amplifier combined with the HD22 preamp; has two tape monitors, tape-to-tape dubbing, tone-control defeat, graphic controls; preamp THD & IM dist. 0.001% up to 1 V output, less than 0.01% at 10 V output; 17 V max. output; amp THD 0.05%, IM dist. at rated output 0.01%, RIAA SN 83 dB ref. 5 mV input, weighted –88 dB ref. 5 mV input; push-button input selection (phono, tuner, tape #1 & #2); function (tone cancel, mono, tape monitor #1 & #2), slide controls for channel gain, treble, bass & volume. 11" x 17" x 4¾". $695.00

HD22 Preamplifier
Response 20-35,000 Hz ±1 dB; RIAA equalization within 0.2 dB 50-20,000 Hz; THD & IM dist. 0.001% below 1 V output (0.01% at 10 V output); 17 V max. output from 150-ohm source, magnetic input, tuner, and two tape inputs; tone-control defeat; S/N –83 dB on RIAA input (ref. 5 mV input), –85 dB on high-level input (ref. 100 mV signal input). 8¾" D x 17" W x 4¾" H. $395.00

REVOX

A78 Integrated Amplifier
40 W/ch continuous sine wave into 8 ohms. Power bandwidth 10-40,000 Hz; response 20-20,000 Hz ±1 dB. HD 0.1% at 1000 Hz; less than 0.3% from 40 to 15,000 Hz at rated output. Sensitivity: mike 3 mV; mag. phono 3 mV; ceramic phono 230 mV; tuner 100 mV; tape 250 mV. Has tape monitoring input with before/after switch and switched outputs for two pairs of speakers. 16¾" W x 6¼" H x 9¾" D. $499.00

A722 Stereo Power Amplifier
45 W/ch continuous sine wave into 8 ohms; power bandwidth 10-65,000 Hz at 8 ohms; response 20-20,000 Hz ±0 dB/0.5 dB; features remote "on/off" switching with opto coupler; limit switches for reducing output power to 20% or 50%; automatic output disconnect to avoid speaker burn-out; forced air cooling with built-in blower; output selector for two sets of stereo speakers; headphone output on front panel. $525.00

ROTEL

RA-1210 Integrated Stereo Amplifier
60 W/ch continuous rms power into 8 ohms with both channels driven and at 0.5% THD. HD 0.3% 20-20,000 Hz at 55 W/ch; IM 0.1% at 55 W/ch. Response 3-100,000 Hz ±0, –3 dB; power bandwidth (IHF) 5-50,000 Hz at 8 ohms. Hum & noise: phono #1, phono #2 65 dB, tuner, aux. #1, aux. #2, tape input 75 dB. Has full complement of inputs/outputs and controls. 16¼" x 12" x 5¼" H. $399.95

RA-810 Integrated Stereo Amplifier
40 W/ch continuous rms power into 8 ohms with both channels driven and at 0.5% THD. HD 0.3% 20-20,000 Hz at 40 W/ch; IM 0.1% at 40 W/ch. Response 4-75,000 Hz ±0, –3 dB; power bandwidth (IHF) 5-50,000 Hz at 8 ohms. Hum & noise: phono #1, phono #2 65 dB, tuner, aux. #1, aux. #2, tape input 75 dB. Has full complement of inputs/outputs and controls. 16¼" x 12" x 5¼" H. $349.95

RA-611 Integrated Stereo Amplifier
30 W/ch continuous rms power into 8 ohms with both channels driven; HD 0.1% at 1 kHz and 15 W/ch; Response 15-90,000 Hz; power bandwidth 15-50,000 Hz (S + N)/N 65 dB phono; 75 dB aux. Has full complement of controls and inputs. Wood cabinet. $269.95

SAE

Mark IXB Preamp-Equalizer
A new age in the development of sound reproduction. A sound evolution that will make all other systems obsolete. Obsolete by the creation of a unique system known as "Dynamic Damping." "Dynamic Damping" is the exclusive patented principle developed by Magnum Opus to give you the finest quality sound reproduction now known to man. This innovative system employs an internal woofer which is phased and positioned in such a way that it controls the front-firing main woofer, thereby preventing cone break-up, frequency doubling and other types of distortion. And the results truly speak for themselves. Superb bass response and a larger and fuller dimensional and orchestral ambience that is truly unparalleled by any other speaker system on the market.

A "truer" sound, capable of adding yet another dimension in realism, a spaciousness of sound that you can feel as well as hear.

If your dealer doesn't have them, set him straight and write us for a free color brochure.

MAGNUM OPUS ELECTRONICS LTD., 220 WEST 19TH STREET, NEW YORK, N.Y. 10011 (212) 255-8156-7-8

CIRCLE NO 37 ON READER SERVICE CARD

1975 EDITION

29
Features slide-type controls; 10 toroidal LC-type bandpass filters with 12 dB/octave slope. Equalizers have dual range ±16 dB or ±8 dB at 40, 120, 320, 960, 2500, 7500, and 15,000 Hz. Response, high-level inputs: 10-100,000 Hz ±0.25 dB. HD 0.02% from 20-20,000 Hz & 2.5 V output. Max. output 18 V into high impedance. Overall size 17" x 7" x 5.75" H. $450.00

Mark IB Preamplifier
Can serve as complete control center. Has a professional 7-band equalizer instead of conventional controls. Response (high-level inputs) 10-100,000 Hz ±0.25 dB; (phono inputs) 20-20,000 Hz ±0.5 dB. Equalizers have dual range of ±8 dB or ±16 dB with 12 dB/octave slope. Features include stepped volume control, EQ meters instead which display the unit's output in volts. Has meter-range switch... $600.00

Mark IV D Stereo Power Amplifier
100 W/ch into 8 ohms; 125 W/ch into 8 ohms max. rms power output before clipping. HD (rms) 0.1% (20-30,000 Hz) both channels driven to 100 W rms (per channel); IM 0.1% at 100 Wch. Response 20-20,000 Hz ±0.1 dB at 1 W; 20-20,000 Hz ±0.1 dB at 100 W. Power bandwidth 8-50,000 Hz 3 dB down. (S+N)/N 100 dB below 100 Wch. Input required: 1 Vrms for 100 W, 100,000 ohms. 17" W x 5.2" H x 13.2" D. Walnut cabinet. $500.00
Mark IV DM. Same except has two VU meters for watts, voltage, and dB. 173/8" W x 11" D $750.00

Mark IM Stereo Preamp
Response 10-100,000 Hz ±0.25 dB (high-level inputs); 20-20,000 Hz ±1 dB (phono inputs). HD (rms) 0.03% 20-20,000 Hz at 2.5 V, IM 0.03% at rated output. (S+N)/N 72 dB below 10 mV (phono); 90 dB below rated output (high-level). Gain, phono 57.5 dB at 1 kHz; high-level 15 dB. Maximum output 9 V into 100,000 ohms. 15" W x 4.7" H x 8" D. $250.00

Mark XXXA/B Stereo Power Amplifier
50 W/ch into 8 ohms; 70 W/ch max. rms power output before clipping. HD (rms) 50 W/ch into 8 ohms; 70 W/ch max. rms power output before clipping. HD (rms) 0.1% 20-20,000 Hz both channels driven at 50 W. IM 0.1% at 50 W. Response 20-20,000 Hz ±0.1 dB at 1 W; 20-20,000 Hz ±0.1 dB at 50 W. (S+N)/N 100 dB below 50 W. 1 Vrms input required for 50 W. 15" W x 4¾" H x 8½" D $275.00

Mark 111C Stereo Power Amplifier
20 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); frequency response 20-20,000 Hz ±0.25% into 8 ohms at full power, 1-100,000 Hz +1 dB at 1 W; THD 0.1% at full power (20-20,000 Hz), IM 0.05% at full power; features relay protection circuit for speakers; volt/amp limiter; complementary double differential inputs and full complementary series-connected output stages; feedback level controls. 17" x 5½" x 13½". $850.00
Mark IIICM. Same except with direct-reading power meters for watts, voltage, and dB. 17" x 5½" x 14½". $950.00

SANSUI
AU101 Integrated Stereo Amplifier
22 Wch dynamic power at 8 ohms (25 Wch at 4 ohms); 15 Wch continuous power at 8 ohms (18 Wch at 4 ohms) and at 0.8% THD. Power bandwidth 25-40,000 Hz; response 20-60,000 Hz ±2 dB at 1 W. Input sensitivity: mag. phono 3 mV; mike 4 mV; aux., tape monitor & tape recorder 200 mV. Has universal power supply. 16" x 4½" x 11" D. $129.95

AU505 Integrated Stereo Amplifier
35 Wch dynamic power at 8 ohms (45 Wch at 4 ohms); 25 Wch continuous power at 8 ohms (35 Wch at 4 ohms). With both channels driven power is 23 Wch rms at 8 ohms & 12 Wch at 0.5% THD. Power bandwidth 25-40,000 Hz; response 20-60,000 Hz ±3 dB at 1 W. Input sensitivity: mag. phono 3 mV; mike 4 mV; aux., tape monitor & tape recorder 200 mV. Has universal power supply. 16" x 4½" x 11" D. $189.95

AU-9500 Integrated Stereo Amplifier
110 Wch (IHF) power at 8 ohms; 75 Wch continuous power into 8 ohms, THD at rated power 0.1%; IM 0.1%. Power bandwidth (IHF) 5-40,000 Hz; response 15-40,000 Hz ±0.1 dB. Has two phono inputs, two tape monitors (direct dubbing), NR adapter, and 4-ch adapter inputs. Direct-coupled both channels driven. 19½" x 5½" x 13½". $549.95

AU-7500 Integrated Stereo Amplifier
63 Wch (IHF) power at 8 ohms; 43 Wch continuous power into 8 ohms. THD at rated output 0.1%; IM 0.1%. Power bandwidth (IHF) 5-40,000 Hz; response 10-30,000 Hz at 1 W. Has two phono inputs, two tape monitors (direct dubbing), 4-ch adapter input, mike input. Direct-coupled both channels driven. 17¾" W x 9¼" H x 12½" D. $339.95

AU-6500 Integrated Stereo Amplifier
47 Wch (IHF) power at 4 ohms; 32 Wch continuous power into 8 ohms. THD at rated output 0.1%; IM 0.1%. Power bandwidth (IHF) 5-40,000 Hz; response 10-30,000 Hz at 1 W. Has two phono inputs, two tape monitors (direct dubbing), 4-ch adapter input, mike input. Direct-coupled both channels driven. 17¾" W x 9¼" H x 12½" D. $339.95

SABA
STereo DIRECTORY & BUYING GUIDE
**AU-7700 Integrated Amplifier**

54 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); THD & IM dist. 0.1% (at any level below rated output); power bandwidth 5-40,000 Hz; response 10-50,000 Hz ±0.5, –1.0 dB at 1 W; hum & noise (IHF) 85 dB; features dual high-voltage power sources; parallel push-pull power stage; triple tone control; active high- and low filters; loudness control with two modes; tape mode switch; two-step audio muting switch; preamp and main amps may be separated for individual use. $399.95

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**AU-6600 Integrated Amplifier**

42 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); THD & IM dist. 0.15%; power bandwidth 5-35,000 Hz; frequency response 10-40,000 Hz; hum & noise: 70 dB (phono); 85 dB (Aux.); 100 dB (main) all below rated output; dual power supplies; three tone controls with selective turnover frequency; full complement of inputs, outputs, switches, and controls. $349.95

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**AU-5500 Integrated Amplifier**

32 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); THD & IM dist. 0.15%; power bandwidth 5-30,000 Hz; response 10-35,000 Hz ±0.5, –1.0 dB at 1 W; hum & noise (IHF) 85 dB; triple tone controls; full complement of inputs, outputs, switches, and controls. $299.95

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**SCOTT, H.H.**

2355S Integrated Stereo Amplifier

15 W/ch continuous sine-wave power into 8 ohms with both channels driven; response 20-20,000 Hz ±1 dB; HD 0.5% at rated output; has volume/loudness compensation switch; tape monitor switch; speaker #1 or #2; mono/stereo; front-panel headphone jack; phono inputs on rear panel for magnetic or ceramic cartridges. 13 1/2" x 10" x 4 1/2". $159.95

2555S Integrated Stereo Amplifier

30 W/ch continuous power output into 8 ohms with both channels driven; frequency response 20-20,000 Hz ±1 dB; IM & HD 0.3% max. at nominal power; accepts 4, 8 & 16 ohms speakers; linear-motion tone controls with detent center position; high- and low filters; tone-control bypass; volume/loudness compensation switch; 20 dB muting; separable preamp/pump; has two magnetic phono inputs, tuner or two aux. inputs. 15 1/4" x 9 1/2" x 5 1/2". $229.95

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**AU-1100 Integrated Amplifier**

30 W/ch continuous power at 8 ohms by both channels driven and 0.2% HD. HD 0.1% at 1 W. Has input/output jacks for connecting a 4-channel matrix decoder. 15"×15"x12 1/2". $269.50

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**TA-2000F Stereo Preamp**

Response 10-100,000 Hz –2 dB; HD 0.03%, IM 0.05%. Hum & noise –90 dB at phono input. Sensitivity: mag. phono 1.2 mV; aux. 110 mV. Has high-cut & low-cut filters, ganged tone controls, headphone output, tape monitoring facilities, microphone input on front panel, and VU meters. 5 1/4"H x 15 1/2"W x 12 1/4"D. $579.50

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**SU-9600 Stereo Control Center**

3500 Hz; response 5-20000 Hz –2 dB. HD & IM 0.1% at rated output. Hum & noise –110 dB at rated output. Has multiple speaker switching and level input adjustment. Damping factor 170. 5 3/4"H x 15 1/2"W x 12 1/2"D. $629.95

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**SUPERSCOPE**

A-235 Integrated Stereo Amplifier

5 W/ch continuous power into 8 ohms and at 1% THD; IM 0.5% at 5 W. Response 30-40,000 Hz; power bandwidth 30-50,000 Hz at 8 ohms. Has push-button "on-off" switch with pilot light; stereo headphone jack; stereo balance control; bass & treble controls; input selector switch for tuner, phono, tape, or aux. positions. Output for one pair of stereo speakers. 14"×5 1/4"H x 7 1/4"W×11 3/4"D. $89.95

A-260 Integrated Stereo Amplifier

20 W/ch continuous power into 8 ohms at 0.5% THD. Features "Quadraphase" switch to simulate 4-channel sound from 2-channel stereos with addition of pair of speakers. Response 20-25,000 Hz ±1 dB; power bandwidth 20-50,000 Hz. Has straight-line tone and balance controls; tape monitor switch; main/remote speaker switches; selector switch for tape, tuner, phono, mike, or aux. positions; mike inputs for home recording or p.a.; stereo headphone jack; and illuminated function indicators. 14 3/8"H×5 1/4"W×11 1/8"D. $119.95

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**TECHNICS BY PANASONIC**

SU-9600 Stereo Control Center

Features fixed and variable phono input sensitivity; switchable phono input impedance; separate L & R bass and treble controls in 2.5-dB steps; switch-selected bass & treble tone-control turnover frequencies (215kHz and 2kHz); tone-control defeat buttons; interdeck tape dubbing (2 decks); wide dynamic range in phono input with high overload tolerance (1350 mV max. input at 3 mV sensitivity); 18 dB/octave high & low filters with selectable cut-off frequencies (low: 15 or 30 Hz; high: 10 or 15 kHz); click-stop attenuator-type calibrated volume controls; 20 dB audio muting switch; ultra-stable power supply; frequency response (phono) RIAA curve ±0.3 dB; (Aux.) 10-100,000 Hz +0, –3 dB; THD & IM dist. 0.02%; S/N 69.76 dB (phono); 95 dB (Aux. & tuner); rack mountable. 63"H x 177/8"W x 13 1/8"D. $629.95

SE-9600 Stereo Power Amplifier

Ultra-stable, constant-current, constant-voltage power supply eliminates transient IM dist.;
### Amplifiers

**ALTEC**

**724A AM-FM Tuner/Preamplifier**

Stereo design. FM sensitivity 1.8 µV for 30 dB quieting. Response 20-15,000 Hz ±1 dB. Stereo separation 40 dB at 1000 Hz. Capture ratio 1.3 dB. 0.3% HD, 5 V output. Has stereo indicator light, signal-strength meter, center-of-carrier meter, inter-station muting, crystal i.f. filters. Features a built-in stereo preamp with two phono inputs, tape and aux. inputs. Has tone controls. 5" H x 17¾" W x 16½" D. 

**CAMBRIDGE AUDIO**

**T75X FM Stereo Tuner**

Uses MOS transistors with voltage controller varactor tuning; two ceramic filters in i.f. stages plus discrete and IC amplification. Stereo decoding by phase-locked loop IC; extra filters to remove residual pilot tone. Sensitivity 1.8 µV for 30 dB quieting; alternate channel rejection 90 dB; capture ratio 0.5 dB; stereo separation 34 dB at 1 kHz. Available in black or silver cabinet. 16¼ W x 2" H x 9¾ D. 

**TOSHIBA**

**SB-500 Integrated Stereo Amplifier**

35 W/ch continuous power at 8 ohms with both channels driven and 0.2% THD. HD & IM 0.2% at rated output. Response 10-70,000 Hz ±1 dB; power bandwidth 10-40,000 Hz (IHF, 0.2%). Imp. 4.16 ohms. Preamplifier input sensitivity; phono ±1, mag. 2.5 mV, 47,000 ohms; condenser cartridge 30 µV, 70,000 ohms; phono ±2 2.5 mV, 47,000 ohms; aux, tape, tuner 150 mV. Response 20-30,000 Hz; THD 0.03% at rated rms output. Has bass, treble, and loudness controls; input for 4-channel adapter, Walnut cabinet. 15¾" W x 5" H x 2¾" D. 

**YAMAHA**

**CA1000 Integrated Stereo Amplifier**

75 W/ch continuous power into 8 ohms at 0.1% THD. THD & IM at 1 W 0.08% and 0.05%, respectively. Power bandwidth 5-50,000 Hz; (S + N)/N 70 dB (phono); phono sensitivity 0.1-3.0 mV. Has two tape, two phono, and two aux. tuner inputs; bass & treble controls; low and high filters. 

**CA600 Integrated Stereo Amplifier**

35 W/ch continuous power into 8 ohms at 0.1% THD. THD & IM at 1 W 0.08% and 0.05%, respectively. Power bandwidth 5-70,000 Hz; (S + N)/N 65 dB (phono); phono sensitivity 3.0 mV. 

**CA400 Integrated Stereo Amplifier**

22 W rms into 8 ohms with both channels driven at 1000 Hz; 20 Wch at 20,000 Hz, HD & IM dist. 0.1% at rated power; power bandwidth 8-70,000 Hz; frequency response 20-50,000 Hz +0.5 dB, -1.0 dB; has 4-stage direct-coupled phono amplifier; two phono inputs; bass & treble controls; loudness control; high & low filters; microphone input; tape monitor & dubbing facilities; two aux. inputs; four convenience a.c. outlets; separable preamp & power amp. 

### Tuners

**HEATH**

**AJ-15 FM Tuner**

Stereo design featuring solid-state circuitry. Sensitivity 1.8 µV (IHF). Response 20-15,000 Hz ±1 dB. 40 dB stereo separation at 1000 Hz. Capture ratio 1.5 dB. 0.5% HD, 50 dB SCA suppression. 1.5 V output. Has stereo indicator light, signal-strength meter, center-of-carrier meter, inter-station muting, multi-path indicator. Has crystal i.f. filters. 4¾" W x 16¼" H x 12¾" D. 

**ALTEC**

**AF-6 AM-FM Stereo Tuner**

The FM section is similar to that used in the Model FM-5. Kit $240.00 Assembled $350.00 

**HARMAN/KARDON**

**Citation 14 FM Tuner**

Stereo design with built-in Dolby noise-reduction circuit. Features inter-station muting, quieting-type tuning meter, and center-channel tuning meter. Has special 400-Hz tone generator to be used to set recording level when recording off-the-air. Sensitivity 2 µV for 30 dB quieting; (S + N)/N = -70 dB, image rejection -90 dB. Dist. 0.2% in stereo. Optional cabinet. 

**Citation 15 FM Tuner**

Stereo design featuring inter-station muting, quieting-type tuning meter, center-channel tuning meter, and noise filter. Has a special 400-Hz tone generator to be used to set recording level when recording off-the-air. Sensitivity 2 µV for 30 dB quieting; (S + N)/N = -70 dB, image rejection -90 dB. Dist. 0.2% on stereo. Optional cabinet. 

**AJ-1501 Digital FM Tuner**

Stereo design featuring a varactor (voltage tuned FM front-end) without any moving parts (not even a dial scale). Follows computer-type design with digital frequency readouts. Frequency of station can be punched into circuit or special punched cards can be used. Also features automatic frequency sweep. Our Hirsch-Houck Labs report FM sensitivity is 1.6 µV for 30 dB quieting. Response 30-15,000 Hz ±1 dB. Channel separation ≈40 dB at mid-frequencies. Kit $539.95 AJA-1510-1 Pecan wood cabinet $24.95 

**AJ-15 FM Tuner**

Stereo design featuring solid-state circuitry. Sensitivity 1.8 µV (IHF). Response 20-15,000 Hz ±1 dB. 40 dB stereo separation at 1000 Hz. Capture ratio 1.5 dB. 0.5% HD, 50 dB SCA suppression. 1.5 V output. Features stereo indicator light, signal-strength meter, center-of-carrier meter, inter-station muting, multi-path indicator. Has crystal i.f. filters. 4¾" W x 16¼" H x 12¾" D. 

**AJ-14 FM Tuner**

Stereo design featuring solid-state circuitry. Sensitivity 5.0 µV. 30 dB stereo separation at 1000 Hz. Capture ratio 3 dB. HD less than 1.0%. Has stereo beacon, stereo phase control. Kit $54.95 Walnut veneer cabinet $9.95 

**AJ-29 AM-FM Tuner**

Stereo design. Tuner matches the tuner section of the AR-29 receiver. Fully assembled, factory aligned FM front-end provides 1.8 µV sensitivity for 30 dB quieting. Computer-designed nine-pole LC filter in i.f. strip gives 70 dB selectivity. "Mute" function attenuates between-station noise on FM without affecting sensitivity. Kit $199.95 AE-19 walnut veneer cabinet $19.95 

**AE-1214 AM-FM Stereo Tuner**

Features single-knob flywheel tuning for AM and FM; push-button mode controls; stereo broadcast light; inputs for 75 or 300 ohm ex-
be discrete

Going quad — you'll want to know everything there is to know about 4-channel and our discrete 4-channel system, CD-4. For the ultimate in quad, JVC introduces 3 receivers designed for all of today's 4-channel sources ... plus advanced engineering features for future 4-channel innovations, like discrete 4-channel broadcasting.

The new JVC receivers — 4VR-5436, 46 and 56 feature a built-in discrete CD-4 demodulator plus matrix decoder circuits with an automatic switching computer (4VR-5446 & 56) so you can play a mixed stack of CD-4 and matrix discs without making any adjustments. Each CD-4 receiver is equipped with JVC’s patented Sound Effect Amplifiers that break the sonic spectrum into 5 bands so you exercise tonal control and complete freedom over sound in all crucial frequency ranges to compensate for room acoustics and individual tastes. Then there’s JVC’s Balanced Transformer Less Circuitry that links up the amps so that all four are used when playing 2-channel stereo for double the rms output power.

These are only a few of the many JVC innovations that reflect the ultimate in 4-channel engineering and performance. Get all the facts today. Write for your copy of this brochure. Use the handy coupon or visit your local JVC Hi-Fi Dealer. For his name and address, call this toll free number: 800-243-6000. In Conn., call 1-(800)-882-6500.
Tuners

**Hitachi**

**FT-800 AM-FM Tuner**
Stereo design. Features FM sensitivity 1.8 µV for 30 dB quieting. FM tuning; multi-element ceramic filters; pulse-controlled frequency synthesizing for tuning accuracy better than 0.0024%; positive illuminated red and green LED's signal precision indicator lights for Dolby, FM, stereo, MPX filters. Has two illuminated tuning meters and "Gyro-Touch" tuning wheel.

**VT-900 FM Stereo Tuner**
Features 1.7 µV sensitivity for 30 dB quieting, THD 0.5% for stereo; (S + N)/N 65 dB. Capture ratio 0.8 dB; image rejection -90 dB; AM suppression -95 dB. Output 0 to 1 V variable (0.4 V fixed). Features inter-station muting, 75 & 300 ohm antenna inputs, and digital frequency readout. 5 1/16" x 16" x 12 1/4" D. $299.95

**VT-700 AM-FM Stereo Tuner**
Basically the same design as the Model VT-900 except has conventional tuning dial instead of digital frequency readout. $299.95

**Kenwood**

**700-T Frequency-Synthesizing Tuner**
 Companion tuner to the 700-M power amplifier and 700-C preamp/control unit. Combines standard crystal oscillator, plus variable-tuned oscillator, for digital tuning and crystal-controlled frequency synthesizing for tuning accuracy better than 0.0024%; positive illuminated red and green LED's signal precision tuning; multi-element ceramic filters; pulse-noise blanking system; double-switching de-modulator plus phase-lock-loop circuit in MPX stage; signal-strength meter doubles as multi-path detection meter. FM usable sensitivity (IHF) 2.0 µV; quieting slope 4.0 dB; S/N 50 dB; response 20-15,000 Hz ±0.5 dB; HD 0.3% stereo at 400 Hz, 100% modulation; S/N 70 dB at 1 mV input; image rejection 100 dB; selectivity (IHF alternate channel) 45 dB at 1000 Hz, 38 dB at 10,000 Hz. 3 3/4" W x 12 1/2" H x 8 1/2" D. $549.95

**Leak**

**Stereofetic FM Stereo Tuner**
Solid-state FM stereo unit. Sensitivity 2.0 µV for 30 dB quieting. Response 20-15,000 Hz ±1 dB; 30 dB stereo separation at 1000 Hz. 3.5 dB capture ratio. Distortion less than 0.25%. 60 dB S/N ratio; output 0.9 V. Features stereo beacon, signal-strength meter, and inter-station muting. 4 1/2" H x 11 3/4" W x 7 1/2" D. $225.00

**JVC**

**VT-990 FM Stereo Tuner**
Features 1.7 µV sensitivity for 30 dB quieting. THD 0.5% for stereo; (S + N)/N 65 dB. Capture ratio 0.8 dB; image rejection -90 dB; AM suppression -95 dB. Output 0 to 1 V variable (0.4 V fixed). Features inter-station muting, 75 & 300 ohm antenna inputs, and digital frequency readout. 5 1/16" x 16" x 12 1/4" D. $299.95

**VT-700 AM-FM Stereo Tuner**
Basically the same design as the Model VT-900 except has conventional tuning dial instead of digital frequency readout. $299.95

**Lafayette**

**LT-725B AM-FM Stereo Tuner**
AM-FM stereo design. FM usable sensitivity 1.7 µV for 30 dB quieting. Response 50-15,000 Hz; 40 dB separation at 1500 Hz. Features FM muting, signal-strength meter, and "Gyro-Touch" tuning wheel. $229.95

**Fam-500 AM-FM Stereo Tuner**
FM usable sensitivity (IHF) 2.0 µV; image rejection 80 dB; (S + N)/N 60 dB; capture ratio 2:1; distortion 0.5% at 1000 Hz; stereo separation 38 dB at 1000 Hz. Features FM muting, signal-strength and center-tuning meters, terminals for 4-channel adapter, tape output jack, and overload protection circuits. 15" W x 12" H x 8" D. Has blackout linear-scale dial and neon illumination. $169.95

**Fam-220 AM-FM Stereo Tuner**
FM usable sensitivity (IHF) 2.3 µV; muting sensitivity 20 µV; selectivity 40 dB ±400 kHz, image rejection 50 dB; i.f. rejection 80 dB; S/N 60 dB; capture ratio 3:1; distortion 0.5% at 1000 Hz; center-tuning meter, inter-station muting, and 3" scope with 4-ch display. 5 3/4" H x 15 3/4" W x 12" D. $319.95

**Fam-105 AM-FM Stereo Tuner**
Similar in appearance to Model 1158. FM sensitivity 3.5 µV for 30 dB quieting. Capture ratio 3:1. Image rejection ~50 dB. Has 300 & 75 ohm antenna inputs, signal-strength tuning meter. 14 1/4" x 4 1/2" x 12" D. $159.95

**Manta**

**120B AM-FM Stereo Tuner**
FM usable sensitivity 1.4 µV (IHF), 42 dB stereo separation at 1000 Hz; 1.5 dB capture ratio. HD 0.25%; stereo; S/N 60 dB. Features stereo beacon, signal-strength meter, center-tuning meter, inter-station muting, and 3" scope with 4-ch display. 5 3/4" H x 15 3/4" W x 12" D. $549.95

**115B AM-FM Stereo Tuner**
Similar in appearance to Model 1158. FM sensitivity 3.5 µV for 30 dB quieting. Capture ratio 3:1. Image rejection ~50 dB. Has 300 & 75 ohm antenna inputs, signal-strength tuning meter. 14 1/4" x 4 1/2" x 12" D. $169.95

**Nikko**

**Fam-500 AM-FM Stereo Tuner**
FM usable sensitivity (IHF) 2.0 µV; image rejection 80 dB; (S + N)/N 60 dB; capture ratio 2:1; distortion 0.5% at 1000 Hz; stereo separation 38 dB at 1000 Hz. Features FM muting, signal-strength and center-tuning meters, terminals for 4-channel adapter, tape output jack, and overload protection circuits. 15" W x 12 1/4" H x 8 3/4" D. Has blackout linear-scale dial and neon illumination. $169.95

**Fam-220 AM-FM Stereo Tuner**
FM usable sensitivity (IHF) 2.3 µV; muting sensitivity 20 µV; selectivity 40 dB ±400 kHz, image rejection 50 dB; i.f. rejection 80 dB; S/N 60 dB; capture ratio 3:1; distortion 0.5% at 1000 Hz; center-tuning meter, inter-station muting, and 3" scope with 4-ch display. 5 3/4" H x 15 3/4" W x 12" D. $319.95

**Stereo Directory & Buying Guide**
Meet the family

Our companies have been in the microphone and tape recorder business now for over forty years.

In that time we have built up quite a family... professional mixers, tape recorders, microphones, headphones—the lot.

All of these products are made to the same high acoustic and mechanical quality that has set standards throughout the world. For example, if your finances do not quite run to a new Revox tape recorder, try to find a secondhand one—in stock condition it will outperform other makes of new equipment at the same price!

All of our family is described in great detail in a series of technical data sheets and application charts. If you are at all interested in better equipment, we will send you this information. Just mail the attached coupon to: Revox Corporation, 155 Michael Dr., Syosset, New York 11791.

Please tell me where I can see and buy Revox □ A700
Revox □ A77
Revox □ Good used machines
Beyer □ Microphones
Beyer □ Headphones
Lamb □ Mixer

*As and when available from our dealers.

1975 EDITION
**Tuners**

**TX-9100 AM-FM Stereo Tuner**
Features three MOSFET's, 5-gang variable capacitor, 6-stage limiter, and P.L.L. multiplex circuit. Usable (IHF) FM sensitivity 1.5 µV, capture ratio 1 dB; distortion 0.2% at 1000 Hz & ±40 kHz deviation; quartz-stabilized frequency synthesizer; five-digit frequency display; signal-strength & center-channel tuning meters, remote-control facility. 

**ROTEL**

**RT-1220 AM-FM Stereo Tuner**
FM sensitivity (IHF) 1.5 µV; HD 0.5% (S + N)/N 70 dB; capture ratio 1.0 dB; selectivity 90 dB, stereo separation 40 dB at 1 kHz. Has MOSFET front-end; ceramic i.f. filters; illuminated linear dial scale; illuminated signal-strength and center-tuning meters; rotary FM muting control with three settings; 300-ohm balanced and 75-ohm unbalanced antenna connections 16½" W x 12" D x 5½" H. 

**SAE**

**Mark VIB FM Digital Tuner**
Features digital readout (four Nixie tubes) frequency display; display of tuning & audio signals on a 3" rectangular scope. Has "Stereo Only" position which mutes all except stereo transmissions. Sensitivity 1.6 µV for 30 dB quieting. Capture ratio 1.9 dB. Response 20-15,000 Hz ±0.5 dB at 1 kHz. Has Dolby-B noise-reduction circuit. 16½" x 5½" x 14½" front panel. 

**REVOX**

**A76 FM Stereo Tuner**
Sensitivity 1 µV for 30 dB quieting. Response 30-15,000 Hz ±1 dB; capture ratio 1 dB. Distortion 0.2% (S + N)/N 70 dB; pilot suppression 40 dB. Output 1 V. Signal-strength meter, center-tuning indicator, multi-path indicator, interstation muting, and preset output level controls. 16½" W x 6½" H x 9½" D. 

**SANUI**

**TU-9500 AM-FM Stereo Tuner**
FM sensitivity 1.7 µV (IHF); THD 0.2% mono, 0.3% stereo. (S + N)/N 75 dB; capture ratio 1.5 dB (IHF); selectivity 60 dB. Stereo separation 40 dB at 400 Hz, 3 dB at 10,000 Hz. Has center-channel and signal-strength meters and stereo indicator. 19½" W x 5½" H x 13½" D. 

**TU-7700 AM-FM Stereo Tuner**
FM sensitivity 1.8 µV (IHF); HD 0.3% stereo; S/N 75 dB; selectivity 80 dB; capture ratio 1.5 dB; stereo separation 40 dB at 1000 Hz; frequency response 20-15,000 Hz; linear signal-strength meter; multi-path meter; features output level control; FM muting; multiplex noise canceller; FM antenna attenuation switch; discriminator output for 4-ch ready, three outputs. 

**SCOTT, H. H**

**T33S Digital FM Stereo Tuner**
Sensitivity 1.8 µV for 30 dB quieting. Response 20-15,000 Hz. Stereo separation 40 dB, capture ratio 1.2 dB. HD 0.25%; (S + N)/N 70 dB; pilot suppression 70 dB. 2.5 V output. Has stereo beacon, signal-strength meter, inter-station muting, multipath indicator, punched-card station selection, card-programmed digital frequency synthesizer, automatic scanning, and digital frequency readout. 6" H x 17½" W x 13½" D. 

**SHERWOOD**

**SEL-300 AM-FM Stereo Tuner**
Adjacent channel 20 dB; image rejection 100 db; spurious response 100 dB. Stereo separation 54 dB at 1 kHz, 34 dB at 15,000 Hz left or right channel. SCA rejection 70 dB. Response ±0.4 dB referenced to 75 us de-emphasis. Has twelve push-button controls and one tuning knob. Has Dolby-B noise-reduction circuit. 16½" x 5½" x 14½" front panel. 

**STEREO DIRECTORY & BUYING GUIDE**

- **SEL-300 AM-FM Stereo Tuner**
  - Sensitivity 1.8 µV (IHF); HD 0.3% stereo; S/N 75 dB; selectivity 80 dB; capture ratio 1.5 dB; stereo separation 40 dB at 1000 Hz; frequency response 20-15,000 Hz; linear signal-strength meter; multi-path meter; features output level control; FM muting; multiplex noise canceller; FM antenna attenuation switch; discriminator output for 4-ch ready, three outputs. 
  - $329.95

- **TU-5500 AM-FM Stereo Tuner**
  - Designed to be used with the company's AU-7700, AU-6600, or AU-5500 integrated amplifiers; FM sensitivity 1.9 µV; HD 0.5% stereo; S/N 70 dB; selectivity 60 dB; capture ratio 2 dB; stereo separation 40 dB at 1000 Hz; frequency response 20-15,000 Hz; has full complement of controls and outputs. 
  - $279.95
<table>
<thead>
<tr>
<th>Model</th>
<th>AM/FM Features</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-2400</td>
<td>FM sensitivity 1.8 µV for 30 dB quieting; has stereo indicator, signal-strength meter, center-of-carrier meter, inter-station muting, multi-path indicator output, 12-pole toroidal i.f. filters, and 7-segment digital station frequency readout</td>
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ONKYO gives you 4 new ways to enjoy the sound of the '70's!

And years from now, these superb Onkyo components will still be new — in quality, performance and reliability! That's because Onkyo consistently provides the most advanced design equipment — each including unusually fine quality innovations... years ahead of their time. These latest models are a prime example — offering outstanding performance and distortion-free response at a sensible price. Prove it to yourself and audition Onkyo today.

Compare the craftsmanship, the attention to detail, the feel of genuine quality. Look at the specifications and features, and read the experts opinions. Your one logical choice is Onkyo... Artistry in Sound. A full line of receivers, tuners and amplifiers; the revolutionary TS-500 fully automatic 4-Ch. Receiver; and exciting, 2 and 3 Way Scepter speaker systems — for the sound of the 70's!

ONKYO
Artistry in Sound

38 STEREO DIRECTORY & BUYING GUIDE
AKAI

AA-930 AM-FM Stereo Receiver
42 Wch continuous power (122 W total IHF music power). Power bandwidth 20-60,000 Hz, frequency response 7-80,000 Hz. HD 0.07% at rated output, IM 0.05% at rated output. FM sensitivity 2.0 µV; capture ratio 2 dB; selectivity 70 dB; i.f. rejection 100 dB. Has separate signal and tuning indicators, sound monitoring, high & low filters, and FM muting. Rosewood cabinet. 19" W x 6.6" H x 15.7" D $399.95

AA-910 AM-FM Stereo Receiver
12 Wch into 8 ohms with both channels driven (18" Wch music power); HD 0.2% at 8 ohms (1000 Hz, 5 W); power bandwidth (IHF) 20-45,000 Hz at 1% dist.; response 20-70,000 Hz, -3 dB. Input sensitivity: phono 3 mV, 50,000 ohms, mike 6.5 mV, 50,000 ohms; tape monitor (DIN/PIN) 150 mV, 100,000 ohms. FM tuner sensitivity (IHF) 2 µV; HD 0.8% stereo. (S+N)/N 70 dB; selectivity 65 dB; capture ratio (IHF) 2.5 dB. 18" W x 6.6" H x 14.5" D $349.95

AA-910B. Same as AA-910 except includes built-in Dolby circuit $349.95

ALTEC

725A AM-FM Receiver
Stereo design. 60 Wch continuous sine wave into 8 ohms with both channels driven. Power bandwidth 15-25,000 Hz; response 20-20,000 Hz ±1/2 dB at rated output. Input sensitivity: mag. phono (2) or 5 mV, HD 0.3% at rated output. FM sensitivity 1.8 µV for 30 dB quieting; capture ratio 1.3 dB. Has Butterworth and crystal filters in i.f. stages. 17¾\" x 5\" x 16½\" D $599.00

Oiled walnut cabinet $29.95

BANG & OLUFSEN

Beomaster 4000 FM Stereo Receiver
40 Wch continuous power at 8 ohms (60 Wch at 4 ohms). Power bandwidth 10-35,000 Hz. THD less than 0.1%. Darlington-coupled output stage. Features ambiphonic stereo circuitry. Second stereo pairs can be used for ambio or stereo. Has slide-rule dials; illuminated tuning indicator; signal-strength indicator. Compact design with black aluminum front, wooden top and sides. Cabinet available in rosewood, teak, or oak. 3¾\" x 23\" x 10½\". Will fit standard bookshelf. $520.00

3002 FM Stereo Receiver
30 Wch continuous power at 8 ohms (40 Wch at 4 ohms) and at 0.6% THD. Power bandwidth 10-30,000 Hz; response 20-40,000 Hz ±2 dB. FM sensitivity 2 µV for 30 dB quieting. Has main/remote speaker switch; signal-strength and center-of-channel tuning meters. Anodized aluminum front, wood top and sides. Cabinet available in rosewood, teak, oak, or white lacquer. 3¾\" x 23\" x 10½\". Will fit standard bookshelf. $430.00

C/M LABS

RR-805 AM-FM Stereo Receiver
40 W rms/ch into 8 ohms with both channels driven and at 0.3% THD; power bandwidth 5-50,000 Hz; frequency response 4-75,000 Hz -3 dB; FM sensitivity 1.7 µV (IHF); inputs: phono 2.2 & 4 mV; tape & aux. 115 mV. Ready to drive feedback speakers. 5½\" H x 19\" (relay rack) W x 13” D $550.00 Optional wood cabinet. $39.00

For 4-Channel Components. . . See SECTION 9

CHANNEL MASTER

6618 AM-FM Stereo Receiver
20 W rms/ch into 8 ohms at 100 Hz; sensitivity 3 µV for 30 dB quieting; S/N 55 dB; HD 1% stereo; imp. 8 ohms; features hi- and low filters; FM muting sw.; rotary function selector; tape monitor switch; verner flywheel tuning; full complement of inputs, outputs, switches, and controls. 5\" H x 18\" W x 11½" D $239.95

CONCORD

CR-50 AM-FM Stereo Receiver
10 Wch continuous power at 8 ohms with one channel driven; THD at rated output 2%. Response 28-25,000 Hz at 1 W output; IHF power bandwidth 30-25,000 Hz. IHF usable sensitivity 4.5 µV; 30 dB image rejection; i.f. rejection 72 dB; capture ratio 6:1, S/N 55 dB; stereo separation 25 dB; selectivity 40 dB. Features edge-lighted dial, AM-FM tuning meter, full complement of controls and inputs. Walnut finished vinyl cabinet. 16½ W x 11½" H x 11½" D $119.95

CR-100 AM-FM Stereo Receiver
15 Wch continuous power at 8 ohms with one channel driven; THD at rated output 1%. Frequency response at 1 W output 28-25,000 Hz; power bandwidth (IHF) 27-30,000 Hz. Input sensitivity at rated output: mag. phono 2.8 mV; aux. 120 mV, (S+N)/N (phono) 60 dB. IHF usable sensitivity (IHF) 3.5 µV; image rejection 49 dB; capture ratio 80 dB; stereo separation 30 dB. Features edge-lighted dial, AM-FM tuning meter; bass, treble, balance, and volume controls; FM stereo light; speaker jack accommodating four speaker systems; magnetic phone input, tape in and tape out; auxiliary input; unswitched a.c. outlet; headphone jack. 16½" W x 4½" H x 11½" D $129.95

CR-110 AM-FM Stereo Receiver
14 Wch continuous power at 8 ohms with one channel driven; THD at rated output 1%. Response 28-25,000 Hz at 1 W output; IHF power bandwidth 27-30,000 Hz. IHF usable sensitivity 3.0 µV; image rejection 49 dB; capture ratio 80 dB; stereo separation 35 dB; selectivity 50 dB. Features black-out dial; AM-FM tuning meter; meter; duo-glo indicator to indicate stereo or mono broadcasts; full complement of controls and inputs. Walnut wood-grained vinyl cabinet with champagne-colored brushed aluminum panel. 15½ W x 5" H x 11½" D $149.95

CR-200 AM-FM Stereo Receiver
15 Wch dynamic power into 8 ohms at 1% THD (12 Wch rms continuous power). Response 23-38,000 Hz at 1 W; power bandwidth 26-33,000 Hz. FM usable sensitivity 2.9 µV; capture ratio 1.8 dB. Input sensitivity: mag. phono 2.8 mV; aux. 150 mV. Features FM fine-tuning control, center-channel tuning meter, ceramic filter in i.f. stages, tape monitor, main/remote speaker switching, and tape in & out. Walnut cabinet. $179.95

CR-210 AM-FM Stereo Receiver
24 Wch continuous power into 8 ohms with one channel driven; THD at rated output 1%; response 20-30,000 Hz at 1 W output; IHF power bandwidth 20-30,000 Hz. IHF usable sensitivity 2.9 µV; image rejection 51 dB; i.f. rejection 83 dB; capture ratio 2.0 dB; S/N 65 dB; HD 0.6%; stereo separation 35 dB; selectivity 43 dB. Features separate fine-tuning control for FM, duo-glo indicator; AM-FM tuning meter; fly-
2 Receivers

wheel tuning, full complement of controls and inputs, black-out dial. Walnut wood-grain vinyl cabinet. 16¾ W x 5½ H x 12¾ D … $199.95

CR-250 AM-FM Stereo Receiver
31 W/ch dynamic power into 8 ohms at 1% THD (25 W/ch rms continuous power). Response 22-35,000 Hz. FM usable sensitivity 2.3 µV for 30 dB quieting. Has dual power supplies. $249.95

CR-260 AM-FM Stereo Receiver
50 W/ch continuous rms power at 8 ohms with one channel driven; THD at rated output 1%; response 22-40,000 Hz at 1 W output, IHF power bandwidth 20-35,000 Hz; IHF usable sensitivity 2.3 µV; image rejection 53 dB; i.f. rejection 85 dB; capture ratio 1.5 dB; S/N 65 dB; HD 0.5%; stereo separation 37 dB; selectivity 46 dB. Features fine-tuning control for FM; duo-glo indicator; separate AM and FM inputs. 15¾ W x 13 D x 6 H. $299.95

CR-550 AM-FM Stereo Receiver
50 W/ch continuous power at 8 ohms with both channels driven at 1% THD. Frequency response 10-40,000 Hz ±1 dB, 1% THD. FM sensitivity (IHF) 1.7 µV, image rejection (98 MHz) 74 dB; capture ratio 1.5 dB; stereo separation 35 dB (1000 Hz). Features "Glowpoint" tuning system, 15 push-button switches controlling all input functions; preamp outputs and main amp. inputs allow connection of electronic crossovers, 4-channel adapters, equalizers, or other aux. equipment. 17¼ W x 15¼ D x 6 H. … $379.95

FISHER

Studio Standard Line
Both units feature signal-strength meters; loudness contour button for bass & treble boost; "Stereobeacon" FM stereo indicator; response 20-20,000 Hz ±2 dB; stereo separation 35 dB, THD & IM dist. 1% at rated power. $222. 17 W rms/ch into 8 ohms with both channels driven; FM sensitivity 2 µV; center-of-channel meter; magnetic phono inputs; two tape inputs; front-panel tape output; ganged bass & treble controls; illuminated function indicator, separate preamp cut-off switch; power bandwidth 45-20,000 Hz; capture ratio 2 dB; THD 1% FM stereo. … $249.95

RA200 AM-FM Stereo Receiver
14 W rms/ch into 8 ohms with both channels driven at 5% THD; features six-position function switch; input jacks for ceramic or mag. phono cartridge; tuning meter; bass, treble, balance, volume controls; tape monitor; 5-position speaker switch; jack pack for connecting stereo accessories including 4-ch decoder. … $219.95

HARMAN/KARDON

330B AM-FM Stereo Receiver
20 W/ch continuous power with both channels driven into 8 ohms at 1 kHz at 0.5% THD measured at 120 V a.c.; power bandwidth 25-20,000 Hz into 8 ohms at 1.0% THD; THD 0.5%; IM dist. 0.5% from 1 W to full power; hum & noise 75 dB below rated output (unweighted); damping factor 30:1. Response 20-20,000 Hz ±1.0 dB at normal power levels. FM sensitivity 2.5 µV (IHF); S/N 60 dB; capture ratio 3 dB; image rejection 40 dB; spurious response rejection 60 dB. Has full complement of controls and inputs. 15¼ W x 13¼ D x 4¼ H. … $199.95

530 AM-FM Stereo Receiver
30 W/ch continuous sine wave into 8 ohms with both channels driven. HD 0.5% from 20-20,000 Hz (45 Wch at 1000 Hz). FM sensitivity 1.9 µV for 30 dB quieting. Has provision for Dolby B processor on FM playback. Dual power supplies. … $359.95

Optional cabinet … $34.95

930 AM-FM Stereo Receiver
45 W/ch continuous sine wave into 8 ohms with both channels driven. THD 0.2% at 20-20,000 Hz. … $479.95

HEATH

AR-1500A AM-FM Receiver
Stereo design. 90 W/ch dynamic power into 8 ohms (120 W/ch into 4 ohms, 50 W/ch into 16 ohms). 60 W/ch continuous power into 8 ohms (100 W/ch into 4 ohms, 40 W/ch into 16 ohms). Power bandwidth 8-30,000 Hz; 0.25% THD. Response 5-120,000 Hz ±0.3 dB at 1 W. Input sensitivity: mag. phono 1.8 mV, tape, aux, tape monitor 140 mV. FM sensitivity 1.8 µV for 30 dB quieting. Capture ratio 1.5 dB. 18¼ W x 5¼ D x 13¼ D. … $399.95

ARA-1500-1 Walnut cabinet … $24.95

AR-1302 AM-FM Receiver
Stereo design. 20 W/ch continuous sine-wave into 8 ohms at 0.25% THD with both channels driven (20 W/ch into 4 ohms, 15 W/ch into 16 ohms). 30 W/ch dynamic power into 8 ohms (20 W/ch into 4 ohms, 17 W/ch into 16 ohms). Power bandwidth 5-30,000 Hz. Response 5.35-35,000 Hz ±1 dB. Inputs: magnetic phono, tuner, aux., stereo, or other aux. equipment. 15¾ W x 14½ D x 5½ H. … $259.95

Pecan veneer cabinet … $19.95

AR-29 AM-FM Receiver
Stereo design. 35 W/ch dynamic power into 8 ohms with both channels driven (35 W/ch into 4 ohms, 25 W/ch into 16 ohms) at 0.25% THD. 50 W/ch dynamic power into 8 ohms (65 W/ch into 4 ohms, 30 W/ch into 16 ohms). Power bandwidth 5-30,000 Hz. Response 7-60,000 Hz ±1 dB at 1 W output. Input sensitivity: mag. phono 2.2 mV, aux. 180 mV. FM sensitivity 1.5 µV for 30 dB quieting. Capture ratio 1.5 dB. Has field-strength and center-of-channel tuning meters; main/remote speaker capability or center-channel output. FET tuning unit assembled and pre-aligned. 117/230 V, 50-60 Hz operation. 16¼ W x 5¼ D x 14¼ D. … $319.95

Kit … $109.95

Beige steel cabinet … $3.95

Beige metal cabinet … $3.95

AE-35, Walnut veneer cabinet … $9.95

AR-1214 AM-FM Stereo Receiver
Response 20-15,000 Hz ±1 dB; channel separation 40 dB typical, 35 dB minimum; HD 1% at 1000 Hz with 100% modulation; 19 and 38 kHz suppression 55 dB; SCA suppression 55 dB; 2 µV sensitivity, 12 dB capture ratio. 15 W/ch continuous power output into 8 ohm-

STEREO DIRECTORY & BUYING GUIDE
load, 20 W/ch into 4 ohm load, 10 W/ch into 16 ohm load; power bandwidth for constant 0.5% THD 5-30,000 Hz; response 7-100,000 Hz ±1 dB at 1 W, 5-150,000 Hz ±3 dB. Features pre-assembled FM tuning section; Black Magic panel lighting, flywheel tuning; stereo indicator light; headphone jack, speaker "on-off" button; complete tape monitor facilities. Has full complement of inputs and outputs. 3½" H x 17" W x 13" D.

**HERVIC**

**HR150 FM Digital Receiver**
Solid-state stereo receiver with large, bright FM digital readout; select any of 100 channels available across FM band; exact station frequency assignment displayed by four Nixie tubes; fast dialing across band possible because readout count is corrected 60 times/sec.; precision-ground, twin-ball-bearing tuning knob; 100 dB selectivity with 9-pole Butterworth-type toroid phase-linear f.f. filter; slide-switches for bass, mid-range, treble, volume, and balance control. Has front-panel tape in/out jacks; A & B mono/stereo control; lo/high filters; main/remote speaker switch; tape monitoring facilities; aux. 1 & 2, FM, phono switches; headphone jack $179.95

**VR-5660 FM Stereo Receiver**
Features digital frequency readout; does not have dial scale. 120 W/ch dynamic power at 8 ohms (150 W/ch at 4 ohms); 80 W/ch continuous power at 8 ohms (100 W/ch at 4 ohms) with both channels driven & at 0.4% THD. Power bandwidth 10-40,000 Hz. FM sensitivity 1.7 μV for 30 dB quieting; capture ratio 0.7 dB. 6½" x 20¾" x 15½" D $749.95

**VR-5535 AM-FM Stereo Receiver**
28 W/ch continuous rms power 20-20,000 Hz into 8 ohms and at 0.5% THD. IHF power bandwidth 10-25,000 Hz. Pure complementary OCL power amplifier. SEA control. FM usable sensitivity 2.0 μV; capture ratio 2.0 dB, image rejection 55 dB; stereo separation 35 dB. Has high filter & low filter, FM muting, two tuning meters, source indicator lights, mike mixing facilities. Four-channel ready for future 4-ch FM broadcasts and will handle matrixed and CD-4 sources with appropriate adapters... $429.95

**VR-5525 AM-FM Stereo Receiver**
Same as the VR-5535 except 18 W/ch con-
receivers

2

Kenwood

kr-1400 AM-FM stereo receiver
10 W rms/channel continuous power output into 8 ohms with both channels driven; THD & IMD dist. 0.1% at rated power; THD: 1000 Hz; 8 Ohms. Power bandwidth (IHF) 10-30,000 Hz; FM sensitivity 2.6 µV; quieting slope 48 dB at 5 µV; S/N 68 dB; capture ratio 1.3 dB; alternate channel selectivity 80 dB; response 20-15,000 Hz; +0.5, -2 dB; stereo separation 53 dB; HD 0.5% stereo (400 Hz, 100% modulation); image rejection 90 dB; full complement of inputs & outputs; 4-channel ready, 110-120 V, 50-60 Hz. Walnut cabinet. 85/16” x 51/2” x 13” D...

$449.95

kr-7400 AM-FM stereo receiver
63 W rms/channel continuous power into 8 ohms with both channels driven (20-20,000 Hz); dynamic power output (IHF) 200 watts into 8 ohms loads; THD & IMD dist. 0.3% at rated output; response (Aux.) 10-40,000 Hz ±1 dB; power bandwidth (IHF) 10-30,000 Hz; FM sensitivity 1.7 µV; quieting slope 55 dB at 5 µV; S/N 70 dB; capture ratio 1.3 dB; alternate channel selectivity 80 dB; response 20-15,000 Hz; +0.5, -2 dB; stereo separation 65 dB; HD 0.5% stereo (400 Hz, 100% mod.); image rejection 90 dB; spurious rejection 100 dB. Has mid-range control as well as bass & treble tone controls. 110-120 V, 50-60 Hz. Walnut cabinet. 85/16” x 51/2” x 13” D...

$519.95

KirkSaeT

RTX 120.85 FM Stereo Receiver 85 WCH continuous power at 8 Ohms with both channels driven. THD at 1 kHz 0.09% at full power. Sensitivity: phono 2.4 mV; tape head 2.1 mV; Aux. input 260 mV, tape input & output 650 mV, microphone input 1.5 mV. Scratch filter (20 kHz) -27 dB; rumble filter (20 Hz) -20 dB; (S + N)/N 90 dB at 20 Hz. FM (IHF) sensitivity 1.5 µV; (S + N)/N 65 dB; capture ratio 2.5 dB; stereo THD 0.8%; stereo separation 36 dB at 1 kHz. Inputs: four; microphone #1 & DIN & RCA, Ext. Aux. (DIN); phono #2 & DIN; tape head & left RCA; tape playback (DIN & RCA). Outputs: headphones A & B; 4-channel sound (DIN); tape record; audio output left & right supplement modular power modules; three unsliced a.c. outlets; power connection. 18/16” x 9/16” H x 14” D...

$750.00

RTX 85.55 FM Stereo Receiver Similar to RTX 120.85 except 55 WCH continuous power at 8 ohms with both channels driven. Tape input & output 570 mV...

$650.00

Both units are equipped to provide synthesized 4-channel sound from all stereo sources. Both are housed in selected grain natural walnut cabinets. Decorator matte white or matte black finishes available for additional cost of $20.00.

LAFAYETTE

LR-3500 AM-FM Stereo Receiver Features two sets of tape-recorder outputs for recording simultaneously or tape duplicating.

47 W rms/channel into 8 ohms at 0.5% THD (20-20,000 Hz) with both channels driven; power bandwidth 12-50,000 Hz; input sensitivity; mag. phono #2 150 mV (low), 40 mV (high), aux. 250 mV, tape A & B 500 mV, microphone 6 mV; hum & noise: mag. -68 dB, aux. -75 dB; FM sensitivity 1.65 µV; capture ratio 1.5 dB; stereo separation 40 dB; has FM and audio muting, main/remote speaker outputs. 19/16” x 9/16” H x 14” D...

$399.95

LR-1100 AM-FM Stereo Receiver

Stereo directory & Buying guide
22 W rms/ch into 8 ohms at 0.5% THD (20-20,000 Hz) with both channels driven; power bandwidth 30,000 Hz; input sensitivity: mag. phono #225 mV, ceramic #225 mV, aux. -75 dB, mag. phono #225 mV, FM sensitivity 1.75 µV, capture ratio 1.5 dB; main/remote speaker switching; tape monitor; FM muting; front-panel stereo tape & headphone output. 17" x 5" x 14" D ............................... $299.95

**LR-310 AM-FM Stereo Receiver**

12½ W rms/ch into 8 ohms at 0.8% THD (20-20,000 Hz) with both channels driven; power bandwidth 17-36,000 Hz; all channels driven; input sensitivity: mag. phono 4 mV, ceramic phono 135 mV, tape play 500 mV, aux. -75 mV; hum & noise: mag. -60 dB, aux. -75 dB; FM sensitivity 2.5 µV; capture ratio 3 dB; selectivity 60 dB; features blackout dial; AM-FM signal-strength meter, FM stereo indicator; front-panel tape and headphone jacks. Vinyl-clad walnut-finish case. $199.95

**LEAK**

**Delta 75 AM-FM Receiver**

35 W/ch continuous power into 8 ohms (40 W rms/ch into 8 ohms at 0.8% THD (20-20,000 Hz) with both channels driven; power bandwidth 17-36,000 Hz; all channels driven; input sensitivity: mag. phono 4 mV, ceramic phono 135 mV, tape play 500 mV, aux. -75 mV; hum & noise: mag. -60 dB, aux. -75 dB; FM sensitivity 2.5 µV; capture ratio 3 dB; selectivity 60 dB; features blackout dial; AM-FM signal-strength meter, FM stereo indicator; front-panel tape and headphone jacks. Vinyl-clad walnut-finish case. $199.95

**2270 AM-FM Stereo Receiver**

70 W/ch continuous sine-wave into 8 ohms with both channels driven at 0.3% THD. Power bandwidth 10-40,000 Hz; response 10-50,000 Hz ±1 dB at 1 W output. Input sensitivity 1.8 mV. FM sensitivity 2.3 µV for 30 dB quieting, capture ratio 1.6 dB (IH). Has 3-zone tone controls, tape monitoring facilities, isolated preamp/amp inputs & outputs. 16½" x 5" x 14" D ............................... $399.95

**2230 AM-FM Stereo Receiver**

30 W/ch continuous sine-wave into 8 ohms with both channels driven at 0.5% THD. Power bandwidth 15-40,000 Hz; response 15-40,000 Hz ±2 dB at 1 W output. HD 1.8% FM sensitivity 2.5 µV for 30 dB quieting; capture ratio 1.8 dB (IH). Has 3-zone stepped tone controls, isolated preamp/amp inputs & outputs. 16½" x 5" x 14" D ............................... $399.95

**2245 AM-FM Stereo Receiver**

45 W/ch continuous sine-wave into 8 ohms with both channels driven at 0.3% THD. Power bandwidth 10-40,000 Hz; response 15-40,000 Hz ±1 dB at 1 W output. FM sensitivity 2.5 µV for 30 dB quieting; capture ratio 1.8 dB (IH). $499.95

**2220 AM-FM Stereo Receiver**

20 W/ch continuous power at 8 ohms with both channels driven; THD & IM 0.5%; Response 20-20,000 Hz ±0.5 dB (high-level input). FM sensitivity 2.1 µV for 30 dB quieting; THD 0.5% stereo; capture ratio 3 dB; stereo separation 40 dB

**MARANTZ**

2220 AM-FM Stereo Receiver

20 W/ch continuous power at 8 ohms with both channels driven; THD & IM 0.5%; Response 20-20,000 Hz ±0.5 dB (high-level input). FM sensitivity 2.1 µV for 30 dB quieting; THD 0.5% stereo; capture ratio 3 dB; stereo separation 40 dB

Stereo Shelving with a Twist!

As versatile as it is beautiful—Kirsch® Freestanding Shelving. With just a twist to its exclusive Ring-lock™ design, add or remove units as you need them. Features new flush top design. Solid support. Resistance to stains. Best yet, it’s reasonably priced. At fine stores that carry Kirsch. Or write: Kirsch Co., Dept. AG-107Z, Sturgis, Mich. 49091.
2275 AM-FM Stereo Receiver
75 Wch continuous power into 8 ohms with both channels driven (20-20,000 Hz); IM & THD 0.25%; frequency response 20-20,000 Hz ±0.25 dB; power bandwidth 7.500 kHz (IHF) with both channels driven; FM sensitivity 1.9 µV, THD 0.35%; stereo; selectivity 80 dB; capture ratio 1.5 dB; stereo separation 42 dB at 1000 Hz; spurious rejection 100 dB; features variable-frequency tone control turn-over points and mid-range tone control; Dolby FM de-emphasis switch; facilitates for two tape recorders; mode switch (left, right, stereo, stereo reverse, mono); full complement of inputs and outputs .................................................. $649.95

2325 AM-FM Stereo Receiver
125 Wch continuous power into 8 ohms with both channels driven (20-20,000 Hz); IM & THD 0.15%; frequency response 20-20,000 Hz ±0.25 dB; power bandwidth 5.700 kHz (IHF) with both channels driven; FM sensitivity 1.8 µV; THD 0.3%; stereo; selectivity 80 dB; capture ratio 1.25 dB; stereo separation 42 dB at 1000 Hz; spurious image and i.f. rejection 100 dB; features built-in Dolby noise rejection system; variable-frequency tone control turn-over points and mid-range tone control; complete facilities for two tape recorders, mode switch ................................................. $799.95

MX

1570 AM-FM Stereo Receiver
40 W rms/ch into 8 ohms with both channels driven at 1000 Hz, 35 Wch 20-20,000 Hz, power bandwidth 10-35,000 Hz (IHF) with both channels driven; FM sensitivity 1.8 µV, selectivity 75 dB, capture ratio 1.5 dB, stereo separation 50 dB at 1000 Hz, 40 dB at 10,000 Hz, HD 0.2%, image rejection 97 dB, spurious rejection 94 dB, features 6-pole linear phase filters; switchable signal-strength/center-tuning meter; low-pass audio filters; OCL direct-coupled differential amplifier; full complement of inputs, outputs, switches, and controls. 6" H x 19" W x 15" D. Veneer cabinet ........................................... $399.95

1580 AM-FM Stereo Receiver
65 W rms/ch into 8 ohms with both channels driven at 1000 Hz, 60 Wch 20-20,000 Hz, power bandwidth 10-35,000 Hz; HD 0.5%; IM dist. 0.8%; frequency response 20-25,000 Hz; FM sensitivity 1.8 µV, selectivity 75 dB, capture ratio 1.5 dB, stereo separation 50 dB at 1000 Hz, 40 dB at 10,000 Hz, HD 0.2%, image rejection 97 dB, spurious image rejection 94 dB, features 6-pole linear phase filters; switchable signal-strength/center-tuning meter; low-pass audio filters; OCL direct-coupled differential amplifier; full complement of inputs, outputs, switches, and controls. 6" H x 19" W x 15" D. Veneer cabinet ........................................... $399.95

5010 AM-FM Stereo Receiver
22 Wch at 8 ohms with both channels driven (24 Wch at 4 ohms). Response 10-50,000 Hz ±1 dB; power bandwidth 20-20,000 Hz -1 dB at 1% THD, HD & IM 0.8% at rated output. (S+N)/N 60 dB (phono input), 70 dB (aux. input). FM sensitivity (IHF) 2.5 µV; 60 dB image rejection. (S+N)/N 60 dB, capture ratio 2.5 dB. Has tape output terminals for two sets of tape decks; FM muting switch; linear dial scale and signal-strength meter. Universal power supply. 18" W x 14½" D x 5½" H. Blackout dial and gold-trimmed panel and knobs ........................................... $349.95

STA-5010 AM-FM Stereo Receiver
34 Wch at 8 ohms with both channels driven (43 Wch at 4 ohms). Response 10-50,000 Hz (main input) and 20-50,000 Hz (Aux. input). Power bandwidth 10-40,000 Hz ±1 dB at 0.5% THD, IM & HD 0.5% at rated output. FM sensitivity (IHF) 2 µV, image rejection (S+N)/N 60 dB; capture ratio 2.5 dB. Has tape output terminals for two sets of tape decks; FM muting switch; stereo speaker selector; audio filters separable for 4-channel and other uses; has provisions for mike, tape inputs, microphone with mixing, a six-element ceramic i.f. stage filter, dual tuning meters. Universal power supply. 18" W x 15" D x 5½" H. Blackout dial and gold-trimmed panel and knobs ........................................... $349.95

STA-5050 AM-FM Stereo Receiver
60 Wch dynamic power at 8 ohms (100 Wch at 4 ohms), 50 Wch continuous power at 8 ohms

60 dB; stereo separation 38 dB at 1000 Hz; has full complement of inputs, outputs, and controls, 4-channel adaptable; 17½" W x 15½" D x 5½" H ........................................... $219.95

STA-5050 AM-FM Stereo Receiver
24 W rms/ch at 8 ohms with both channels driven (26 Wch into 4 ohms); frequency response 20-30,000 Hz ±1 dB (4-Ch. input); power bandwidth 20-20,000 Hz; HD 0.8% at rated output; IM dist. 0.2% at 1 W output; FM sensitivity (IHF) 2.1 µV, selectivity 40 dB at 400 kHz, image rejection 60 dB; i.f. rejection 80 dB; S/N 60 dB; capture ratio 3 dB; stereo separation 38 dB at 1000 Hz; has full complement of inputs, outputs, and controls; 4-channel adaptable; front-panel two-deck tape recording, monitoring, and dubbing jacks. 17¼" W x 15½" D x 5½" H ........................................... $249.95

STA-5050 AM-FM Stereo Receiver
Same as 5050 except 34 W rms/ch into 8 ohms with both channels driven; frequency response 15-30,000 Hz; HD 0.5% at rated output, IM 0.2% at 1 W output. 18" W x 14¾" D x 5½" H ........................................... $319.95

STA-9090 AM-FM Stereo Receiver
65 W rms/ch at 8 ohms with both channels driven; power bandwidth 10-40,000 Hz; frequency response 10-50,000 Hz ±1 dB; power bandwidth 20-20,000 Hz -1 dB at 1% THD, HD & IM 0.8% at rated output. (S+N)/N 60 dB (phono) and 70 dB (Aux.-Tape Mon). FM sensitivity (IHF) 2.5 µV; 60 dB image rejection. (S+N)/N 60 dB. Capture ratio 3 dB. Stereo separation 38 dB at 1000 Hz. Features 4-channel tuner output on rear panel for discrete system broadcast adapter; tape output jacks for two tape decks; FM muting switch; loudness control switch; headphone jack, DIN connector; tape selector & monitor switch. 17½" W x 15¼" D x 5½" H ........................................... $499.95

ONKYO

TX-666 AM-FM Stereo Receiver
70 Wch dynamic power at 8 ohms (100 Wch at 4 ohms), 50 Wch continuous power at 8 ohms

40 Wch at 8 ohms with both channels driven (13 Wch at 4 ohms). Response 10-50,000 Hz ±1 dB (main input), 20-30,000 Hz (Aux. input), power bandwidth 20-20,000 Hz -1 dB at 1% THD, IM dist. 0.5% at 1 W output, FM sensitivity (IHF) 3.5 µV; image rejection 50 dB; (S+N)/N 60 dB, capture ratio 4.5 dB. Stereo separation 30 dB at 1000 Hz. Has provisions for mike, mixing, and level control; features loudness control; front-panel headphone jack; tape monitor jack, dual tone controls. Gilded finish walnut case. 17½" W x 15¼" D x 5½" H ........................................... $199.95

STA-4020 AM-FM Stereo Receiver
12 Wch at 8 ohms with both channels driven (13 Wch at 4 ohms). Response 10-50,000 Hz ±1 dB (main input), 20-30,000 Hz (Aux. input), power bandwidth 20-20,000 Hz -1 dB at 1% THD, IM dist. 0.5% at 1 W output. FM sensitivity (IHF) 3.5 µV; image rejection 50 dB; (S+N)/N 60 dB, capture ratio 4.5 dB. Stereo separation 30 dB at 1000 Hz. Has provisions for mike, mixing, and level control; features loudness control; front-panel headphone jack; tape monitor jack, dual tone controls. Gilded finish walnut case. 17½" W x 15¼" D x 5½" H ........................................... $199.95

NIIKOKO

STA-8000 AM-FM Stereo Receiver
45 Wch at 8 ohms with both channels driven (60 Wch at 4 ohms). Response 10-50,000 Hz (main input) and 20-50,000 Hz (Aux. input), power bandwidth 10-40,000 Hz ±1 dB at 0.5% THD, Dist. 0.5% at rated output. (S+N)/N 65 dB (phono input), 80 dB (other). FM sensitivity (IHF) 2 µV, 80 dB image rejection. (S+N)/N 60 dB, 300 ohm balanced, 75 ohm unbalanced antenna imp. Has tape output terminals for two sets of tape decks; FM muting switch; linear dial scale and twin tuning meters; double-rotary tone-control switch. Universal power supply. 18" W x 14½" D x 5½" H. Has blackout dial and gold-trimmed panel and knobs ........................................... $399.95

TX-440 AM-FM Stereo Receiver
28 Wch continuous rms power into 8 ohms with both channels driven at 1 kHz. Power bandwidth 20-20,000 Hz; response 20-30,000 Hz; FM sensitivity 2.0 µV, capture ratio 2 dB, selectivity 65 dB; (S+N)/N 70 dB. HD 0.8% stereo.

STEREO DIRECTORY & BUYING GUIDE

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PIONEER

SX-434 AM-FM Stereo Receiver
15 Wch continuous power into 8 ohms (40-20,000 Hz); 16 Wch into 8 ohms at 1000 Hz; HD & IM dist. 0.8% continuous power outputs; power bandwidth 10-70,000 Hz; FM sensitivity (IHF) 1.9 µV; capture ratio 1.5 dB; selectivity 60 dB; S/N 70 dB; image rejection 90 dB; spurious rejection 75 dB; HD 0.4% stereo; response 20-15,000 Hz +0.2 dB, -2.0 dB; 50-10,000 Hz +0.2 dB, -0.5 dB; stereo separation 40 dB (1000 Hz), 30 dB (50-10,000 Hz), features full complement of inputs, outputs, switches, and controls; 16'/2" W x 5'/2" H x 13'/2" D...$299.95

SX-335. Same as SX-434 but 20 W rms/ch into 8 ohms (40-20,000 Hz); 22 Wch into 8 ohms at 1000 Hz; 18'/2" W x 5'/2" H x 15'/2" D...$399.95

SX-636 AM-FM Stereo Receiver
25 Wch continuous power into 8 ohms (20-20,000 Hz); 27 Wch into 8 ohms at 1000 Hz; HD & IM dist. 0.5%; power bandwidth 5-60,000 Hz; FM sensitivity (IHF) 1.9 µV; capture ratio 1 dB; selectivity 60 dB; S/N 70 dB; image rejection 60 dB, i.e. rejection 90 dB; spurious rejection 75 dB; HD 0.4% stereo; response 20-15,000 Hz +0.2 dB, -2.0 dB; 50-10,000 Hz +0.2 dB, -0.5 dB; stereo separation 40 dB (1000 Hz), 30 dB (50-10,000 Hz), features full complement of inputs, outputs, switches, and controls; 16'/2" W x 5'/2" H x 13'/2" D...$399.95

SX-838 AM-FM Stereo Receiver
50 Wch continuous power output into 8 ohms (20-20,000 Hz); 55 Wch at 1000 Hz; HD & IM dist. 0.3%; power bandwidth 5-40,000 Hz; frequency response 10-70,000 Hz; FM sensitivity (IHF) 1.8 µV; capture ratio 1 dB; selectivity 60 dB; S/N 70 dB; image rejection 85 dB; i.e. spurious rejection 75 dB; HD 0.4% stereo; response 20-15,000 Hz +0.2 dB, -2.0 dB; 50-10,000 Hz +0.2 dB, -0.5 dB; stereo separation 40 dB (1000 Hz), 30 dB (50-10,000 Hz), has full complement of inputs, outputs, switches; signal-strength & tuning me-
Company has five AM-FM receivers in its line; all of them quite similar in design & appearance. All feature main/remote speaker switch-es, signal-strength meters, illuminated dial pointers, and are supplied with walnut cabinets. RX-150A 15 W/ch dynamic power ... $149.95
RX-192. 10 W rms/ch into 8 ohms with both channels driven; 2-stage direct-coupled negative-feedback amp; loudness control; 4-channel simulation; speaker system switching 1 & 2, 1 + 2, 2 + 1 ... $189.95
RX-115. 15 W/ch into 8 ohms with both channels driven; FM sensitivity 2.5 µV; 2-stage direct-coupled negative-feedback circuit; tape monitor; tape dubbing; hi-filter; loudness controls; 4-channel simulation; speaker system switching 1 & 2, 1 + 2, 2 + 1 ... $229.95
RX-402. 20 W rms/ch into 8 ohms with both channels driven; phase lock loop circuitry; split power supply; direct-coupled output circuit; preamp out; main amp in; tape monitor; tape dubbing; concentric stepped bass & treble control; FM sensitivity 2.0 µV; FM muting, hi-filter, loudness controls ... $289.95
RX-602. 35 W rms/ch into 8 ohms with both channels driven; phase lock loop circuit; direct-coupled output; split power supply; signal-strength & center-tuning meters; two phono & 2 aux. inputs; tape monitor; tape dubbing; FM & audio muting; tone-control defeat; hi-filter, loudness, and dual concentric bass & treble controls ... $399.95

SANSUI
210 AM-FM Stereo Receiver 10 Wch continuous sine wave into 8 ohms with both channels driven & at 1% THD. (11 Wch into 4 ohms); 11 Wch dynamic power into 8 ohms (17 Wch into 4 ohms). Power bandwidth 30-250,000 Hz; response 30-25,000 Hz ±2 dB. Input sensitivity: mag. phono 3 mV; aux. 180 mV, FM sensitivity 5.5 µV for 30 dB quieting. Has tape monitor and universal power supply. 17¾" x 5½" x 11¼" D. House in a walnut cabinet. ... $179.95

771 AM-FM Stereo Receiver 40 Wcontinuous power into 8 ohms at 0.5% THD and 0.5% IM. 120 W (IHF) power. Amplifier is direct-coupled. Response 20-40,000 Hz ±2 dB. FM sensitivity 2.0 µV. Has two tape monitors; provision for 4-ch adapter; three sets of speakers; outboard noise-reduction system; and mike input. 18¼" W x 5½" H x 11¼" D. ... $379.95

661 AM-FM Stereo Receiver 30 W/ch continuous power into 8 ohms at 0.5% THD and 0.5% IM. 100 W(IHF) power. Amplifier is direct-coupled. Response 20-30,000 Hz ±2 dB. FM sensitivity 2.2 µV. Has two tape monitors; outputs for two sets of speakers; 4-ch ready. 17½" x 5½" x 11¼" D. ... $329.95

881 AM-FM Stereo Receiver 60 W rms/ch into 8 ohms with both channels...
driven (20-20,000 Hz), THD & IM dist. 0.03%; power bandwidth 10-40,000 Hz, hum & noise 80 dB; FM sensitivity 1.8 µV (IHF); THD 0.5% stereo; S/N 70 dB; selectivity 70 dB, capture ratio 1.5 dB; stereo separation 40 dB at 1000 Hz; features circuit board module construction; full complement of inputs, outputs, switches, and controls; signal-strength and center-channel meters $449.95

551 AM-FM Stereo Receiver
16 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz), THD & IM dist. 0.8%; power bandwidth 25-30,000 Hz; FM sensitivity 2.5 µV (IHF); capture ratio 2.5 dB; S/N 65 dB; THD 0.7% stereo; hgs signal-strength meter; full complement of controls, inputs, and outputs $259.95

441 AM-FM Stereo Receiver
11 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); THD 1.0%, IM dist. 0.8%; power bandwidth 30-25,000 Hz; FM sensitivity 2.5 µV (IHF); capture ratio 2.5 dB; THD 0.7% stereo; S/N 65 dB $219.95

SCOTT, H. H.

R77S AM-FM Stereo Receiver
70 W/ch continuous power into 8 ohms with both channels driven (20-20,000 Hz); THD 0.3% at rated output; frequency response 8-40,000 Hz ±1 dB; power bandwidth 15-30,000 Hz, 4-16 ohms imp.; FM sensitivity 1.8 µV (IHF); selectivity 75 dB; capture ratio 1.2 dB; S/N 70 dB; THD 0.4% stereo; stereo separation 40 dB at 1000 Hz; has two meters; six-pole lumped filters; six-way speaker switching; optical function indicator. Black and natural anodized aluminum enclosure. 16" x 15" x 5½" $599.95

R75S. Same as R77S except 50 W/ch. $499.95

R74S. Same as R77S except 40 W/ch. $399.95

R36S AM-FM Stereo Receiver
30 W/ch continuous power into 8 ohms with both channels driven (20-20,000 Hz); THD 0.5%; HD 0.5% at rated output; 4-8-16 ohms imp.; FM sensitivity 1.9 µV; frequency response 25-15,000 Hz; capture ratio 2.5 dB; selectivity 46 dB; stereo separation 35 dB at 1000 Hz; has full complement of inputs, outputs, jacks, and switches; separate signal-strength and center-tuning meters. 18" x 13½" x 5½" $329.95

R33S. Same as R36S except 18 W/ch; capture ratio 2 dB; single signal-strength meter. 18" x 13½" x 5½" $279.95

SHERWOOD

S-7000A AM-FM Stereo Receiver
60 W/ch (rms) at 8 ohms from 20-20,000 Hz with both channels driven at 0.3% THD (120 W rms total). Direct-coupled output circuitry with electronic relay protection. Has switch for external connection of 4-channel decoder $449.95

For complete full line color brochure, write:

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CIRCLE NO. 18 ON READER SERVICE CARD 47
FM sensitivity 1.7 µV for 30 dB quieting; cap-

48

tivity: mag. phono 3.5 mV; ceramic phono 300 mV; tape 400 mV. Has tape monitor & main/remote speaker switch; 16V x 4.5 V x 12 V D $149.95

STR-6036A AM-FM Stereo Receiver
15 W/ch continuous power into 8 ohms (20-

20,000 Hz); 18 W/ch into 8 ohms (1 kHz); HD &

IM 0.8% at rated output. FM tuner sensitivity 2.2 µV (IHF); selectivity 60 dB; image rejection 55 dB; capture ratio 1.5 dB. (S+N)/N 68 dB; response 30-15,000 Hz, -2 dB; stereo sepa-

ration 35 dB at 400 Hz. Has full complement of controls. Dual input and output jacks for tape recorder monitoring as well as connection of SQ or other matrix decoder. Walnut cabinet.

S-7110 AM-FM Stereo Receiver
17 W rms/ch into 8 ohms with both channels driven (40-20,000 Hz); 20 W/ch at 1000 Hz; HM & IM dist. 0.9% at 8 ohm rated output, 0.2% at 10 W; frequency response 20-20,000 Hz ±1 dB (Aux.); power bandwidth 9-50,000 Hz 0.9% dist.; FM sensitivity 2.0 µV (IHF); S/N 65 dB; capture ratio 1.5 dB; stereo distortion 0.6% at 100 Hz modulation; spurious rejection 87 dB; image rejection 60 dB; stereo sepa-

38 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.8% at 8 ohm rated output, 0.2% at 10 W; power band-

8 ohms rated output, 0.15% at 10 W; power band-

8 ohms rated output, 0.15% at 10 W; power band-

8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.5% at

RS4744 AM-FM Stereo Receiver
60 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); HD: stereo 0.4%; stereo separation 40 dB (1000 Hz), 30 dB (10,000 Hz); has full complement of inputs, outputs, controls and switches. Walnut-grained vinyl cabinet. 6" H x 17 1/4" W x 15" D $399.95

TANDBERG
TR-1020A AM-FM Stereo Receiver
55 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz, 0.2% dist.; power band-

8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.5% at

S-7301 AM-FM Stereo Receiver
38 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.5% at

S-7210 AM-FM Stereo Receiver
22 W rms/ch into 8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.8% at 8 ohm rated output, 0.2% at 10 W; power band-

8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.5% at

S-8900A. Same as S-7900A except FM only

$449.95

S-7110 AM-FM Stereo Receiver
17 W rms/ch into 8 ohms with both channels driven (40-20,000 Hz); 20 W/ch at 1000 Hz; HM & IM dist. 0.9% at 8 ohm rated output, 0.2% at 10 W; frequency response 20-20,000 Hz ±1 dB (Aux.); power bandwidth 9-50,000 Hz 0.9% dist.; FM sensitivity 2.0 µV (IHF); S/N 65 dB; capture ratio 1.5 dB; stereo distortion 0.6% at 100 Hz modulation; spurious rejection 87 dB; image rejection 60 dB; stereo sepa-

8 ohms with both channels driven (20-20,000 Hz); HD & IM dist. 0.5% at

SONY
HST-230A AM-FM Stereo Receiver
20 W dynamic power at 8 ohms. Input sensi-
NATURAL SOUND REPRODUCTION.

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The Discwasher fluid and brush are designed to have a precise working relationship as a fully integrated record cleaning system. And while Discwasher is chemically tailored to solubilize common dirt and debris on your records' surface, the Discwasher formula was also developed to handle the newest problems of the record user—crystalized manufacturing lubricants.

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ACOUSTIC RESEARCH

AR-XA Manual Turntable
Two-speed (33 & 45 rpm) manual turntable. Features synchronous motor, belt drive, 4-lb platter, removable cartridge shell. Comes complete with tonearm, base, and dust cover: 12¾" x 16¼" x 5½" .................................................. $109.95
XAU/Universal. Same except for 110-220, 50-60 Hz operation ........................................... $116.95
AR-XA-91. Same as AR-XA but with Shure M91ED cartridge premounted .......................... $164.90

AR-XB Manual Turntable
Two-speed (33 & 45 rpm) manual turntable. Features synchronous motor, belt drive, 4-lb platter, viscous-damped cueing, and removable cartridge shell. Comes complete with base, dust cover, and tonearm. 12¾" x 16¼" x 5½" .................................................. $119.95
AR-XB-91. Same as AR-XB but with Shure M91ED premounted ........................................ $174.90

BIC

980 Belt-Drive Programmed Turntable
Record-changing turntable with belt drive; features 24-pole, low-speed (300 rpm) synchronous motor; fundamental vibration frequency 5 Hz. Has solid-state electronic frequency generator module to adjust speed; adjustable for ±3% pitch variation. Features the "Programmer" by which a single record can be repeated up to six times before the machine turns off; also used for automatic play of up to six different records; cycling information is set by user on the control panel. All automatic functions activated by single cycle button requiring only 90 gr of perpendicular force and 0.0625" of travel to operate. Anti-skating and stylus pressure functions handled by tandem controls operating along a single scale. Knob control for cueing rate adjustment (continuously varied between 1 and 3 sec.); plug-in male/female pin connectors or attaching cartridge head to tonearm; gimbaled tonearm with needle bearings; 15° tracking adjustment for stack of records, 12" cast single-piece platter, die-case isolated tonearm counterweight ................................................................. $98.95
860. Same except without electronic speed control and variable pitch feature .......................... $76.50

BANG & OLUFSEN

Beogram 3000 Automatic Turntable
Two-speed (33 & 45 rpm) fully automatic single-record unit. Has single operating switch; facility for manual operation. Constant-voltage asynchronous motor; built-in self adjusting anti-skating. Rumble 60 dB (DIN B); wow & flutter ±0.15% peak value (DIN); fine-speed adj. 6%. Adjustable counterweight on tonearm; adjustable stylus pressure 0 to 3.5 g. Comes with SP 12A elliptical, naked-diamond stylus. Low-profile, functional design. Hinged dust cover which can be removed if desired. Will play all size records with dust cover closed ........................................... $265.00

2510X. Same as 2520W except with accessory tray, walnut-grained plastic base and hinged dust cover .......................................................... $110.80

2310X Automatic Turntable
Has 4-pole induction motor; anti-skate, cue & pause controls; accessory panel; comes with ADC K8E elliptical magnetic cartridge .......................................................... $98.80
2360F. Similar to 2310X except front operation controls & pilot light included ......................... $125.80

810QX Turntable
Two-speed (33 & 45 rpm) manual/changer combination; Quad-Ready; features anti-skating control; synchronous motor; direct-drive; record repeat, cueing & pitch controls; stylus wear indicator; accessory tray; stylus pressure adjustable from 0 to 4 g; 7¼-lb platter; removable cartridge shell; comes with walnut base, dust cover, and Shure M-91ED magnetic cartridge .......................................................... $294.80
7100X. Similar to 810QX except has lighter platter and different tonearm gimbal; comes with Shure M-91E magnetic cartridge .......................................................... $249.80

CONNOISSEUR

BD2/C Turntable
Integrated turntable with SAU2 arm and pick-up for turntables equipped with CD-4 cartridges and designed for 4-channel, see Section 9
Record Players

up assembly. Has push-button speed control; hydraulic lift and lowering of tonearm; anti-vibration springs; lightweight cartridge shell with self-cleaning contacts. Two-speed (33 & 45 rpm); 60-Hz synchronous constant speed 450 rpm; belt drive. Rumble -50 dB (RIAA); hum -80 dB; wow & flutter 0.1%. Has 10 3/4" alumin

num platter. 13" x 15 1/2 x 4 1/2 H (including dust cover). Comes with arm, base, dust cover but without cartridge $139.95. SAU2. Tonearm with head shell $50.45. H$. Head shell for SAU2 tonearm $6.50.

DUAL

All Dual multiple-play models offer these features: dynamically balanced tonearm which does not require critical leveling of chassis; direct-dial setting for stylus force; anti-skating does not require critical leveling of chassis; features: dynamically balanced tonearm which lowers tonearm base to parallel tonearm to center of stack in multiple-play modes; interchangeable single- and multiple-play spindles; self-stabilizing multiple-play spindles hold up to six records; records removable from platter with out removing spindle; silicone-damped cueing system which operates with both manual and automatic starts; jam-proof slip-clutch engagement between tonearm and cycling mechanism; quick-release cartridge holder with stylus overhang adjustment; low-capacitance tonearm leads compatible with all CD-4 cartridges. All prices are less base and cartridge.

1229Q Professional Automatic Turntable

Additional features include: mode selector which lowers tonearm base to parallel tonearm to record for correct vertical stylus tracking in single-play mode, raises tonearm base to parallel tonearm to center of stack in multiple-play modes. Tonearm suspension centers tonearm within four-point gyroscopic gimbal. Tonearm tracks down to 1/4 gram. Damped counterbalance. Tracking pressure dial calibrated in tenths of a gram. Synchronous/continuous-pole motor. Built-in illuminated strobe with adjustable viewing angle. 12" 7-pound platter. Cue control system with silicone damping in both directions. Four-point-damped spring suspension. 14 1/4" x 12" plus 1" at rear and right for tonearm overhang. 5" above and 2 1/2" below mounting board $129.95.

Accessories for 1228, 1226, 1225


701 Automatic Single-Play Turntable

All-electronic direct-drive brushless d.c. motor with regulated power supply. An exclusive over-lapping coil design provides gapless rotating magnetic field. Two Hall-effect generators for electronic self-regulating speed monitoring. Motor rotates at actual record speed: 33 1/3 or 45 rpm; top of shaft functions as record spindle. Separate 8% pitch-control for each speed. Illuminated strobe with adjustable viewing angle. 12" one-piece dynamically balanced die-cast platter; combined rotating weight (platter plus rotor) 9.7 lbs. Gimbal-mounted 8" tone-arm. Two anti-resonance filters integral with counterbalance, tuned to tonearm/cartridge system and chassis. Stylus pressure 0.3 to 3.0 g calibrated in 10ths of a gram. Anti-skating, cueing system damped in both directions. Rumble: -40 dB (NABB); wow & flutter: 0.03%. Tracking error less than 0.4 degree per inch. Stylus force adjustment calibrated 0 to 6/2 g ±0.1 g. Mounting clearance 5/16" above board, 2 3/16" below. Has hysteresis motor and anti-skating device, cueing lever, and built-in lighted stroboscope. 14 1/4" W x 12 3/4" D. Without base or cartridge $225.00.

ELAC/MIRACORD

50H Mark II Automatic Turntable

Three speeds (33, 45, & 78 rpm); rumble -40 dB (NAB); wow 0.06%; flutter 0.02%. Stylus force adjustable 0 to 6/2 g ±0.1 g. Mounting clearance 5/16" above board, 2 3/16" below. Has hysteresis motor and anti-skating device, cueing lever, and anti-skating system calibrated for conical, elliptical, and CD-4 stylus. 16 1/4" x 14 1/4" x 5 1/2". With base and tilt-hold dust cover $270.00.

625 Automatic Turntable

Features 4-pole synchronous motor, cueing lever, and anti-skating device. Four speeds (16, 33, 45 & 78 rpm). Will handle 7", 10" & 12" records. Rumble -38 dB (NAB); wow 0.07%; flutter 0.03%. Stylus force calibration 0 to 6/2 g ±0.1 g. Space required above mounting board 5 1/2", below 2 3/16". Less base & cartridge $119.95.

760 Automatic Turntable

Features 4-pole induction motor. Operates at 78, 45, and 33 rpm. Will handle 7", 10", or 12" records. Rumble 44 dB (NAB); wow 0.06%; flutter 0.02%. Tracking error less than 0.4 degree per inch. Stylus force adjustment calibrated 0 to 6/2 g (accurate to within 0.1 g). Speed adjustable over a 6% range for semitone of pitch adjustment. 12" die-cast platter; dynamically balanced tonearm. 14 1/4" W x 12 3/4" D x 5 1/2" above motorboard, 2 3/16" below $189.50.

770H Automatic Turntable

Three-speed (33, 45 & 78 rpm) manual/changer combination. Features variable speed control, hysteresis motor, anti-skating device, cueing control, tracking angle adjustment, and adjustable stylus force pressure from 0 to 6/2 g. Wow 0.05%; -42 dB rumble. Has removable cartridge shell, overhang adjustment, and an
From the beginning, AR speaker systems have been characterized by independent reviewers, like Electronics Illustrated quoted above, as embodying the state of the art in home music reproduction.

**Standard of performance**

Soon after the AR-1 was introduced, as AR's first 'top-of-the-line' speaker system, the Audio League Report stated, 'We do not specifically know of any other speaker system which is comparable to [the AR-1] from the standpoint of extended low frequency response, flatness of response, and most of all, low distortion.'

Symphony Hall. Boston. Six AR-3a’s are used for modern compositions involving electronic music.

**Twenty years later**

In a recent review of the AR-3a, published in Stereo Review, Hirsch-Houck Laboratories made the following observation: 'For the benefit of newcomers to the audio world, the AR-3a is the direct descendant of the AR-1, the first acoustic suspension speaker system, which AR introduced in 1954. The AR-1 upset many previously held notions about the size required for a speaker to be capable of reproducing the lowest audible frequencies. The 'bookshelf'-size AR speakers set new standards for low distortion, low-frequency reproduction, and in our view have never been surpassed in this respect.'

Miles Davis, at home with his AR-3a speakers.

**Durability of accomplishment**

AR's research program is aimed at producing the most accurate loudspeaker that the state of the art permits, without regard to size or price. Consumer Guide recently confirmed the effectiveness of this approach, stating that 'AR is the manufacturer with the best track record in producing consistently high-quality speakers,' and noted that 'the AR-3a was judged by our listening panelists to be the ultimate in performance.'

Audio magazine called the AR-3a 'a new high standard of performance at what must be considered a bargain price.' Hear it today at your audio dealer. You'll see what we mean when we say that the AR-3a is the best home speaker system AR knows how to make.

The AR-3a. Consumer Guide's 'ultimate in performance'.

**Acoustic Research**

10 American Drive
Norwood, Massachusetts 02062
International Office:
High Street, Houghton Regis,
Bedfordshire, England
In Canada:
A. C. Simmonds & Sons Ltd.
Toronto

CIRCLE NO. 1 ON READER SERVICE CARD
Troubador III 598 Turntable

Features:
- 3-speed (33, 45 & 78 rpm) operation
- Automatic programming of tonearm for 12" records at 33, 7" records at 45; push-button start and stop
- Variable pitch control (up to 5% range)
- Built-in Wood vinyl-covered base
- Elapsed time indicator

Two-speed (33, 45 rpm) manual turntable.

- Has cartridge overhang adjustment; two-point support for stack of records
- Sliding weight stylus-force and anti-skating adjustments
- Synchro-Lab motor

EMPIRE

Troubador III 598 Turntable

Features:
- Two-speed (33, 45 rpm) manual turntable
- Has anti-skating device, hysteresis synchronous motor, belt drive, cueing control, and removable cartridge shell.
- Wow & flutter 0.01%; stylus pressure adjustable from 0 to 4 g; rumble -90 dB.
- Has built-in 45-rpm spindle, 12" platter, 16" W x 131/2" D x 31/" above mtg. board, 3'/2" below.

GARRARD

Zero 100C Automatic Changer/Turntable

Features:
- Articulated tonearm with zero tracking error; magnetic anti-skating control
- Built-in counter record; viscous damped cueing; Synchro-Lab motor; belt driven 4-lb dynamically balanced zinc alloy platter. Includes: teak wood base and hinged dust cover.

GENERAL ELECTRIC

CA960 Automatic Changer

Features:
- Three-speed (33, 45 & 78 rpm) changer with turntable mechanism suspended under single-piece deck; 11" platter; will handle 7", 10", and 12" records; cueing control, integrated lever function control for on/off/reject and speed; ceramic cartridge with diamond stylus; tubular tonearm with adjustable counterweight. Wood cabinet with tinted dust cover.

GLENBURN

Features:
- All automatic turntables in the line feature low-mass precision tonearms; oversize turntable bearing; Delrin tripping pawls for minimum tracking and tripping force; uni-planar construction with all operating parts in one horizontal plane; re-designed base with hinged dust cover.

1200A Record Changer

Features:
- 11" turntable platter with cushioned mat; bi-directional viscous-damped cue and pause control; built-in anti-skate; ball-race pivoted tonearm; swing-away control arm; cue and pause control; interchangeable manual and automatic play spindles; automatic locking tonearm rest; comes with audio cables and Shure M75E magnetic cartridge.

1100A Automatic Turntable

Automatic locking tonearm rest; cue and pause control; interchangeable manual and automatic play spindles; 45 rpm adapter spindle.
Features underslung gimbal tonearm with adjustable counterbalance; heavy-duty 4-pole a.c. synchronous motor; 11" turntable platter with protective mat; low-mass plug-in head shell; bi-directional viscous-damped cue and pause control; anti-skate control calibrated for conical and elliptical stylus; interchangeable automatic umbrella and manual spindles; pure gravity stylus-pressure adjustment; automatic tonearm locking rest; three modes of operation depending on spindle application. ... $159.95

JVC

VL-5 Manual Turntable
Four-pole synchronous motor; belt-drive system; features viscous damped cueing; anti-skating adjustment; push-button speed selection (33 & 45 rpm); auto lift at end of record; S-shaped tubular tonearm; plug-in head; 7" x 19/4" W x 16/4" D. ... $349.95

LENCO

KLH

L-78 Single-Play Turntable
Four-speed (33, 45 & 78 rpm) design with continuously variable speed from 30 to 86 rpm. Will handle 7", 10", or 12" records. Rumble (NAB) -40 dB; wow & flutter 0.06%. Features electronic shut-off and arm lift; balanced tonearm; automatic viscous-damped cueing; anti-skating; low-mass cartridge head; high-mass base suspension system. Tonearm 8"; turntable diameter 11/4", Motor is 4-pole constant velocity type with conical shaft. ... 179.50

L-85 Single-Play Turntable
Two speed (33 & 45 rpm) design with ±3% speed adjustment. Wow & flutter ±0.08% weighted; rumble -63 dB weighted. Has 16-pole synchronous motor; belt drive; automatic umbrel; automatic arm lift. Mounting clearance above board 21/4", below 23/4".

THE ONLY CARTRIDGE WE KNOW OF THAT WILL DO FULL JUSTICE TO A NEW GENERATION OF STEREO RECORDS.

(The Ortofon M 15 E Super)

For the first time in many years, all that can be put onto stereo records by professional disc-cutting equipment can be gotten off them by a cartridge—the new Ortofon M 15 E Super. It is the only pickup we know of that not only can handle the peak levels and full dynamic range now possible on records, but while doing so can operate below the wear threshold of modern discs, preserving their full quality for playing after playing. As makers of studio recording equipment (Ortofon supplies equipment to recording companies and studios around the world), we know the capabilities of the newest generation of cutters, which for the first time can clearly put onto records a dynamic range approaching that of master tape. The maximum high-frequency levels these cutters will record also permit the first real approximation of the full "live" intensity of cymbals, brass, snares, and other demanding instruments.

On the test record that best reflects these new capabilities (#2 in a series recorded by the German High-Fidelity Institute), most other pickups begin to reveal audible (and, on an oscilloscope, visible) shatter at a recording level of 70 to 80 Am. Only the new Ortofon M 15 E Super goes to the record's 100 µm limit (and beyond) with no audible or visible indication of difficulty. The photos of oscilloscope traces at right are an accurate indication of the new Ortofon's superior performance.

That test is a decidedly accurate reflection of audible differences in the real world of the listener's living room. What it means is that on the most demanding stereo records that can now be made, ...
**Record Players**

163/4" × 12½" ........................................ $249.50

**B-52 Single-Play Turntable**
Four-speed (16, 33, 45, 78 rpm) design with capability for continuous selection of any speed from 30 to 86 rpm. Has automatic viscous damped cueing lever. Wow & flutter 0.12%; from 30 to 86 rpm. Has automatic viscous capability for continuous selection of any speed

**B-52 Single-Play Turntable**

141/4" W x 111/8" x 51/4" ........................................ $89.50

**L-75 Single-Play Turntable**
Four-speed (16, 33, 45, 78 rpm) design with capability for continuous selection of any speed from 30 to 86 rpm. Features low-mass cartridge head, anti-skating device, automatic viscous damped cueing lever. 12", 8.8 lb. platter. Wow & flutter 0.06%; rumble -38 dB. 12", 8.8 lb. platter. Wow & flutter 0.12% W rms; rumble (NAB weighted) 0.15%; rumble (weighted) –55 dB; 11" die-cast non-ferrous platter; Shure M-75 cartridge. 83/4" H x 161/4" W x 141/4" D. Comes with base and dust cover ........................................ $149.50

**PERPETUUM-EBNER**
All PE automatic turntables provide the following features: Dynamically balanced tonearms; fully automatic and manual single play; self-stabilizing changer spindle holds up to six records; stylus pressure dialed directly around pivot; anti-skating; cue-control damped in both directions; 6% pitch control for all speeds; adjustable stylus overhang. Prices are less base and cartridge.

**PL-12D Manual Turntable**
Belt-driven with 4-pole synchronous motor. Features 33- & 45-rpm operation. Wow & flutter 0.1% W rms. S/N 47 db. 12" die-cast platter. Comes with static-balanced S-shaped tonearm, base, and free-stop dust cover. Stylus pressure from 0.75 g. Has anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $119.95

**PL-51 Manual Turntable**
Has brushless d.c. servo-controlled motor; direct-drive system. Operates at 33 & 45 rpm

**MX**
1230 Automatic Turntable
Three-speed (33, 45 & 78 rpm); 4-pole synchronous motor; viscous-damped cue control; counterbalanced tonearm; anti-skate adjustment; rotating spindle for single-play operation; plays six records automatically; muting switch; automatic shut-off; tonearm safety lock; shock-lock slide slatches; tracking force 9-½ g; wow (DIN peak, weighted) 0.15%; rumble (weighted) –55 dB; 11" die-cast non-ferrous platter; Shure M-75 cartridge. 83/4" H x 161/4" W x 141/4" D. Comes with base and dust cover ........................................ $149.95

**PE-3060 Turntable**
One-piece counterbalanced tonearm tracks as low as 0.5 g; anti-skating; vertical tracking angle adjustment for single and multiple play; fail-safe feature prevents tonearm from descending to platter when no record is on it; automatic record-size scanner; heavy-duty induction/synchronous motor; die-cast 10"x dynamically balanced 4-½ lb platter.. $199.95

**PE-3044 Turntable**
One-piece tonearm tracks as low as 1½ g; 3-position anti-skating; laminated 10"x, 3-lb platter ........................................ $109.95

**PE-3046 Turntable**
One-piece counterbalanced tonearm tracks as low as 1 g; anti-skating separately calibrated for conical, elliptical, and CD-4 stylus; die-cast 10"x dynamically balanced 4-½ lb platter ........................................ $149.95

**PE-3048 Turntable**
Tonearm tracks as low as 0.5 g; tracking force calibrated from 0-3 g; anti-skating separately calibrated for conical, elliptical, and CD-4 stylus; vertical tracking-angle adjustment; heavy-duty induction/synchronous motor ........................................ $169.95

**PE-3060 Turntable**
Double-ring gimbal-mounted tubular tonearm

**PE-3048 Turntable**
Tonearm tracks as low as 0.5 g; tracking force calibrated from 0-3 g; anti-skating separately calibrated for conical, elliptical, and CD-4 stylus; vertical tracking-angle adjustment; heavy-duty induction/synchronous motor ........................................ $169.95

**PE-3046 Turntable**
One-piece tonearm tracks as low as 1½ g; 3-position anti-skating; laminated 10"x, 3-lb platter ........................................ $109.95

**GA212 Automatic Turntable**
Servo-controlled, 2-speed (33 & 45 rpm) belt-driven design for single play, complete with

**GANGA**
**Electron"Turntable**
Two-speed (33 & 45 rpm) fully automated, electronically controlled turntable; three motors

**PL-10 Manual Turntable**
Two-speed (33 & 45 rpm) belt-driven, 4-pole synchronous motor; wow & flutter 0.1% W rms; S/N 47 db; 12" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; stylus pressure 4 g to 8.5 g; anti-skating; oil-damped cueing device; stylus pressure direct-reading counterweight; plug-in headshell. 16⅜" W × 6½" H × 13¼" D ........................................ $99.95

**PIONEER**

**PL-100 Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct-drive turntable with brushless d.c. servo motor; electronic speed change; speed control range ±2%; wow & flutter 0.05% W rms; S/N 60 db; 12½" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $119.95

**PL-235 Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct drive system; anti-skating; oil-damped cueing device; stylus pressure direct-reading counterweight; lateral balance; quick-release platter. 18⅜" W × 7⅜" H × 16⅞" D ........................................ $249.95

**PL-125A Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct-drive turntable with brushless d.c. servo motor; electronic speed change; speed control range ±2%; wow & flutter 0.05% W rms; S/N 60 db; 12½" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16IV₂" W x 6½" H x 14½" D ........................................ $169.95

**PL-121 Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct-drive turntable with brushless d.c. servo motor; electronic speed change; speed control range ±2%; wow & flutter 0.05% W rms; S/N 60 db; 12½" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $119.95

**PL-12D Manual Turntable**
Belt-driven with 4-pole synchronous motor. Features 33- & 45-rpm operation. Wow & flutter 0.1% W rms. S/N 47 db. 12" die-cast platter. Comes with static-balanced S-shaped tonearm, base, and free-stop dust cover. Stylus pressure from 0.75 g. Has anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $119.95

**PL-51 Manual Turntable**
Has brushless d.c. servo-controlled motor; direct-drive system. Operates at 33 & 45 rpm

**PL-235 Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct-drive turntable with brushless d.c. servo motor; electronic speed change; speed control range ±2%; wow & flutter 0.05% W rms; S/N 60 db; 12½" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $169.95

**PL-121 Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct-drive turntable with brushless d.c. servo motor; electronic speed change; speed control range ±2%; wow & flutter 0.05% W rms; S/N 60 db; 12½" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $119.95

**PL-125A Automatic Turntable**
Two-speed (33 & 45 rpm), all-electronic, direct-drive turntable with brushless d.c. servo motor; electronic speed change; speed control range ±2%; wow & flutter 0.05% W rms; S/N 60 db; 12½" aluminum alloy die-cast platter; static-balanced S-shaped pipe arm; anti-skating control, cueing device, direct-reading counterweight, lateral balance, and stylus position gauge (overhang indicator). 16⅜" W x 6⅝" H x 14⅞" D ........................................ $169.95
Two-speed (33 & 45 rpm) design with 4-pole hysteretic synchronous motor; belt drive; cast aluminum platter; tonearm has adjustments for static balance and tracking force (0.5 to 4 g). 'S' bend tonearm. Wow & flutter 0.1%. Can be operated manually or programmed for automatic tonearm return and automatic stop at end of disc. Comes with dust cover. Walnut cabinet. 18 1/2 x 15 1/4 x 7 1/2". $199.95

**LAB-38 Record Changer**

Two-speed (33, 45 rpm) manual/changer combination with front mounted controls. Has 4-pole motor, anti-skating device, 0 to 6 g stylus pressure adjustment, and removable cartridge clip (with Shure cartridge). Comes with tonearm and base. 6 13/16 x 15 3/4 x 13 1/3" D. ... $99.95

**Realistic/Miracord 40C Changer**

Four-speed (16, 33, 45 & 78 rpm) manual/changer combination. Has cueing control and removable cartridge shell with Shure cartridge. Comes with tonearm and base. 4 1/4 x 16 1/2 x 14 1/4" D. ... $139.95

**Realistic/Miracord 46 Changer**

Three-speed (33, 45 & 78) manual/changer combination. Has anti-skating device, cueing control, and removable cartridge shell with Shure cartridge. Supplied with tonearm and base. ... $198.50

**Sansui**

**SR-717 Electronic Turntable**

Two-speed (33 & 45 rpm), direct-drive servomotor-controlled turntable with electronically controlled speed change/vernier adjustment; built-in strobo-Lamp for visual speed check; engraved stroboscope platter edge; knife-edge/one-point support S-shaped tonearm; lateral balance adjustment; direct read-out arm counterbalance; viscous damping; natural rubber hemispherical insulators; laminated genuine wood cabinet; free-stop removable plastic dust cover. ... $319.50

**SR-313 Belt-Drive Turntable**

Two-speed (33 & 45 rpm), belt-drive turntable; 4-pole synchronous outer-rotor motor; wow & flutter 0.06%; S/N 50 dB; S-shaped 8 1/4" tonearm; counterweight with direct stylus pressure scale; 4-contact plug-in headshell; hinged self-retaining dust cover. ... $159.95

**Sanyo**

**TP-80SB Stereo Turntable**

1975 EDITION

**Sony**

**PS-2251 Turntable/Arm**

Two-speed (33 & 45 rpm) unit with direct-drive a.c. servomotor. Speed control range ±4%; wow & flutter 0.07% weighted (DIN); S/N 67 dB weighted. Tonearm is 13 1/4" static-balanced type; stylus force adjustable ±0.5 g; anti-skate adjustable range 0-33 lbs; viscous-damped cueing platter; stylus overhang gauge. 19 3/4 x 7 1/4 x 15 1/2". Comes with tonearm, wood base, and removable dust cover. ... $429.50

**Technics by Panasonic**

**SP-10 Single-Play Turntable**

Two-speed (33 & 45 rpm). Has d.c. servo motor, direct drive, and pitch control. Features built-in illuminated strobe speed indicator; 12"-1 lb platter. Build-up time within 1/2 rotation. Wow & flutter 0.03%; rumble -65 dB. Supplied without tonearm. 4" H x 14" W x 14" D. ... $419.95

**SP-1100A Turntable With Arm**

Features direct-drive, slow-speed brushless d.c. motor with electronic speed control regulation without belts, idlers, or pulleys. Two speeds (33 & 45 rpm). Variable pitch, ±5%, independently adjustable for each speed. Dynamically balanced turntable has 13 1/2" platter, weighs 4.4 lbs. Wow & flutter 0.03% W rms; rumble -70 DB (DIN B). Build-up time within 1/2 rotation. Tonearm is static-balanced low-mass tubular with 9 3/4" pivot-to-stylus distance. Direct-reading tracking force adjustment from 0 to 5 g. Anti-skating control; viscous-damped cueing; universal-type cartridge head shell. Has built-in illuminated speed strobe. Dust cover included. ... $359.95

**SP-1200 Turntable With Arm**

Similar to SP-1100A except has 13" diecast aluminum platter weighing 3.86 lbs and a 8 1/4" tonearm. Has hinged, removable press-glass dust cover. ... $279.95

**SL-1300 Single-Play Turntable/Arm**

Automatic set-down, lift-off, arm return, and shut off, using direct-drive servomotor; two speeds (33 & 45 rpm) with 10% range of pitch variation (separately for each). 13" dynamically balanced platter; built-in illuminated strobe speed indicator; "Memo-Repeat" permits repeat play of record up to five times before shut-off or indefinite repeat; gimbal-suspended tonearm (9 3/8" pivot-to-stylus) with low mass, low resonance, four pairs of pivot bearings for rotational sensitivity; anti-skating; hinged detachable dust cover; feedback-canceling liggs; low-capacitance phono cables for CD-4. wow & flutter 0.03% W rms; rumble -70 DB (DIN B). 3 1/2" H x 17 1/2" W x 14 3/4" D ... $299.95

**SL-1100A.** Similar to SL-1100A but manual and without tonearm. ... $299.95

**Thorens**

**TD-165 Integrated Turntable**

Two-speed (33 & 45 rpm) unit with double synchronous 16-pole motor; will handle 7", 10", 12" records; wow & flutter 0.06%; rumbles -43 dB (unweighted), -65 dB (weighted), non-ferrous, anti-magnetic 12" platter; unified suspension system for tonearm mount & platter; anti-skate control; tonearm balance & stylus tracking force adjustable 0.5-3.5 g in 0.5 g increments; viscous-damped cueing control; 9" tonearm; arm resonance below 10 Hz. Comes with base, dust cover, plug-in shell for all standard cartridges. 17" W x 12 1/2" D x 7 3/4" with dust cover. ... $179.95

**TC-160C Integrated Turntable**

Two-speed (33 & 45 rpm) unit with belt-driven 16-pole synchronous motor; 12" non-magnetic platter; rumble -43 dB (unweighted), 65 dB (weighted); wow & flutter 0.06% weighted; anti-magnetic suspension system for tonearm & drive system; magnetic anti-skating control; cueing control; tonearm 9.06"; stylus overhang 0.55" adjustable. Comes with tonearm, walnut base and dust cover. 17" x 13 1/2" W x 7 3/4" H. ... $215.00

**TD-125AB Mark II Turntable**

Three-speed (16, 33 & 45 rpm) unit with belt-driven 16-pole synchronous motor; fine-speed adjustment ±2%; illuminated strobe speed control; 12" non-magnetic zinc alloy platter; wow & flutter 0.06% weighted; rumble -45 dB (unweighted), -68 dB (weighted); features magnetic anti-skating control; isolated tonearm & drive system; cueing control. Comes with walnut base and TP-16 9.06" tonearm. 18" x 5" H x 14" W (with 9" tonearm) x 16" (with 12" tonearm). ... $400.00

**Toshiba**

**SR-40E Automatic Turntable**

Two-speed (33 & 45 rpm) automatic turntable. Has anti-skating device, hysteretic motor, belt drive, and cueing control. Wow & flutter 0.08%; stylus pressure 1 1/2 g; rumble -55 dB; 2 lb platter. Comes with tonearm, fixed shell with high-compliance ceramic cartridge, and built-in IC amplifier. 7 1/2" H x 18 1/2" W x 15 1/4". Supplied with base. ... $199.95

**SR-50 Turntable**

Two-speed (33 & 45 rpm) design with d.c. servomotor, belt drive, automatic stop/raise, and cueing control. Wow & flutter 0.08%; stylus pressure 0.3 g; rumble -45 dB; 2 lb platter. Comes with tonearm, fixed shell with photoelectric cartridge, and FET rumble filter. 7 1/2" x 22 1/2" x 15 1/4". With base. ... $449.95

**SR-80 Automatic Turntable**

Two-speed (33 & 45 rpm) belt-driven design with condenser cartridge (Type C-4025S). Has S-shaped pipe tonearm with tracking error of ±1.5 degrees. Wow & flutter 0.1% (W rms). Stylus 0.5 ml round diamond. Output 200 mV at 5 cm/sec at 1000 Hz. Compliance 25 x 10^-6 cm/dyne (d.c.); B x 10^-6 cm/dyne (100 Hz). Stylus pressure 2.5 ±0.5 g. Response 20-20,000 Hz; S/N +15 dB. Features automatic return & cut, cueing control, weight selection, and dust cover 9" x 7 1/4" x 15". ... $299.95
Inside each of our 4-channel cartridges

A"12S $64.95 AT15S $100.00 AT20S $175.00 AT14S $75.00

Also Bank Americard & Mastercharge

Brightest Super Star In Stereo Today

CIRCLE NO. 29 ON READER SERVICE CARD

We carry all the Fair Trade Brands

Our sophisticated four-channel cartridges are also stereo cartridges at heart. Very good ones. With ruler flat response, outstanding stereo separation especially above 1 kHz where it counts), and truly impressive high frequency tracking. All these advantages are as important to good stereo as they are essential to C-3-4. And they can be achieved only by paying very close attention to detail. And using only the best. Like a genuine Shibata stylus. Nothing less. The results are good for any record... whether stereo, matrix, or discrete 4-channel. But you should really hear for yourself. Write today for our dealer list. No matter how many channels you want to hear best.

"Motor; floating motorboard and damped springs and polished steel spindle running on hardened steel plate; low-speed synchronous recoil start motor; floating motorboard and damped springs for freedom from acoustic feedback; natural-rubber belt drive; universal voltage and frequency operation (by changing voltage selector panel and pulley); speed stability 0.05% at 33 rpm; clear acrylic lid. Comes with Vestigial arm...

V-M

1687 Automatic Turntable

Four-speed unit features 10" platter, ceramic cartridge, diamond stylus, removable center spindle, finger lift; will handle 7" & 12" discs automatically; adjustable stylus force; wow 0.6%, flutter 0.3%. Walnut-grained base & tinted dust cover included. 15'/W x 7'/H x 14'/D...

1689 Automatic Turntable Deluxe version of 1687 but with 11" platter; cue control; manual size selection...

WIN

Lab 10 Turntable Dual-synchronous drive motors; 33 rpm; speed accuracy 0.1%; direct rim-drive; rumble -70 dB; wow & flutter 0.06%; vertical & lateral damping of tonearm; photoflare-stabilized automatic stop; warning light system to protect record & stylus; S-shaped, static-balance natural wood tonearm, 8V.\" pivot-to-stylus; tracking force range 0.5-6 g; universal cartridge mount. Comes with natural wood base and tonearm. 17'/2" x 15'/2" x 67/4"...

YAMAHA

YP800 Stereo Turntable Two-speed (33 & 45 rpm, electronic switching), direct-drive turntable; brushless 12-pole d.c. servo motor; 12.2" cast turntable with cushioned mat; ±3% speed control (each speed); wow & flutter 0.03%, W rms; S/60 db; static balanced S tonearm; 9.5" long; tracking error 1.5 degrees, tracking force 0.3 g, universal plug-in cartridge shell. Walnut cabinet with clear acrylic dust cover. 18.9' W x 46.9' H x 14.6'

YP701 Stereo Turntable Two-speed (33 & 45 rpm), belt-drive; synchronous outer-rotor motor; automatic pickup and return; wow & flutter 0.08%, S/N 48 db; 12-aluminum platter; static balanced S tonearm; stylus pressure 0.4 g; universal plug-in cartridge shell. Wood/synthetics cabinet. 19' W x 16'/2" x 5'/2" H...

SATURN TURNTABLE

Lab 10 Turntable Dual-synchronous drive motors; 33 rpm; speed accuracy 0.1%; direct rim-drive; rumble -70 dB; wow & flutter 0.06%; vertical & lateral damping of tonearm; photoflare-stabilized automatic stop; warning light system to protect record & stylus; S-shaped, static-balance natural wood tonearm, 8V.\" pivot-to-stylus; tracking force range 0.5-6 g; universal cartridge mount. Comes with natural wood base and tonearm. 17'/2" x 15'/2" x 67/4"...

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Two-Speed (33 & 45 rpm) turntable with non-ferrous aluminum disc fitted with five gold-plated non-ferrous platter weights (balanced to within 3 gr.), main bearing ball-ended ground and polished steel spindle running on hardened steel plate; low-speed synchronous recoil start motor; floating motorboard and damped springs for freedom from acoustic feedback; natural-rubber belt drive, universal voltage and frequency operation (by changing voltage selector panel and pulley); speed stability 0.05% at 33 rpm; clear acrylic lid. Comes with Vestigial arm...

V-M

1687 Automatic Turntable

Four-speed unit features 10" platter, ceramic cartridge, diamond stylus, removable center spindle, finger lift; will handle 7" & 12" discs automatically; adjustable stylus force; wow 0.6%, flutter 0.3%. Walnut-grained base & tinted dust cover included. 15'/W x 7'/H x 14'/D.......

1689 Automatic Turntable Deluxe version of 1687 but with 11" platter; cue control; manual size selection.......

WIN

Lab 10 Turntable Dual-synchronous drive motors; 33 rpm; speed accuracy 0.1%; direct rim-drive; rumble -70 dB; wow & flutter 0.06%; vertical & lateral damping of tonearm; photoflare-stabilized automatic stop; warning light system to protect record & stylus; S-shaped, static-balance natural wood tonearm, 8V.\" pivot-to-stylus; tracking force range 0.5-6 g; universal cartridge mount. Comes with natural wood base and tonearm. 17'/2" x 15'/2" x 67/4"...

YAMAHA

YP800 Stereo Turntable Two-speed (33 & 45 rpm, electronic switching), direct-drive turntable; brushless 12-pole d.c. servo motor; 12.2" cast turntable with cushioned mat; ±3% speed control (each speed); wow & flutter 0.03%, W rms; S/60 db; static balanced S tonearm; 9.5" long; tracking error 1.5 degrees, tracking force 0.3 g, universal plug-in cartridge shell. Walnut cabinet with clear acrylic dust cover. 18.9' W x 6.9' H x 14.6'

YP701 Stereo Turntable Two-speed (33 & 45 rpm), belt-drive; synchronous outer-rotor motor; automatic pickup and return; wow & flutter 0.08%, S/N 48 db; 12-aluminum platter; static balanced S tonearm; stylus pressure 0.4 g; universal plug-in cartridge shell. Wood/synthetics cabinet. 19' W x 16'/2" x 5'/2" H...

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Empire's new wide response 4000D* series phono cartridge features our exclusive "4 Dimensional"™ diamond stylus tip.

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ADC

Q Series Stereo Cartridges
Low-cost version of the XLM, featuring induced magnet system and controlled electrodynamic damping. Output at 5.5 cm/sec 4.5 mV; channel separation 25 dB (nominal); recommended load 47,000 ohms.

Q-30. Response 10-20,000 Hz ±3 dB; tracking force range 1-2 g; compliance cm/dyne × 10^-7; channel separation 25 dB; response 10-20,000 Hz ±2 dB. Has 0.6 x 0.7 mil elliptical stylus. Tracking force 0.6-1.2 g. Channel separation 25 dB; compliance 25 x 10^-6 cm/dyne. Replacement stylus \#RVL

550XE Phono Cartridge
Induced magnet type, output 4.0 mV at 5.5 cm/sec; response 10-20,000 Hz ±2 dB. Has elliptical stylus; tracking force 1-1.5 g. Channel separation 25 dB from 50-15,000 Hz. Compliance 35 x 10^-6 cm/dyne. Replacement stylus #RLV $46.00

K Series Stereo Cartridges
Designed to be used with automatic turntables and changers. Induced-magnet system. 47,000 ohm load imp.

K8. Output at 5.5 cm/sec 5 mV; tracking force range 2-4 g; compliance cm/dyne × 10^-6; channel separation 20 dB; compliance 25.0.0007" x 0.0003" elliptical stylus. Tracking force range 2-4 g; compliance cm/dyne × 10^-6; channel separation 25 dB (nominal); recommended load impedance 47,000 ohms. Induced magnet type; output 5.0 mV at 5.5 cm/sec; response 10-20,000 Hz ±3 dB; channel separation nominally 25 dB from 50-12,000 Hz. Compliance 35 x 10^-6 cm/dyne. Replacement stylus #R-50XE $35.00

K7E. Output 5 mV; tracking force 1-1/2 g; response 15-18,000 Hz ±4 dB; channel separation 20 dB; compliance 20, 0.0008" x 0.0004" elliptical stylus $29.95

K7E. Output 4.5 mV; tracking force range 1-2/2 g; response 10-20,000 Hz ±3 dB; channel separation 25 dB; compliance 25. 0.0007" x 0.0003" elliptical stylus $39.95

K3E. Output 4.5 mV; tracking force range 1-2/g; response 10-20,000 Hz ±2.5 dB; channel separation 25 dB; compliance 30; 0.0007" x 0.0003" elliptical stylus $49.95

XLM Phono Cartridge
Induced magnet type, output 3.5 mV at 5.5 cm/sec; response 10-20,000 Hz ±2 dB. Tracking force 0.6-1.2 g. Channel separation 25 dB from 50-15,000 Hz; compliance 50 x 10^-5 cm/dyne. Replacement stylus RXL $50.00

BANG & OLUFSEN

AT-1009 Tonearm
Includes all basic elements of the AT-1005 II plus exclusive pneumatic arm lift with convenient lever control; special low-mass plug-in shell; sliding counterweight with set screw for setting static balance; separate micro-adjust for precise balance; precision lever and dial for anti-skating adjustment; arm height ±2 1/2 mm adjustment with separate micro-adjust lever; stylus force gauge with sliding ringweight calibrated to 0.1 g. AT-D. Plug-in shell $10.95

AT-1005 II Tonearm
Features calibrated adjustments to permit exact selection of desired tracking force, anti-skating, and stylus overhang; perforated plug-in shell with sliding cartridge mounting, attaches by means of knurled locking ring and spring-loaded contacts; sliding main counterweight; tracking force selected by sliding ring weight along length of arm (calibrations permit adjustment to 0.5 μ; one-hole installation of arm). Stylus force 0-3 g; calibration 0.5 g; cartridge weight 5-24 g; effective mass 20 g (set for AT14S cartridge) $79.95 AT-S. Plug-in shell $7.95 AT-L2. Optional hydraulic arm lift $16.95

ELAC

STS-344-17 Phono Cartridge
Moving-magnet type. Output 1.1 mV/cm/sec. Response 10-22,000 Hz. Has 0.7-mil spherical stylus. Tracking force 1 to 2 g. Channel separation 24 dB at 1000 Hz. Compliance 25 x 10^-6 cm/dyne. Model ST-344-E. Same except has 0.2 x 0.8 mil elliptical stylus. $60.00

1975 EDITION

from $50.00
Compliance 35 x 10^{-6} \text{ cm/dyne}. Replacement stylus tracking angle. Stereo separation 35 dB.

Model STS-244E. Same except has 0.2 x 0.8 mil elliptical stylus.

Model STS-244-12 Phono Cartridge
Moving magnet type. Output 1.1 mV/cm/sec. Response 20-22,000 Hz. Has 0.5 mil spherical stylus. Tracking force 1.5-3 g. Channel separation 35 dB. Compliance 33 x 10^{-4} \text{ cm/dyne}. $65.00

Model STS-444-E. Same has 0.2 x 0.8 mil elliptical stylus. $80.00

Response 20-20,000 Hz. Has 0.7 mil spherical stylus. Tracking force 1 to 3 g. Channel separation 22 dB at 1000 Hz. Compliance 18 x 10^{-4} \text{ cm/dyne}. $24.95

Model STS-244-E. Same except has 0.2 x 0.8 mil elliptical stylus. $35.00

MICRO/ACOUSTICS
QDC-1e Stereo Cartridge
Response 5-20,000 Hz; channel separation 35 dB; tracking force 0.75-1.5 g; channel separation 30 dB at 1000 Hz. $39.95

QDC-1s Stereo Cartridge
Response 5-20,000 Hz; channel separation 35 dB; tracking force 0.75-1.5 g; channel separation 30 dB at 1000 Hz. $35.00

Has 0.7 mil spherical diamond stylus. Stereo separation 30 dB. Replacement stylus $366/X-ERD Black. $29.95

68PE/X. Response 8-34,000 Hz, tracking force \( \frac{1}{2} \)-1.5 g. Has 0.2 x 0.7 mil elliptical hand-polished diamond stylus. Stereo separation 30 dB. Replacement stylus $S66PE/X-ERD White. $44.95

909/X Phono Cartridge
Moving magnet type. Output 8 mV. Response 15-25,000 Hz. Has 0.7 mil spherical stylus; tracking force \( \frac{1}{2} \)-2 g; 15-degree tracking angle. Stereo separation 30 dB. Compliance 10 x 10^{-4} \text{ cm/dyne}. Replacement stylus $S909/X-ERD. $24.95

900E/X Phono Cartridge
Moving magnet type. Output 8 mV. Response 15-25,000 Hz. Has 0.3 x 0.7 mil elliptical stylus; tracking force 1 \( \frac{1}{2} \)-3 g. 15-degree tracking angle. Stereo separation 30 dB. Compliance 10 x 10^{-4} \text{ cm/dyne}. Replacement stylus $S900E/X-ERD. $29.95

2000E/III Stereo Cartridge
Response 5-35,000 Hz; stereo separation 35 dB; 0.2 x 0.7 mil bi-radial nude elliptical diamond stylus; tracking \( \frac{1}{2} \)-1 \( \frac{1}{2} \) g. $69.95

2000E/II. For use with highest quality turntables; tracking \( \frac{1}{2} \)-1 \( \frac{1}{2} \) g; response 6-33,000 Hz; stereo separation 35 dB; 0.2 x 0.7 mil bi-radial nude elliptical diamond stylus. $54.95

2000E/I. For high-quality turntables & changers; response 8-32,000 Hz; tracking \( \frac{1}{2} \)-1 \( \frac{1}{2} \) g; stereo separation 35 dB; 0.2 x 0.7 mil bi-radial nude elliptical diamond stylus. $39.95

2000E. For automatic changers; response 10-30,000 Hz; tracking 1 to 2 g; separation 35 dB; 0.3 x 0.7 mil bi-radial elliptical diamond stylus. $34.95

900EE/X Phono Cartridge
Output 8 mV at 5.5 cm/sec. Response 10-20,000 Hz. Has 0.5 x 0.7 mil elliptical stylus; tracking force 4 \( \frac{1}{2} \) g. Channel separation 26 dB. Has Dustamatic brush. Replacement stylus $DIV-ACE. $29.95

F-15E Magnetic Cartridge
Features VMS principle, but with lower compliance and higher tip mass for automatic turntables and older transcription tonearms. Tracking force range 1-2 g. $45.00

900E Magnetic Cartridge
Fixed stylus with 0.2 x 0.7 mil elliptical diamond stylus. Stereo separation 30 dB. Replacement stylus $S900E/X-ERD. $29.95

90E Magnetic Cartridge
Fixed stylus with 0.2 x 0.7 mil elliptical diamond stylus. Stereo separation 30 dB. Replacement stylus $S90E/X-ERD. $24.95

2000E/II. Similar performance characteristics as 1000ZE/X except response 6-35,000 Hz; tracking force 1-2 g. Output 6.5 mV at 5.5 cm/sec. $39.95

2000E/I. Similar performance characteristics as 1000ZE/X. Response 8-32,000 Hz; tracking \( \frac{1}{2} \)-1 g; stereo separation 35 dB; 0.2 x 0.7 mil bi-radial elliptical diamond stylus. $34.95

2000E. Same as F-15E but with spherical stylus. $35.00

15E cartridge. Input impedance 2 ohms; load 47,000 ohms; stylus 0.0002 x 0.0007 elliptical solid needle diamond. $110.00

90EE/X Phono Cartridge
Output 8 mV at 5.5 cm/sec. Response 10-20,000 Hz. Has 0.5 x 0.7 mil elliptical stylus; tracking force 4 \( \frac{1}{2} \) g. Channel separation 26 dB. Features Dustamatic brush. Replacement stylus $DIV-AME. $49.95

V-15 Micro IV AME Phono Cartridge
Output 8 mV at 5.5 cm/sec. Response 20-20,000 Hz. Has 0.7 mil spherical stylus; tracking force 2-3 g. Channel separation 30 dB. Features Dustamatic brush. Replacement stylus $DIV-AME. $34.95

V-15 Micro IV AM Phono Cartridge
Output 8 mV at 5.5 cm/sec. Response 20-20,000 Hz. Has 0.7 mil spherical stylus; tracking force 2-3 g. Channel separation 30 dB. Features Dustamatic brush. Replacement stylus $DIV-AME. $29.95

V-15 Micro IV ATE Phono Cartridge
Output 8 mV at 5.5 cm/sec. Response 20-20,000 Hz. Has 0.7 mil spherical stylus; tracking force 2.5-3 g. Channel separation 28 dB. Features Dustamatic brush. Replacement stylus $DIV-ATE. $39.95

V-15 Micro IV ATE Phono Cartridge
Output 6.5 mV at 5.5 cm/sec. Response 20-20,000 Hz. Has 0.4 x 0.7 mil elliptical stylus; tracking force 3 \( \frac{1}{2} \)-4 g. Channel separation 28 dB. Features Dustamatic brush. Replacement stylus $DIV-AME. $29.95

V-15 Micro IV AT Phono Cartridge
Output 6.5 mV at 5.5 cm/sec. Response 20-18,000 Hz. Has 0.4 x 0.7 mil elliptical stylus; tracking force 3 \( \frac{1}{2} \)-4 g. Channel separation 28 dB. Features Dustamatic brush. Replacement stylus $DIV-ATE. $39.95

XY-15/100 Phono Cartridge
Output 8 mV at 5.5 cm/sec. Response 10-20,000 Hz. Has 0.7 mil spherical stylus; tracking force 5 \( \frac{1}{2} \)-2 g. Channel separation 35 dB. Features Dustamatic brush. Replacement stylus $DI00. $29.95

XY-15/140E Phono Cartridge
Output 8.0 mV at 5.5 cm/sec. Response 10-20,000 Hz. Has 0.5 x 0.7 mil elliptical stylus; tracking force 4 \( \frac{1}{2} \)-1 g. Channel separation 35 dB. Features Dustamatic brush. Replacement stylus $DI00. $34.95

XY-15/150 Phono Cartridge
Output 8.0 mV at 5.5 cm/sec. Response 10-25,000 Hz. Has 0.7 mil spherical stylus; tracking force 3 \( \frac{1}{2} \)-1 g. Channel separation 35 dB. Features Dustamatic brush. Replacement stylus $DI00. $34.95

STEREO DIRECTORY & BUYING GUIDE
**SHURE**

**M3D Phono Cartridge**
Moving-magnet type. Output 5.0 mV at 5 cm/sec. Response 20-15,000 Hz. Has 0.7 mil spherical stylus. Tracking force adjustable 3 to 6 g. Replacement stylus #N3D. $15.75

**M7/N21D Phono Cartridge**
Moving-magnet type. Output 4.0 mV at 5 cm/sec. Response 20-20,000 Hz. Has 0.7 mil spherical stylus. Tracking force less than 2/10 g. Channel separation better than 25 dB at 1000 Hz. Compliance 9 x 10^{-6} cm/dyne. Replacement stylus #N21D. $17.95

**M44E Phono Cartridge**
Moving-magnet type. Output 1.8 mv/cm/sec. Response 20-20,000 Hz. Has 0.4 x 0.7 mil elliptical stylus. Tracking force 1 1/4 to 4 1/2 g. Channel separation better than 25 dB at 1000 Hz. Compliance 15 x 10^{-6} cm/dyne. Replacement stylus #N44E. $24.95

**M55E Phono Cartridge**
Moving-magnet type. Output 6.6 mV at 5 cm/sec. Response 20-20,000 Hz. Has 0.2 x 0.7 mil elliptical stylus. Tracking force 1/4 to 2 g. Channel separation 25 dB at 1000 Hz. Compliance 25 x 10^{-6} cm/dyne. Replacement stylus #N55E. $29.95

**M75B Type 2 Phono Cartridge**
Has good trackability at moderate tracking forces between 1/4 to 3 g. Designed for moderately priced equipment. Response 20-20,000 Hz. Output 5 mV/1000 Hz. Has 0.6 mil spherical stylus. $33.45

**Model 75E Type 2** Same except with biradial stylus 0.7 x 0.4 mil elliptical. $44.95

**M91E Phono Cartridge**
Moving-magnet type. Output 5.0 mV at 5 cm/sec. Response 20-20,000 Hz. Has 0.2 x 0.7 mil elliptical stylus. Tracking force 1/4 to 1/2 g. Channel separation better than 25 dB at 1000 Hz. Will track 18 cm/sec at 10,000 Hz. Replacement stylus #N91E. $49.95

**Model M75S Type 2** Same except with 0.6-mil spherical stylus. $38.45

**M93E Phono Cartridge**
Moving-magnet type. Output 6.2 mV at 5 cm/sec. Response 20-20,000 Hz. Has 0.4 x 0.7 mil elliptical stylus. Tracking force 1/2 to 3 g. Channel separation better than 25 dB at 1000 Hz. Will track 13 cm/sec at 10,000 Hz. Replacement stylus #N93E. $39.95

**M75ED Type 2 Phono Cartridge**
Tracking force 0.75 to 1.5 g. Response 20-20,000 Hz. Output 5.0 mV/ch at 1000 Hz and 5 cm/sec peak velocity. With biradial 0.2 x 0.7 mil elliptical stylus. $54.95

**Model M91GD** Same except with 0.6 mil spherical stylus. $44.95

**V-15 Type III Phono Cartridge**
Moving-magnet type. Output 3.5 mV at 5 cm/sec. Response 10-25,000 Hz. Has 0.2 x 0.7 mil elliptical stylus. Tracking force 1/4 to 1/2 g. Channel separation better than 28 dB at 1000 Hz. Will track 38 cm/sec at 1000 Hz. Replacement stylus #VN35E. $77.50

**STANTON**

**500A Phono Cartridge**
Output 1.0 mV/cm/sec at ±2 dB. Response 20-20,000 Hz ±2 dB. Has 0.7 mil spherical stylus; tracking force 2 to 5 g. Channel separation 35 dB. Replacement stylus D5100E. $49.00

**500E Phono Cartridge**
Output 1.0 mV/cm/sec at ±2 dB. Response 20-20,000 Hz ±2 dB. Has 0.3 x 0.7 mil elliptical stylus; tracking force 1 1/2 to 2 1/2 g. Channel separation 35 dB. Replacement stylus D5107A. $50.00

**500EE Phono Cartridge**
Output 0.82 mV/cm/sec at ±2 dB. Response 20-20,000 Hz. Has 0.3 x 0.7 mil elliptical stylus; tracking force 1/2 to 1 g. Channel separation 35 dB. Unit individually calibrated at factory. Replacement stylus D6807A. $66.00

**681EE Phono Cartridge**
Output 0.7 mV/cm/sec at ±2 dB. Response 10-12,000 Hz ±1/2 dB. Has 0.2 x 0.7 mil elliptical stylus; tracking force 1/2 to 5 g. Channel separation 35 dB. Unit individually calibrated at factory. Replacement stylus D6800EE. $72.00

**Littman 0.7-mil stylus; tracking force 2.4 g. D6701A replacement stylus $45.00

**800E Phono Cartridge**
Same except 0.4 x 0.7 mil elliptical stylus; tracking force 1/2 to 3/4 g. D6004E replacement stylus. $50.00

**800EE** Same except 0.3 x 0.7 mil elliptical stylus; 1 g tracking force. D6003EE replacement stylus. $55.00

**681A Phono Cartridge**
Output 1.1 mV/cm/sec at ±2 dB. Response 10-20,000 Hz. Has 0.7 mil spherical stylus; tracking force 1/2 to 3 g. Channel separation 35 dB. Unit individually calibrated at factory. Replacement stylus D6807A. $66.00

**681EE Phono Cartridge**
Output 0.7 mV/cm/sec at ±2 dB. Response 10-12,000 Hz ±1/2 dB. Has 0.2 x 0.7 mil elliptical stylus; tracking force 1/2 to 3/4 g. Channel separation 35 dB. Unit individually calibrated at factory. Replacement stylus D6800EE. $72.00

**TOSHIBA**

**C-401S Condenser Cartridge**
Electret design with its own equalization amplifier. Response 20-20,000 Hz. Output 40 mV at 5 cm/sec at 1000 Hz. HD 0.8% (1 kHz, 5 cm/sec). Output impedance 10,000 ohms. Compliance 30 x 10^{-6} cm/dyne (dc). 12 x 10^{-6} cm/dyne (50 Hz). Stylus 0.3 x 0.8 mil elliptical diamond. Stylus pressure 1.5-2 g. Includes S2 120 power pack/equalizer amplifier. 30 mV input. 200 mV output at 50,000 ohms. S/N -70 dB. Has one 18 and 1 battery operated (two 9 V batteries, 14 mV drain). 2' x 3 1/4 x 4 1/4". $129.95

**For 4-Channel Components**

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Drop a TDK ED cassette in there next time and hear the difference. An absolutely stunning difference. Vibrant sound, rich in color and detail, with the depth and harmonics that were there when the music happened.

One TDK ED cassette. One time. One listen. That may be the first time you'll really hear your speakers. And all for as little as an extra buck. An extra buck more than the cassette you're probably using now.

TDK

Wait till you hear what you've been missing.
AKAI

GX-210D Stereo Tape Deck
Two-speed (7 1/2 & 3 3/4 ips), 4-track, 2-channel stereo system. Response 30-25,000 Hz ±3 dB

low-noise tape); 30-23,000 Hz ±3 dB (regular tape). Will handle up to 7" reels. Wow & flutter 0.08% rms at 7 1/2 ips. THD 0.07%. 5 W/ch dynamic power at 8 ohms (3 W/ch continuous). (S+N)/N ±50 dB. Bias frequency 63 kHz. Has one record/playback & one erase head. Inputs: mike (0.5 mV) & line (60 mV). Features dual selector switch for regular or low-noise tape, and tape monitoring facilities. Comes with pair of dynamic mikes with stands. 15" x 15" x 9 1/2".

$449.95

GX-600D Stereo Tape Deck
Two-speed (7 1/2 & 3 3/4 ips), 2-channel stereo or mono system. Wow & flutter 0.15%; distortion 1.5%, all at 7 1/2 ips. (S+N)/N ±50 dB; wow & flutter 0.15%; distortion 1.5% at 7 1/2 ips. THD 0.08% W rms at 7 1/2 ips. (S+N)/N ±50 dB. Bias frequency 63 kHz. Has one record/playback & one erase head. Line output 1.23 V. Inputs: mike (0.8 mV) & line (60 mV). Features dual selector switch for regular or low-noise tape, and tape monitoring facilities, pause control, and optional counter. Two speed (7 1/2, 3 3/4 ips), 4-channel in-line version; plays 4-channel in-line. 15 and 7 1/2 ips available. $299.95

$725.00

GX-600DS Tape Recorder Deck
Two-speed (7 1/2 & 3 3/4 ips), 2-channel stereo or mono design. Wow & flutter 0.15%; distortion 2% at 7 1/2 ips. THD 0.08% W rms at 7 1/2 ips. Bias frequency 63 kHz. Has one record/playback & one erase head. Line output 1.23 V. Inputs: mike (0.8 mV) & line (60 mV). Features dual selector switch for regular or low-noise tape, and tape monitoring facilities. Wow & flutter 0.09% at 7 1/2 ips. THD 0.09% W rms at 7 1/2 ips. Bias frequency 63 kHz. Has one record/playback & one erase head. Inputs: mike (0.5 mV) & line (150 mV). Features p.a. capability, automatic shut-off, equalizer preamp for direct phone input, selector switch for regular or low-noise tape, and tape monitoring facilities. Comes with pair of dynamic mikes with stands. 14 1/4 x 17 1/2 x 9 1/2".

$625.00

CX-722 Tape Recorder
Three-speed (15, 7 1/2, 3 3/4 ips), 2-track, 3-motor design. Will handle up to 10 1/2" reels. Has three heads. Response 20-30,000 Hz ±2 dB. Wow & flutter 0.09% at 7 1/2 ips. Features braking, automatic shut-off, two VU meters, pause control, and optional counter. Two speed (7 1/2, 3 3/4 ips), 4-track version; plays 4-channel in-line. 15 and 7 1/2 ips available. $299.95

$369.95

SX-724 Tape Recorder
Two-speed (7 1/2, 3 3/4 ips), 2-ch, 1/2-track, 3-motor design. Will handle up to 10 1/2" reels. Response 30-26,000 Hz ±3 dB. Wow & flutter 0.09% at 7 1/2 ips. THD 0.09% W rms at 7 1/2 ips. Bias frequency 100 kHz. Has braking, two VU meters, automatic shut-off, pause control, monitoring facilities, pause control, and optional counter. Two speed (7 1/2, 3 3/4 ips), 4-track version; plays 4-channel in-line. 15 and 7 1/2 ips available. $299.95

$725.00

SX-724-P4C. Two-speed (7 1/2, 3 3/4 ips), 4-track version; plays 4-channel in-line. 15 and 7 1/2 ips available. $299.95

$369.95

CROWN INTERNATIONAL

SX-724 Tape Recorder
Two-speed (7 1/2, 3 3/4 ips), 4-track, 2-channel stereo or mono design. Wow & flutter 0.07% at 7 1/2 ips. THD 0.07%. 5 W/ch dynamic power at 8 ohms (3 W/ch continuous). (S+N)/N ±50 dB. Bias frequency 63 kHz. Has braking, two VU meters, automatic shut-off, pause control, monitoring facilities, optional counter, and remote record. 15 and 7 1/2 ips available. $1995.00

$1995.00

SX-822 Tape Recorder
Two-speed (15, 7 1/2, 3 3/4 ips), 2-track, 3-motor design. Will handle up to 10 1/2" reels. Response 30-26,000 Hz ±3 dB. Wow & flutter 0.09% at 7 1/2 ips. THD 0.09%. (S+N)/N ±50 dB. Bias frequency 100 kHz. Has braking, two VU meters, automatic shut-off, pause control, monitoring facilities, optional counter, and remote record. 15 and 7 1/2 ips available. $1995.00

$1995.00

SX-724 Tape Recorder
Two-speed (7 1/2, 3 3/4 ips), 2-ch, 1/2-track, 3-motor design. Will handle up to 10 1/2" reels. Response 30-26,000 Hz ±3 dB. Wow & flutter 0.09% at 7 1/2 ips. THD 0.09%. (S+N)/N ±50 dB. Bias frequency 100 kHz. Has braking, two VU meters, automatic shut-off, pause control, monitoring facilities, pause control, and optional counter. One speed (7 1/2, 3 3/4 ips), 4-track version; plays 4-channel in-line. 15 and 7 1/2 ips available. $299.95

$1995.00

DOKORDER

7100 Reel-to-Reel Tape Deck
Two-speed (7 1/2 & 3 3/4 ips), 3-head, 4-track stereo tape deck. Features a four-pole induction automatic shut-off, pause control. Universal power supply. 16" x 12 1/2" x 9 1/2"...

$299.95

4000DS Tape Recorder Deck
Two-speed (7 1/2 & 3 3/4 ips), 2-channel stereo or mono design. Wow & flutter 0.15%; distortion 1.5%, all at 7 1/2 ips. (S+N)/N ±50 dB; wow & flutter 0.15%; distortion 1.5% at 7 1/2 ips. THD 0.08% W rms at 7 1/2 ips. (S+N)/N ±50 dB. Bias frequency 63 kHz. Has one record/playback & one erase head. Line output 1.23 V. Inputs: mike (0.5 mV) & line (150 mV). Features p.a. capability, automatic shut-off, equalizer preamp for direct phone input, selector switch for regular or low-noise tape, and tape monitoring facilities. Comes with pair of dynamic mikes with stands. 14 1/4 x 17 1/2 x 9 1/2".

$625.00

For 4-Channel Components...
See SECTION 9...

The Sony TC-755 stereo tape deck has a built-in instinct to perform. Professional 10½ inch reel capacity lets you record or playback up to 6 hours total music per reel.

**SONY DOES IT ALL. SONY DOES IT BETTER.**

Ferrite and ferrite heads last up to 200 times longer than standard permalloy. Inside: core and pole pieces are solid ferrite. Outside: another precisely-machined layer of ferrite. You get better tape-to-head contact than with laminated heads. And the super-smooth TC-755 head system dramatically reduces susceptibility to residual oxide and dust accumulation.

**SONY F&F GAP**

**PERMALLOY GAP**

**Symphase** assures perfectly parallel head gap width. This exclusive Sony method of recording eliminates phase shifts between channels. Enables the recording of any SQ* or similar 4-channel matrix source material. When played back through a 4-channel decoder amplifier, you achieve exact duplication of the original 4-channel source material.

**Closed loop dual capstan tape drive** isolates the tape path in the tape head area from external vibration and abnormal reel movement, therefore eliminating the cause of modulation distortion. Reduces wow and flutter to a mere 0.3% at 7½ ips and provides optimum tape-to-head contact.

**AC servo-control motor** accurately regulates capstan drive tape speed. Compensates for voltage or load variations automatically. Two additional large AC motors for reel drive.

**Foolproof function buttons with logic control** make it virtually impossible to break or spill tape. Allows fast, safe mode changes; smooth start-ups.

**Three-head system allows tape/source monitoring.**

**Recording timer lock** for external timer operation for unattended recordings.

**Separate playback level controls** with reference level notch.

**Locking pause control** with indicator light.

**Automatic total mechanism shut-off (TMS).** The Sony TC-755. Only $699.95 at your Superscope dealer.

*SQ is a trademark of CBS, Inc.
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CIRCLE NO. 54 ON READER SERVICE CARD
7500 Tape Recorder Deck
Two-speed (7 1/2 & 3 3/4 ips), 4-track record/play design. Wow & flutter 0.8% at 7 1/2 ips. Response 40-20,000 Hz ± 3 dB at 7 1/2 ips. (S + N)/N = -53 dB. Bias 130 kHz. Has mike (0.8 mV) & line (80 mV) inputs. Line output 0.775 V. Features automatic continuous playback, both directions; four heads (erase, record, forward play, reverse play); three motors; tape bias select switch for standard or low-noise tape; sound-on-sound; echo; sound-with-sound. Has tape monitoring facilities and pause switch. 16 1/4" x 17 1/2" x 6 1/4" D. $499.95

1120 Stereo Tape Deck
Two-speed (15 & 7 1/2 ips), three-motor deck; will handle 10 1/4" reels. Can be used as 4-track.

2-channel deck or can be converted to a 2-track, 2-channel record/play deck; provides built-in circuitry for synthetic echo, sound-on-sound, sound-with-sound, and locking pause control for editing tape while recording or during playback. Wow & flutter 0.06%. S/N 60 dB; crosstalk 58 dB at 1 kHz, response 25-24,000 Hz, all at 7 1/2 ips. 16 1/4" W x 17 1/2" H x 6 1/4" D. $649.95

FERROPHON
Super Seven Series Tape Recorders
Three speeds (7 1/2, 3 3/4, 1 1/4 ips). Has three heads and three motors; braking, VU meters; electronics editing; sound-on-sound, sound-with-sound, echo, and re-record facilities; variable speed wind/rewind; 10 1/2" reel capacity; solid-state FET front end at mike input; 4-digit counter. Has full range of inputs and outputs. Response (record/play) 30-17,000 Hz ± 3 dB at 7 1/2 ips; 40-14,000 Hz ± 3 dB at 3 3/4 ips; 50-7000 Hz ± 3 dB at 1 1/4 ips. Available in 2- and 4-track stereo models; with or without amplifiers and speakers; 15, 7 1/2, 3 3/4 ips operation; optional Dolby-B noise reduction with every speed configuration. 117-V, 60-Hz operation. $1025 to $1200 at 7 1/2 ips; (S + N)/N = -52 dB; wow & flutter 0.13% rms at 7 1/2 ips. Has mike (0.5 mV) & aux. (80 mV) inputs. Line output 0-1 V. Has switch for either low-noise or standard tape; two heads (record/play and erase). 7 1/2" x 15 1/4" W x 12 3/4" D. $249.95

PIONEER
RT-1011L Stereo Tape Deck
Four-track, 2-speed (7 1/2 & 3 3/4 ips), 2-channel stereo design. Similar in style to Model RD-1552. Response 20-24,000 Hz ± 3 dB at 7 1/2 ips; (S + N)/N = -55 dB; wow & flutter 0.3% rms at 7 1/2 ips. Has mike (0.5 mV) & aux. (80 mV) inputs. Line output 0-1 V. Has switch for either low-noise or standard tape; two heads (record/play and erase). 7 1/2" x 16 1/4" W x 8 3/8" D. $499.95

RT-1050 Stereo Tape Deck
Two-track, two-speed (15 & 7 1/2 ips), three-channel stereo design. Response 20-24,000 Hz ± 3 dB at 7 1/2 ips; (S + N)/N = -52 dB; wow & flutter 0.1% rms at 7 1/2 ips. Has mike (0.3 mV) & aux. (80 mV) Line output 0-1 V. Features three heads (record, erase & playback) and 3 motors (capstan drive, supply & take-up reels). Has solenoid motion controls, pause button, sound-on-sound, bias switch for low-noise or standard tapes, and input mixing facilities. 15 1/4" x 17 1/4" W x 8 3/8" D. $399.95

RD-1696 Tape Recorder Deck
4-track, 3-speed (7 1/2, 3 3/4 & 1 1/4 ips), 2-channel stereo design. Response 50-18,000 Hz ± 3 dB at 7 1/2 ips; (S + N)/N = -52 dB; wow & flutter 0.13% rms at 7 1/2 ips. Has mike (0.5 mV) & aux. (80 mV) inputs. Line output 0-1 V. Has switch for either low-noise or standard tape; two heads (record/play and erase). 7 1/2" x 15 1/4" W x 12 3/4" D. $249.95

9200 Stereo Tape Deck
Two-speed (7 1/2 & 3 3/4 ips) bi-directional record & playback for continuous recording of up to 1 1/2 hours at 7 1/2 ips on 1800-foot tape; automatic memory for programming order of selections for playback; adjustable recording bias; pause control; tape tension switch; computer-controlled transport; professional mixing; echo, sound-on-sound, sound-with-sound. Has six heads for recording and monitoring in either direction; center capstan drive; built-in reel holders; quick-change head housing; turntable height adjustment; automatic tape lifters; remote-control operation (optional extra); built-in head demagnetizer; features three motors; will handle 5" & 7" reels; response 25-26,000 Hz, S/N 58 dB, stereo channel separation 50 dB, crosstalk 55 dB, all at 7 1/2 ips. 17" W x 16 1/2" D x 20" H. $699.95
If you love listening to good music at home, you need a speaker system that can deliver all the power of the original performance. Clean, accurate, and distortion-free Cerwin-Vega home speakers are designed to do the job—on as little as 1/10 the power of other systems.

If music is your living, you know your equipment can make or break a performance. It literally pays to have the best. With 20 years' experience building efficient, powerful sound systems for club, studio, and concert work, we know how to get your sound out the way you want it—every time you play.

So whether you need a 50,000 watt sound system for your next concert tour, or a set of speakers that will really make your stereo come alive, check out Cerwin-Vega at one of our dealers. You can't buy a better piece of equipment—for love...or money.

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CIRCLE NO. 12 ON READER SERVICE CARD

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Cerwin-Vega High Energy speakers Components
motor, three-head stereo deck. Has 4/8 pole, two-speed hysteresis synchronous motor (cap-
If Beethoven were alive today, he'd be recording on "Scotch" brand recording tape.

Beethoven was a genius. But he was even more than that. He was a pro.

So, next time you record something take a hint from the master. Use "Scotch" brand—the Master Tape.

He was tough and demanding and insisted on perfection in everything he did. Just like the pros in today's music business. The people who may be putting a hundred thousand dollars on the line when they walk into a studio to put down a record.

And nearly 80% of all master recording studios use "Scotch" brand recording tape.

What else would Beethoven record on?

The Master Tape.

"Scotch" is a Registered Trademark of 3M Co.
No TEAC is perfect, but this one is getting damn close. We’ve been refining it for 20 years now, continually keeping it up to the current state-of-the-art in performance. And it’s becoming legendary in reliability. There’s a special tactile delight, a sensuous pleasure, in operating a machine that was intended not to break.

Proof of that intention is our two year Warranty of Confidence. We guarantee all our machines to work properly and meet all original specifications for two full years—that includes both parts and labor. No hassle, no excuses. TWO years.

How good is it? Good enough to master records with. As a matter of fact, to prove it—we’ve done it. The album is called “The Magic Music Machine” and it soon will be at your local TEAC dealer, who has specific performance data and a demonstration of the 3300S.

Enjoy.

3300S. Another Magic Music Machine from TEAC.
5 Open-Reel Tape Machines

TC-377 Stereo Recorder Deck
Features 3-speed (1 1/2, 4, & 7 1/2 ips), 3-head, 4-track design. Response 30-20,000 Hz ±3 dB at 7 1/2 ips (S + N)/N 52 dB (standard tape) 55 dB (SLH-180 tape). Has aux (0.06 V sensitivity) & mike (+72 dB sensitivity) inputs & line output (0.775 V). Bias frequency 160 kHz. Wow & flutter 0.09% at 7 1/2 ips. Has two VU meters, one induction motor. Features mike-line record leveling controls, tape select switch for Sony standard or low-noise, high-output tape. Has pause control and an automatic total mechanism shut-off. Reversible walnut base for vertical or horizontal operation. Sound-on-sound capability with the MX-6S mixer. 16 1/2" W x 8 1/2" H x 15 1/2" D. $399.95

TC-458 Stereo Tape Deck
Two-speed (7 1/2 & 3 1/2 ips), automatic reverse stereo deck with ferrite & ferrite roto bi-lateral head. Response 30-20,000 Hz ±3 dB at 7 1/2 ips (standard tape), 30-25,000 Hz ±3 dB (SLH-180 tape). Has aux (0.06 V sensitivity) & mike (+72 dB sensitivity) inputs & line output (0.775 V). Bias frequency 160 kHz. Wow & flutter 0.09% at 7 1/2 ips. Has two VU meters, one induction motor. Features mike-line record leveling controls, tape select switch for Sony standard or low-noise, high-output tape. Has pause control and an automatic total mechanism shut-off. Reversible walnut base for vertical or horizontal operation. Sound-on-sound capability with the MX-6S mixer. 16 1/2" W x 8 1/2" H x 15 1/2" D. $399.95

TC-558 Stereo Tape Deck
Three-motor automatic reverse stereo deck with six heads (ferrite erase, ferrite and ferrite record & playback); features "Symphase" recording for tapping 4-ch sound from any SQ or FM matrix source; two speed (7 1/2 & 3 1/2 ips), will handle 7" reels. Response 30-20,000 Hz ±3 dB (standard tape), 30-25,000 Hz ±3 dB (SLH-180 tape). S/N 53 dB (standard), 56 dB (SLH-180) all at 7 1/2 ips; has two line, two mike, headphone, and phono inputs; two VU meters; two line & one phono outputs. 17 1/2" W x 6 1/2" H x 13 1/2" D. $769.95

TC-755 Stereo Tape Deck
Two-speed (7 1/2 & 3 1/2 ips), 3-head, 3-motor deck with 10 1/2 ips. Response 30-20,000 Hz ±3 dB (standard tape), 30-25,000 Hz ±3 dB (SLH-180 tape). Kankakee, Illinois 60901

TC-756 Stereo Tape Deck
Two-speed (1 1/2, 4, & 7 1/2 ips), 5-head, 4-track design. Response 30-15,000 Hz at 7 1/2 ips. 30-22,000 Hz at 15 ips, both ±3 dB with standard tape, 30-25,000 Hz at 7 1/2 ips, 30-30,000 Hz at 15 ips, both ±3 dB with SLH-180 tape, S/N 56 dB (standard tape), 59 dB (SLH-180), features 4-digit tape counter, illuminated pause control with lock, reel-size selector switch, record timer lock, illuminated left & right record buttons, record & bias equalization selector switches, illuminated VU meters; stereo headphone monitor jack, ferrite and ferrite heads, three motors, logic-controlled transport functions. Comes with 10 1/2" reel adapters, two stereo patch-cords, 10 1/2" plastic reel, and head cleaning ribbon. 17 1/2" W x 17 1/4" H x 8 1/4" D. $899.95

TANDBERG
Series 11 Tape Recorder
Portable (15 V, ten 1/2-V cells), mono design. Three speeds (7 1/2, 3 1/2, 1 1/2 ips), and has three heads. Will handle up to 7" reels. Has automatic level-input controls, mike & line mixing, and built-in speaker. Response 40-16,000 Hz ±2 dB at 7 1/2 ips, wow 0.1% at 7 1/2 ips, (S + N)/N 58 dB unweighted, 13 W x 10 D x 4 1/2". $795.00

Series 15 Tape Recorder
Mono design with built-in 4" x 7" speaker. Three speeds (7 1/2, 3 1/2, 1 1/2 ips). Response 40-15,000 Hz ±2 dB at 7 1/2 ips, wow 0.1% at 7 1/2 ips, (S + N)/N at max. record level 55 dB. S/N 79.50

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output with both channels driven. Has 0.75 V preamp outputs, low-Z mike & high-and low-level inputs. 13½" W x 11½" D x 6½". Model 1541. Four-track. .......... $313.50
Model 1541F With foot remote control .......... $418.00

9200XD Dolbyized Stereo Deck
Model 1421. Two-track without case .......... $270.00
Model 1441. Four-track without case .......... $290.00

Series 10XD Stereo Tape Deck
Three-speed (1½, 7½, 3½ ips) three-motor deck with Dolby noise-reduction system; will handle up to 10½" reels; 4½ track; response 30-25,000 Hz ±2 dB, 25-27,000 Hz ±3 dB (both at 15 ips); speed tolerance ±0.3%; wow & flutter 0.04% max at 15 ips (weighted); crosstalk 50 dB at 1000 Hz; has full complement of inputs, outputs, controls, peak reading meters; crossfield heads; mike & line mixing facilities; logic circuit with memory; 45 cm x 43.5 cm x 18.5 cm. Comes with 10½" empty reel, NAB adapters, input-output connection cord. Remote control, pitch control kit, and rack mounting kit available at optional extras. .......... $1150.00

TEAC
2300S Stereo Tape Deck
Two-speed (7½ & 3½ ips) four-track, two-channel deck. Features push-button transport control with logic circuitry; dual VU meters; separate bias/equalization switches; record/pause lights; total remote-control capability. Has dual-speed hysteresis synchronous capstan motor and two eddy-current induction motors. Response 30-24,000 Hz at 7½ ips; 30-16,000 Hz at 3½ ips; wow & flutter 0.08% max at 7½ ips. (S + N)/N 58 dB. 17½" W x 15½" x 8½" D. .......... $499.50

3300S Stereo Tape Deck
Two-speed (7½ & 3½ ips), four-track, two-channel deck. Will handle up to 10½" reels; offers remote-control capability; push-button transport control with logic circuitry; dual level bias oscillator for low-noise recording; d.c.-coupled equalization network. Features dual VU meters; pause control with indicator light; separate mike/line level controls; tape/source monitor switch; stereo headphone jacks; 4-digit retracted tape counter. 17½" W x 15½" H x 8½" T. .......... $699.50
33000T-2T. Same except two-track, two-channel with 15 or 7½ ips speeds .......... $739.50

4300 Auto-Reverse Stereo Deck
Two speed (7½ & 3½ ips), three-motor, four-head stereo deck with automatic reverse. Features push-button transport control, pause control with indicator light, dual VU meters; separate equalization switches; separate mike/line inputs; separate mike/line level controls. Will handle up to 7" reels; records in four-track, 2-channel stereo. Includes memory counter for automatic repeat and memory marker level guides. Response 30-28,000 Hz; wow &
flatter 0.06% both at 7½ ips. (S + N)/N 55 dB. 17½" x 19½" x 8½" .......................... $679.50

5300 Stereo Tape Deck
Two-speed (7½ & 3¼ ips), four-track, two-channel deck. Will handle 7" reels. Features direct-capstan drive servo-controlled motor; d.c. reel motor; automatic reverse; push-button transport control. Has separate bias & equalization switches; dual-scale VU meters; remote control for all functions including record & pause; memory marker level guides; solenoid-controlled pause/cue button. Response 30-28,000 Hz; wow & flutter 0.04%, both at 7½ ips. (S + N)/N 58 dB. ............. $1,135.00 7300-2T. Same except two-track, two-channel with 15 & 7½ ips operation. Response 25-30,000 Hz; wow & flutter 0.03%, both at 15 ips. (S + N)/N 60 dB. ................ $1,400.00

7030GSL Auto-Reverse Stereo Deck
Two-speed (7½ & 15 ips), three-track, two-channel deck with automatic-reverse-playback. Features three motors, four high-density Permaflux heads, and dual-process Dolby noise-reduction system, permitting simultaneous Dolbyized recording with decoded tape monitoring. Dolby FM/Copy function; MPX filter switch; Dolby calibration oscillator; source/tape monitor switch. The 4-head machine with separate playback, reverse playback, record, and erase also has a "punch-in" feature which permits change from play to record mode without going through a stop; a four-digit resettable tape counter; memory marker level guides. Response 30-28,000 Hz; wow & flutter 0.04%, both at 7½ ips. (S + N)/N 65 dB (with Dolby). ... $899.50

470G Stereo Tape Deck
Two-speed (7½ & 3¼ ips), 4-track, 3-motor stereo design. Has four high-density ferrite heads (6 head functions). Will handle up to 7" reels. Response 30-20,000 Hz –3 db, wow & flutter 0.05% at 7½ ips. (S + N)/N 58 dB. Has braking, VU meters, automatic reverse and shutdown, pause control, bias adjustment, counter, separate bias & equalization switches and monitoring facilities. ... $729.50

7010GSL Auto-Reverse Tape Deck
4-track, 2-channel stereo or mono with four heads (erase, record, playback, and reverse playback). Two speeds (3½ & 7½ ips.), 3 motors. Will handle 7 & 10½ reels. Response 30-20,000 Hz –3 db at 7½ ips. (S + N)/N –58 dB. HD 1% at 1000 Hz at normal listening levels. Has mike (0.25 mV) and line (0.1 V) inputs. Line output 0.3 V. S/N 54 dB (weighted), S/N 62 dB (unweighted). ......... $1,099.50

3-position bias/equalization switches; separate cue & edit facilities; push-button transport control; logic circuitry and motion sensing. Response 30-28,000 Hz; wow & flutter 0.04%, both at 7½ ips. (S + N)/N 58 dB. ............. $1,350.00 7300-2T. Same except two-track, two-channel with 15 & 7½ ips operation. Response 25-30,000 Hz; wow & flutter 0.03%, both at 15 ips. (S + N)/N 60 dB. ................ $1,400.00

7030GS Tape Deck
Two-track, 2-channel stereo or mono with four heads (erase, record, playback, and 4-track playback). Two speeds (7½ & 15 ips), 3 motors. Will handle 7" & 10½" reels. Wow & flutter 0.06% at 7½ ips. Response 30-20,000 Hz –3 db at 7½ ips. (S + N)/N –60 dB. HD 1% at 1000 Hz at normal listening levels. Has mike (0.25 mV) and line (0.1 V) inputs. Line output 0.3 V. S/N 54 dB (weighted), S/N 62 dB (unweighted). ......... $1,099.50

TECHNICS BY PANASONIC
RS-1030US 2/4 Track Tape Deck
Two-speeds (15 & 7½ ips), response 20-26,000 Hz at 15 ips (30-22,000 Hz –3 db). 20-23,000 Hz at 7½ ips (30-20,000 Hz –3 db). Two track record/play, four-track (stereo) playback. Wow & flutter 0.12% at 7½ ips. (S + N)/N 55 dB (2-track). Accepts 10" or smaller reels. Four heads including three HPF ultra-longlife types. Low-noise/normal tape selector. Three motors, one dual-speed hysteresis synchronous for capstan drive. Tape tension selector, optional remote. Features automatic stop, tape pause, and 4-digit counter. ................ $999.95

423 Tape Deck
Basically same design as Model 433. Response 50-15,000 Hz –3 db, (S + N)/N 50 dB, wow & flutter 0.2%, all at 7½ ips. THD 1.5%. 12½" h x 13½" w x 9½" d. (33/4, 1½, 5½) ............................ $288.70

433 Tape Recorder Deck
Quarter-track stereo design featuring sound-on-sound, reverb (echo), 2-channel input mixing, tape monitoring, and pause control. Three speeds (7½, 3¼, 1½ ips), 3-head, 3-motor design. Has automatic shutoff. Response 40-18,000 Hz –3 db at 7½ ips. (S + N)/N 54 dB, wow & flutter 0.2% at 7½ ips. 15½" W x 14½" H x 8¼" D. .............................. $398.95

Lab Series 2001 Tape Deck
Two-speed (7½, 3¼, 1½ ips), 4-track, 3-head, 2-motor stereo design. Will handle up to 8¼" reels. Response 45-18,000 Hz –2 db, wow & flutter 0.18% at 7½ ips. (S + N)/N 52 dB. Has VU meters, automatic shutoff, pause control, counter, solenoid operation, and monitoring facilities. 14½" x 19½" x 8¼" D. .................. $839.95

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3-position bias/equalization switches; separate cue & edit facilities; push-button transport control; logic circuitry and motion sensing. Response 30-28,000 Hz; wow & flutter 0.04%, both at 7½ Ips. (S + N)/N 58 dB. ............. $1,135.00

TOSHIBA
PT-862D Stereo Tape Deck
Three-head system for either tape or source monitoring, echo recording; mechanical automatic shut-off; tape selector switch, recording bias control; sound-on-sound; 4-digit tape counter; three speeds (7½, 3¼, 1½ ips). Will handle up to 7½" reels; 4-track, 2-channel stereo record & playback; universal power supply, 50-60 Hz; inputs; mike, line input, DIN; outputs: line-output, headphone, DIN; 4-pole condenser motor; controls: tape selector, speed change, power switch, volume control, mode selector; response 20-25,000 Hz; wow & flutter 0.05%. 8.75" W x 14.75" H x 8.25" D. ............... $269.95

UHER
4000 Report IC Recorder
Four-speed (7½, 3¼, 1½, ¾ ips), two-track portable recorder; can be powered by "C" cells, rechargeable battery, power pack; 12-V car battery (also power line with accessory unit); 5" max. reel dia.; frequency range 35-20,000 Hz; wow & flutter ±0.20% (DIN), ±0.15% (rms); S/N (rms A curve) 64 dB, all at 7½ ips. Has 3-digit counter with reset button; direct tape monitoring with earphones or speaker; electronic start and stop with remote switch, manual, or foot operation. Inputs: (mike) 0.12 mV, 40 mV max.; with 200-ohm source impedance; (radio) 2.4 mV, 700 mV max.; (phono) 45 mV, 20 V max., input impedance 2meg. .............................................. $449.00 4200. Same as Model 4000 except stereo version; S/N 56 dB (weighted DIN). 64 dB (weighted rms A curve); 0.80 Wch; two recording level meters ......................... $560.00 4400. Same as Model 4200 except four-track, S/N 54 dB (weighted DIN). 62 dB (weighted rms A curve) .............................................. $560.00

An extensive line of accessories is available for use with all three models.

Royal de Luxe Tape Recorder
Four-track stereo (or optional 2-track stereo with plug-in head assembly modules), four-speed (7½, 3¼, 1½, ¾ ips); response 20-22,000 Hz; wow & flutter ±0.02%; S/N (rms A curve) 68 dB, all at 7½ ips. Features reverb- eration and Concert-Hall effects; sound-on-sound; sound-with-sound; two integrated stereo input mixing facilities; integrated "Dia-Pilot" for slide and film projector synchronization. With tape drive system off, electronic section serves as stereo amplifier with 10 Wch continuous power output. 7" max. reel; operates from 110-120, 220-240 V; 50-60 Hz; will operate in horizontal or vertical position. 4-digit tape counter. .............................................. $855.00

Universal 500 Tape Recorder
Three speed (3¾, 1½, ¾ ips), two-track mono; 5" reel dia.; frequency range 40-16,000 Hz; wow & flutter ±0.5%; S/N (rms A curve) 60 dB, all at 3¾ ips. Has four-digit counter; loudspeaker or earphone monitoring, VU meter; remote control for recording, playback, start, stop, rewind. Operates from 110-125-150-220-240 V, 50 Hz (can be modified for 60 Hz). .............................................. $491.65

An extensive line of accessories is available for use with this model.

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5 Open-Reel Tape Machines

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Permit us this momentary bit of self-indulgence, because our intentions are pure: to assist you in choosing the best phono cartridge for your hi-fi system, within the practical limitations of your audio budget. To begin, if you feel uncomfortable with anything less than state-of-the-art playback perfection, we heartily recommend the Shure V-15 Type III, a cartridge of such flawless performance it is the perfect companion to the finest turntables and tone arms available today — and those coming tomorrow. At a more moderate level of performance and price, we suggest the Shure M91ED, a superb performer second in trackability only to the Type III. Finally, for optimum performance under a budget austerity program, the yeoman Shure M44E is for you. All in all, these are three great ways to enjoy music with the kind of system you have decided is best for you.

Shure Brothers Inc.
222 Hartrey Ave., Evanston, Ill. 60204
In Canada: A. C. Simmonds & Sons Ltd.
CIRCLE NO. 49 ON READER SERVICE CARD
Christopher Milder's Favorite Recording Is a Cassette of "Los Incas," Which He Plays on The Advent 201.

Christopher has played the "Los Incas" cassette two hundred times (easily), and it still sounds new.

His favorite records, on the other hand, are a mess. Cat Stevens' "Tea For The Tillerman" won't play at all any more (either side), and all the rest have explosive-sounding scratches and gouges that make it sound as if someone is attacking the house.

I'm Christopher's father. I write ads for Advent. I didn't give him the use of the Advent 201 cassette deck because I thought there would be an ad in it, but because it seemed the only way to let him play the kind of music we like around the house without doing a lot of damage.

Chris is three and a half, and no more or less dextrous than other kids his age. He has been using the Advent 201 since he was two and a half, and the only casualty has been one cassette that he pulled the tape out of before he was given a chance to use the machine.

Watching him and the machine in action, I've come to the conclusion that nothing could be more fair testimony to the Advent 201 and the ease and fun of using cassettes than just showing things the way they have been with Christopher and the machine. (Everything is as usual in the picture, except that we pulled the Advent 201 out from under the bench a little so it would show better.)

When you have a piece of equipment that will yield completely satisfying sound (as good as the stereo system you plug it into), and both it and the cassettes it plays are so simple and rugged that you can relax while a child plays your most valued recordings, you have something really worth having.

The Advent 201 costs $300. If you would like more information on it and other Advent components, please fill in and send us the coupon.

Thank you.

Advent Corporation, 195 Albany Street, Cambridge, Massachusetts 02139.
**CASSETTE TAPE MACHINES**

**ADVENT**

**201 Dolbyized Cassette Deck**
Play-and-record stereo design. Response 35-15,000 Hz at +2 dB. THD less than 1/2% with chromi-

um-dioxide tape; wow & flutter less than 0.15%; (S + N)/N 54 dB (Dolby off). Has VU meter, counter, automatic shut-off, pause control, and line inputs. 4 1/4" H x 13 1/4" W x 9 1/2" D. Oak walnut cabinet. $300.00

**202 Dolbyized Cassette Playback Deck**
Stereo cassette player. Features Dolby circuitry for uniform playback equalization for chromi-

um-dioxide tape (regular equalization also provided). Response 30-15,000 Hz ±2 dB, wow & flutter less than 0.2% DIN. Has hysteresis synchronous outer-rotor motor, automatic shut-off, digital counter. Overall size 3 1/4" H x 9 1/4" W x 10 3/8" D. $130.00

Model 202hp. Same except includes built-in headphone amplifier. $150.00

**AKAI**

**CS-30D Stereo Tape Deck**
Features digital tape counter, tape selector switch, tape run lamp, and dual VU meters. Response 40-15,000 Hz (chromium-dioxide tape), wow & flutter 0.15% rms; distortion 2% at 1000 Hz (0 VU), (S + N)/N 46 dB. Induction-type motor. 16 1/8" W x 5 1/2" H x 8 7/8" D. $169.95

**GXC-65D Dolbyized Cassette Recorder**
Features glass and crystal ferrite head, automatic distortion-reduction system, Dolby automatic compression, "Invert-O-Matic" reverse cassette, tape selector (chromium-dioxide or low-noise), pause control, and two VU meters. Frequency response 30-16,000 Hz; wow & flutter 0.2% rms. (S + N)/N 50 dB. Overall distortion 1%. $349.95

**CS-33D Dolbyized Cassette Deck**
Stereo design with built-in Dolby circuit. Features digital tape counter, tape selector switch, tape run lamp, and two VU meters. Response 40-15,000 Hz (chromium-dioxide tape), wow &

flutter 0.15% rms; distortion 2% at 1000 Hz (0 VU), (S + N)/N 56 dB with Dolby. 16 1/8" W x 5 1/2" H x 8 7/8" D. $209.95

**GXC-36D Cassette Deck**
Features glass and crystal ferrite head, induction motor, Dolby, automatic stop, OLS switch, pause control, tape selector switch for low noise & chromium-dioxide tapes. (S + N)/N 50 dB; wow & flutter 0.3%; distortion 2%. $269.95

**CHANNEL MASTER**

**6622 Cassette Play/Record Deck**
Features Dolby noise-reduction circuit; memory rew. anded; tape selector switch; automatic shut-

off; piano key controls for stop/eject, fast-

forward, rewind, play, record, pause; two il-

luminated level meters; digital counter with reset button; response 40-10,000 Hz 40-

12,000 Hz (CrO2); S/N 45 dB (Dolby in); 58 dB

for low noise & chromium-dioxide tapes, automatic stop, OLS switch. (S + N)/N 44 dB; distortion 2.0%; wow & flutter 0.3% $229.95

$292.95
DUAL

901 Autoreverse Cassette Deck
Features automatic reverse, continuous play-
back, and bi-directional recording. Dolbyized,
with test oscillator. Continuous-pole/synchro-
nous motor with double-capstan drive system.
Slide-type controls; ballistically damped VU
meters; automatic selector for ferrous and
chromium-dioxide tapes; lighted indicators for
all functions; ALC. Features complete automa-
tic shut-off; two mike inputs. Response 20-
14,000 Hz ±1.5 dB (to 15,500 with CrO, tape);
wow & flutter 0.09% W rms. Features ANRS (au-
tomatic noise-suppressor circuit), automatic stop;
fast-forward; pause switch; Dolby noise-
reduction circuitry; slide volume controls; two
mike and two aux. inputs. 16" W x 3½" H x
10½" D. ... $229.95

HEATH

AD-110 Cassette Deck
Play/record stereo design. Response 30-12,000
Hz ±3 dB, 0.25% distortion, wow & flutter
less than 0.25%, (S + N)/N 45 dB. Has VU me-
ters, eject button, pause control, mike & line
inputs, and adjustable bias. 11" H x 13½" W
x 3½" D. Walnut cabinet. Kit. ... $139.95
AD-1530 Deck with Dolby
Combines a pre-assembled tape transport, a
dolby-noise-reduction (B type) system, and
necessary preamps to record or play stereo
cassette tapes. Has built-in test circuit to ad-
just Dolby system; a bias & equalizing switch
for chromium-dioxide or standard tapes; VU
meters; and mike inputs. Walnut cabinet... $249.95
Dust cover ... $4.95

FISHER

SR-110 Cassette Recorder Deck
Dolbyized record/play stereo design. Has sepa-
rate control for chromium-dioxide tapes; ex-
panded-scale VU meters; independent record-
level controls; auto-stop; counter on mike in-
puts. Response 30-12,000 Hz (CrO, 14,000 Hz);
(S + N)/N 50 dB. Wow & flutter (weighted) 0.2%
rms. Sensitivity: mike 0.2 mV (±3 dB) 0 VU at
1500 ohms, aux. 100 mV (±2 dB) for 0 VU
at 5000 ohms. Output 1 volt (±2 dB) for 0
VU at 5000 ohms. 5½" x 15½" x 10½" D. .... $249.95

RC-808 Cassette Deck
Dolby-ized record/play stereo design. Has sepa-
rate control for chromium-dioxide tapes, VU me-
ters, response (standard tapes) 30-12,000 Hz,
7½" W x 3½" H x 11¼" D. With pair M-5 dy-
namic mikes ... $249.95
Kit ... $18-W Walnut base ... $9.95

HARMAN/KARDON

HK1000 Dolbyized Cassette Deck
Stereo cassette recorder deck with built-in Dol-
by noise-reduction circuit. Has front-panel bias
switch for standard, low-noise, and chromium-
dioxide tapes. Features memory relay, peak-
reading VU meters, sliding controls for play-
back & record level, and microphone input.
Response 30-15,000 Hz ±1.5 dB; wow & flutter
0.15 (weighted); speed variation 1%. Constant-

TRQ-2020 Stereo Cassette Deck
Frequency response 40-16,000 Hz; wow &
flutter 0.15%; S/N 45 dB; features push-button
control; two VU meters; tape counter; auto-
matic stop; fast-forward; pause switch; mike &
aux. inputs. 15' W x 3½" H x 9½" D. ... $149.95

TRQ-2040 Dolbyized Cassette Deck
Response 20-16,000 Hz; wow & flutter 0.12%;
S/N 50 dB; push-button controls; VU meters;
tape counter; tape selector switch; automatic
stop; fast-forward; pause switch; Dolby noise-
reduction circuitry; slide volume controls; two
mike and two aux. inputs. 16" W x 3½" H x
10½" D. ... $229.95

JVC

CD-1655 Cassette Deck
Stereo record/play design. Response 30-15,000
Hz ±3 dB. Ferrite record/play heads. Tape
selector switch for chromium-dioxide and stan-
dard tapes. Built-in noise-suppressor circuit,
automatic stop, two VU meters, calibrated step
recording-level controls. 4½" x 14½" x 9½" D. .... $149.95

CD-1656 Cassette Deck
Stereo record/play. Response 50-14,000 Hz
±3 dB (CrO), 50-12,000 Hz (standard tape);
wow & flutter 0.22% rms; S/N 50 dB from peak
level; built-in noise-reduction system (ANRS);
features auto-stop mechanism; tape selector
switch; two input mike & two line jacks; two
line & headphone outputs; DIN jack. 49½" H x
15½" W x 9½" D. ... $229.95

CD-1667 Cassette Deck
Stereo record/play design. Response 30-16,000
Hz ±3 dB with chromium-dioxide tape (30-
13,000 Hz with standard tape). (S + N)/N 50
dB; wow & flutter 0.15% rms; bias record &
erase 95 kHz. Has record/play and erase heads.
Inputs: mike (0.7 mV) & line (80 mV). Line out-
put 0 to 1 V. Features two VU meters and bias
switch for chromium-dioxide and standard tape.
Features ANRS (automatic noise-reduc-
tion system). 15½" x 4½" x 10½" D. ... $249.95

HITACHI

TRQ-262 Stereo Cassette Deck
Plays and records. 20-18,000 Hz response,
wow & flutter 0.15%, (S + N)/N 50 dB. Has VU
meters, counter, eject button, automatic shut-
off, pause control, monitoring facilities. Has
provision for mike & line inputs. 3½" H x 13¼" W
x 3½" D. ... $119.95

CD-1669 Solenoid Cassette Deck
Response 30-16,000 Hz ±3 dB. (S + N)/N 60
dB; wow & flutter 0.13% rms. Ferrite rec-
ord/play heads. Features both equalizer and
tape bias switches; built-in automatic noise-
reduction system; memory counter, dual-drive
mechanism; memory counter; calibrated step
recording-level and playback controls. 5½" x
16½" W x 12½" D. ... $499.95

STEREO DIRECTORY & BUYING GUIDE
CD-1668 Cassette Deck
Deluxe version of the Model CD-1667. Has dual drive mechanism to reduce wow & flutter (0.13% rms). Memory counter, ferrite record/playhead, calibrated recording-level controls, automatic stop, and automatic eject. Overall size 17" x 9½" x 15" D ....... $329.95

CD-1665 Cassette Deck
Economy stereo record/play design. Response 40-13,000 Hz ±3 dB, (S + N)/N 50 dB; wow & flutter 0.15% rms. Has record/play and erase heads. Inputs: mike (0.7 mV) & line (80 mV). Line output O to 0.6 V. 4½" x 11½" W x 9½" D ........................................ $59.95

KENWOOD

7000 3-Head Cassette Deck
Stereo design featuring front-access; a.c. bias recording system; a.c. push-button tape selectors for standard, chromium-dioxide, or UD tapes; memory rewind; sound-with-sound facilities; lockable pause control; two illuminated VU record-level meters; two peak record-level indicator lights; 3-digit tape counter with reset button; automatic shut-off. Has 4-pole hysteresis synchronous motor. Response 30-20,000 Hz ±3 dB, (S + N)/N 59 dB (Dolby in), 49 dB (Dolby out); channel separation 30 dB at 1 kHz, 14½" x 3½" H x 10½" D .................. $599.95

500 2-Head Cassette Deck
Four-track, 2-channel stereo model; response 40-17,000 Hz ±3 dB; wow & flutter 0.08% Response 30-20,000 Hz ±3 dB, (S + N)/N 60 dB; wow & flutter 0.10% weighted peak; (S + N)/N 60 dB; channel separation 30 dB at 1 kHz, 14½" x 4½" H x 10½" D .................. $399.00

LAFAYETTE

RK-725 Record/Playback Deck
Deck featuring a low-impedance stereo amplifier for headphone listening. Response 50-13,000 Hz; (S + N)/N 45 dB; channel separation 30 dB. Input sensitivity: mike 1 mV, aux. 100 mV. Wow & flutter 0.25% rms. Has standard/chromium-dioxide level control; illuminated VU record-level meters; 3-digit tape counter with reset button; front panel left- and right-channel mike and input jacks; six push-button tape functions including pause. Walnut wood case, brushed aluminum front panel. 12½" x 9½" x 3½" ...... $109.95

Remote Control Box
Electronic touch control (duplicating control system on the 1000 & 700). Controls all tape motion, including record, within 15 feet .......... $49.00

500 2-Head Cassette Deck
Four-track, 2-channel stereo model; response 40-17,000 Hz ±3 dB; wow & flutter 0.08% Response 30-20,000 Hz ±3 dB, (S + N)/N 60 dB; wow & flutter 0.10% weighted peak; (S + N)/N 60 dB; channel separation 30 dB at 1 kHz, 14½" x 4½" H x 10½" D .................. $599.95

CT-4141A Dolbyized Cassette Deck
Stereo design featuring d.c. brushless motor. 85-Hz bias & a.c. erase. Bias change for standard & chromium-dioxide tape. Response 30-12,500 Hz with chromium-dioxide tape. (S + N)/N 58 dB with Dolby. Wow & flutter 0.13%. Inputs: line 80 mV, 100 kHz bias, 80 mV, 1 kHz bias. Outputs: line 0.775 V. 120 V, 60 Hz operation. 15¾" W x 3¾" H x 11" D .......... $399.95

CT-3131A Cassette Deck
Stereo record/playback design featuring switch for standard or chromium-dioxide tape; automatic stop; a level memory marker; dual record/erasure selector; variable output level control; automatic shut-off & memory rewind; 3-point sound pickup for live recording; automatic shut-off; lockable pause control; automatic rewind or DNL; 10½" W x 4½" H x 10½" D ........................ $239.95

PIONEER

CT-F7171 Dolbyized Cassette Deck
Stereo record/playback deck featuring front-access; a.c. bias recording system; a.c. push-
Cassette Tape Machines

CT-5151 Dolbyized Cassette Deck
Dolbyized cassette deck with independent bias and equalization circuit selection for regular, low-noise, or chromium-dioxide tapes. Features solid ferrite heads; twin VU meters; LED peak and equalization circuit selection for regular, Dolbyized cassette deck with independent bias control. Response 30-14,000 Hz (with chromium-dioxide tape) ±2 dB. Wow & flutter 0.14% rms. Oiled walnut cabinet with brushed aluminum trim. Wood cabinet. $369.95

SC-737 Cassette Recorder Deck
Stereo design with built-in Dolby circuits; provision for chromium-dioxide tape. Has straightline record level controls, illuminated VU meters, and ferrite head; built-in peak limiter. Has straightline record level controls, illuminated VU meters, and ferrite head; built-in peak limiter. Response 40-15,000 Hz ±3 dB. (S+N)/N 50 dB. Wow & flutter 0.15%. Has mike & line inputs and two stereo line outputs. Dolby noise suppression circuit. 17" x 9" x 5".

TD-4300 Dolbyized Cassette Deck
Stereo design with pause control, equalization adjustments for choice of tape, and two record-level meters. Has tape monitoring facilities, cue control, and automatic shut-off. Response 40-15,000 Hz ±3 dB. (S+N)/N 50 dB. Wow & flutter 0.15%. Has mike & line inputs and two stereo line outputs. Dolby noise suppression circuit. 17" x 9" x 5". $329.95

RD-4250 Dolbyized Cassette Deck
Features servo-controlled tape drive mechanism and ferrite heads; large VU meters; tape counter; 7-button function control including both cue and pause functions; adjustable recording equalization; automatic stop. Has Dolby noise reduction circuit. Response 40-15,000 Hz ±3 dB. (S+N)/N 50 dB. Wow & flutter 0.2%. Has two mike inputs and two stereo line outputs. 17" x 9" x 5".

STEREO DIRECTORY & BUYING GUIDE
**TC-152SD Cassette-Corder Deck**
Operates from four "D" cells or 117 V a.c. line. Records/plays stereo. Has built-in mono amplifier and single speaker for monitoring (both channels simultaneously). Features a Dolby circuit for either record or playback. Response 30-15,000 Hz; wow & flutter 0.15% (S + N)/N 48 dB; has false start; has automatic shut-off; battery check switch; line in/out for deck operation; separate monitor/playback volume and tone controls; 3-digit tape counter; built-in peak limiter. Comes with two patch cords, four "D" cells, shoulder strap. $349.95

**TC-224 Portable Cassette-Corder**
Records/plays discrete stereo without external speakers or microphones. Features two built-in condenser mikes and two separate built-in speakers. Has two VU meters; 3-digit tape counter; locking fast-forward and rewind; back space review button; fast cueing; stereo headphone jack. Response 50-10,000 Hz. Operates from four "C" cells, 120 V, 50-60 Hz; or 6 V d.c. Has earphone, carrying case, hideaway handle. $199.95

**TC-126 Portable Cassette-Corder**
Records/plays mono or stereo; response 50-10,000 Hz (standard tape); 50-13,000 Hz (chromium-dioxide tape); wow & flutter 0.26%. Features record level/battery indicator; two line outputs; one stereo headphone jack; two aux. and two mike inputs; record interlock; non-magnetizing record head; Sonymatic recording control; locking fast-forward & rewind buttons; dual differential balance flywheels; stereo/mono selector switch; 3-digit tape counter; automatic total mechanism shut-off. Operates from "C" cells, optional NiCad battery pack, or 120-V, 60-Hz a.c. Comes with four "C" cells, mike, earphone, a.c. power cord, and carrying case. $209.95

**TC-128CS**
Same as TC-126 but with external stereo speakers and attach-type carrying case. $239.95

**CF-550A Cassette Recorder/Radio**
Combines AM/FM stereo receiver with cassette recorder. Has two built-in condenser mikes and four built-in speakers, built-in battery charger for optional NiCad battery (6 V) and automatic shut-off. Will operate from a.c. power line. Response 50-10,000 Hz. Has two line (0.06 V) and two mike inputs, 15% white noise outputs at 5% THD. Portable design. 13 1/4" W x 9"H x 4 1/4" D. $249.95

**TC-137SD Stereo Cassette Deck**
Features Dolby noise-reduction system; ferrite and ferrite heads; automatic total mechanism shut-off; response 20-15,000 Hz (standard tape); 20-17,000 Hz (FeCr and CrO2) push-button control; two VU meters; record indicator lamp; peak level indicator; comes with two patch cords and head-cleaning tips. Walnut base. 17 1/4" W x 6 1/4" H x 12 1/4" D. $399.95

**TC-203SD Stereo Cassette Deck**
Front-loading deck with Dolby noise-reduction system; ferrite and ferrite heads; automatic total mechanism shut-off; response 20-15,000 Hz (standard tape); 20-17,000 Hz (FeCr and CrO2); push-button control; two VU meters; record indicator lamp; peak level indicator; comes with two patch cords and head-cleaning tips. Walnut base. 17 1/4" W x 6 1/4" H x 12 1/4" D. $399.95

**TC-177S Stereo Cassette Deck**
Features 3 free ferrite heads; Dolby noise-reduction system; automatic total mechanism shut-off; response 20-17,000 Hz (standard tape); 20-20,000 Hz (CrO2 and FeCr tape); has illuminated VU meters; peak-level indicator; 400-Hz calibration tone switch; push-button operation. Walnut base. 17 1/4" W x 6 1/4" H x 12 1/4" D. $699.95

**TC-161SD Dolbyized Cassette Deck**
Features dual bias for standard or chromium-dioxide tape. Response 20-18,000 Hz with chromium-dioxide tape. (S + N)/N 54 dB at 1 kHz & 59 dB at 5 kHz. Wow & flutter: 0.1%. Bias frequency 85 kHz. Has dual VU meters, illuminated cassette compartment, memory-type counter, headphone level switch. Has mike & line inputs (0.06 V sensitivity) and line output (0.775 V). Walnut base 15 1/4" W x 5" H x 10 3/4" D. $299.95

**TC-121A Stereo Cassette Deck**
Records/plays. Response 40-13,000 Hz; wow & flutter 0.22% (S + N)/N 45. Has low-imp. mike input; 560,000 ohm imp. aux. input. Output: phono 100,000 ohms. Level 0.775 V. Includes stereo headphone monitor jack, record level indicator, pause control, and automatic shut-off. 13 1/4" W x 3 1/4" H x 8 1/4" D. $129.95

**TC-129 Stereo Cassette Deck**
Records/plays. Response 40-14,000 Hz; wow & flutter 0.22%. (S + N)/N 45. Has low-imp. mike input; 560,000 ohm imp. aux. input. Output: phono 100,000 ohms imp. Level 0.775 V. Features straight-line record level controls; tape select switch; dual illuminated VU meter; three-digit tape counter; push-button operation; pause control with lock. Has stereo headphone jack; built-in dust cover; automatic shut-off; non-magnetizing record head; Walnut base. 13 1/4" W x 4" H x 9" D. $149.95

**SUPERSCOPE**

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<th>Model</th>
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<tr>
<td>CD-301</td>
<td>1975 EDITION</td>
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**CD-302 Stereo Cassette Deck**
Similar to CD-301 except includes the Dolby noise reduction system. (S + N)/N -48 dB; Do- by in -60 dB; CrO2 -51 db. Has the same controls and features as the Model CD-301. $189.95

**TANDBERG**

<table>
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<th>Model</th>
<th>Specifications</th>
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| TCD-310 Cassette Recorder Deck | Features Dolby noise-reduction system; three motors; two peak-reading record meters; chromium-dioxide/low-noise, high-output tape switch; automatic endstop. Wow & flutter 0.15% (WRms). Response 50-12,000 Hz ±2 dB. Has mike (0.1 mV), radio (5 mV), and line (100 mV) inputs. Output 0.775 V. Wall mountable. Walnut cabinet. 19" x 4 1/4" x 9 3/4" D. $499.00

**TEAC**

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<th>Model</th>
<th>Specifications</th>
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| AC-5 Car Cassette Player | Features continuous stereo playback; automatic reverse; universal mounting; and servo-controlled motor. Wow & flutter 0.25%. Frequency range 40-10,000 Hz. Input 6 Wch dynamic (EIA) power at 5% THD, 12 V d.c. negative-ground operation. 2" x 7" x 8 1/4" D. Speaker optional. $159.50

**AC-3 Car Cassette Player**
Similar to AC-5 except higher fidelity. Has tone controls; fast-wind in both directions; automatic reverse; tape-travel indicating lamps. Speaker optional. $199.50

**360S Dolbyized Stereo Cassette Deck**
Features Dolby noise-reduction system: wow & flutter 0.07%. Has 400-Hz Dolby calibration tone generator; MPX filter switch; 8 external Dolby calibration controls; automatic output stabilizing network; separate 3-position bias and equalization switch; memory rewind counter; total automatic shut-off in record and play mode; dual VU meters. Response 30-16,000 Hz (40-15,000 Hz ±3 dB with CrO2 tape). (S + N)/N 48 dB; CrO2 -51 dB. Has the same controls and features as the Model CD-301. $189.95
with low-noise tape; 30-16,000 Hz with chromium-dioxide tape). Inputs: mike 0.25 mV, line 0.1 V. Output: 0.3 V. Has universal power-line inputs. 7" H x 17½" W x 10¼" D. $499.50

**140 Stereo Cassette Deck**
Features dual VU meters; straight-line record-level controls; high-density "Permaflux" heads; separate equalization and bias switches; tape-run indicator; 3-digit resettable tape counter; left and right low-imp. mike jacks; 8-ohm stereo headphone jack; locking pause control; and automatic shut-off. Response 30-13,000 Hz (standard tape); 30-14,000 Hz (chromium-dioxide tape). (S + N)/N 50 db; wow & flutter 0.15%. 16½" W x 4⅞" H x 10¼" D. $199.50 60 db (Dolby in); 55 db (without Dolby). 17½" W x 4½" H x 10¼" D. $379.50

**TECHNICS BY PANASONIC**

**RS-279US Cassette Recorder Deck**
Dolbyized stereo design with standard and chromium-dioxide tape selection and HPF ul-tra-longlife heads. Three-head system permits off-tape monitoring. Wow & flutter 0.1%. (S + N)/N 60 db (with Dolby), 50 db (without). Response 20-17,000 Hz (chromium-dioxide tape), 20-15,000 Hz (standard tape). Has two motors including electronically controlled direct drive for capstan, optional remote control, memory rewind, pause control, electronic autostop. Mike/line input selection. 5½" H x 16¼" W x 13½" D. $499.95

**RS-263US Cassette Recorder Deck**
Dolbyized stereo design with standard tape & chromium-dioxide selection. Wow & flutter 0.2%. Response 30-13,000 Hz (standard tape); 30-14,000 Hz (chromium-dioxide). (S + N)/N 45 db (Dolby) 45 db (without Dolby). Has mike & line inputs, automatic stop, memory rewind and pause control. 14⅝" x 5½" x 9¼" D. $279.50

**RS-676US Cassette Recorder Deck**
Vertical design with front-loading features Dolby circuit (including switch selector and calibrator for pre-encoded Dolby FM broadcasts); two motors including electronic control for capstan drive; solenoid operation; hot-pressed ferrite head; meter peak-check switch; selectable MPX filter; chromium-dioxide/normal tape selector (either manual or automatic). Has full auto stop in any mode, mechanical pause; single level control for record mode with aux. left/right balancer; digital counter; memory rewind with automatic replay; mike/line/tuner inputs with mike level control for mixing. Guaranteed minimum specifications: record/play frequency response 40-13,000 Hz ± 3 db (Cr02 tape), 40-12,000 Hz ± 3 db (gamma ferric-oxide tape); wow & flutter 0.08% W rms; S/N 50 db (Dolby out), 58 db (Dolby in); dist. 2.0% with regular tape. 5½" H x 16¼" W x 14½" D. $459.95

**RS-610US Cassette Recorder Deck**
Vertical design with front-panel controls; top loading; Dolby noise-reduction circuit; chromium-dioxide/normal tape equalization and bias; auto-stop in record/play modes; hot-pressed ferrite (HPF) head; pause control; single level control for record mode with left/right balancer; digital counter. Guaranteed minimum specifications: record/play frequency response 50-12,000 Hz ± 3 db (Cr02 tape), 50-10,000 Hz (gamma ferric-oxide tape); wow & flutter 0.15% W rms; S/N 50 db (Dolby out), 57 db (Dolby in); dist. 2.3% with normal tape. 4½" H x 13½" W x 11½" D. $249.95

**TOSHIBA**

**PT-415 Cassette Deck**
Stereo design featuring a Dynamic Noise Limiter (DNL); tape selector (either manual or chromium-dioxide). Output 0-1 V. Response 30-15,000 Hz, with chromium-dioxide tape. Wow & flutter 0.1% weighted; (S + N)/N 50 db (unweighted). Sensitivity; line 80 mV; mike 0.56 mV. Fast-forward and rewind 100 sec. Has universal line inputs. 14¾" x 4" x 10½" D. $199.95

**PT-490 Dolbyized Cassette Deck**
Features stereo play/record; mechanical automatic shut-off; 3-step tape selector (adjusts bias and frequency response), two record-level meters, and automatic reverse. Output 0 to 1 V. Frequency response 30-15,000 Hz. Wow & flutter 0.1% weighted m. (S + N)/N 50 db (60 db with Dolby). Input sensitivity: line 80 mV; mike 0.56 mV (10,000 ohms). 16¼" x 5½" x 11½" D. $349.95

**UHER**

**CR134 Stereo Cassette Recorder**
Will operate from six "C" cells, storage batteries, 12-volt car battery, or 100-130 V, 200-240 V, 50-60 Hz supplies; records and plays back in mono or stereo; features volume and recording level control; built-in condenser microphone; level indicator (with db scale for recording level); playing time: 4½" H x 16¼" W x 4⅞" D. $199.95

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**STEREO DIRECTORY & BUYING GUIDE**
UNDELIBLY, UNDEFINABLE, BUT YOU KNOW IT'S REAL. THAT'S HOW IT IS WITH REAL HIGH FIDELITY SOUND. WHEN THOSE VIBES RUN UP AND DOWN YOUR SPINE, WHEN THE EXCITEMENT TAKES YOU AWAY FROM EVERYDAY, WHEN YOU CLOSE YOUR EYES AND YOU'RE REALLY THERE, YOU KNOW YOU'RE ONE OF LIFE'S GREAT PLEASES.

AND JUST LIKE LOVE, HIGH FIDELITY IS CONFUSING. THERE ARE SO MANY CHOICES, IT'S ALMOST IMPOSSIBLE TO FIND ONE THAT'S JUST YOUR TYPE. THAT'S WHY TELEPHONICS OFFERS A COMPLETE LINE OF STEREO AND 4-CHANNEL HEADPHONES. WHICH ONE IS RIGHT FOR YOU? MAYBE THIS WILL HELP.

SLIM & TRIM. TEL-29. Comfortable, lightweight (7 oz.), volume control on each earcup...a great introduction to stereo headphone enjoyment. $19.95.

RESPONSIVE. TEL-14. 2-way speaker system, (woofer & tweeter), complete with crossover network in each channel, provides frequency response of 20-20,000 Hz. $29.95.

POPULAR. TEL-26. Separate tone and volume controls on each earcup, better sensitivity along with excellent frequency response. Our most popular model. $36.95.

SOPHISTICATED. TEL-111. Our Electrostatic model brings you incredibly crisp, clear sound. "Sound was quite different from dynamic headphones (the common type)...smooth...easier to listen to..." says Robert Angus in Modern Hi Fi & Stereo Guide. Adapter included. $87.50.

MODERN. TEL-101F. Perfect for today's and tomorrow's sound. These "Fixer-Effect" 4-Channel Headphones "really worked best" according to Popular Science's John R. Free. And, when used in conjunction with the Quadramate™ adapter (TEL-101A, $29.95), the TEL-101F can subtract, add, or mix Stereo channels until a true 4-Channel effect is created. That's why the Len Feldman Report in Tape Deck Quarterly says, "The Quadraphonic effect is not only unmistakable; it is thrilling...it's the first set of 4-Channel phones we have ever heard that actually give satisfaction 4-Channel effect." $89.95.

WORDS REALLY CAN'T DESCRIBE THE EXPERIENCE OF A TELEPHONICS HEADPHONE. YOU'LL JUST HAVE TO TRY THEM ALL AT YOUR LOCAL DEALER. WHEN YOU FIND THE ONE THAT'S RIGHT FOR YOU, BRING IT HOME. YOU'LL LOVE IT.
To fulfill the requirements of the most critical listening and auditioning... Stanton is the professional standard.

A definite need arose.

The recording industry has been cutting discs with higher accuracy to achieve greater definition and sound quality.

Naturally, the engineers turned to Stanton for a cartridge of excellence to serve as a primary calibration standard in recording system checkouts. The result is a new calibration standard, the Stanton 681 TRIPLE-E. Perhaps, with this cartridge, the outer limits of excellence in stereo sound reproduction have been reached.

The Stanton 681 TRIPLE-E offers improved tracking at all frequencies. It achieves perfectly flat frequency response to beyond 20 Kc. It features a dramatically reduced tip mass. And the stylus assembly possesses even greater durability than had been previously thought possible to achieve.

The Stanton 681 TRIPLE-E features a new design of both cartridge body and stylus; it has been created for those for whom the best is none too good.

Each 681 TRIPLE-E is guaranteed to meet its specification within exacting limits, and each one boasts the most meaningful warranty possible: an individual calibration test result is packed with each unit.

For further information, write: Stanton Magnetics, Inc. Terminal Drive, Plainview, N.Y. 11803.

CIRCLE NO. 51 ON READER SERVICE CARD
AKAI

CR-81D 8-Track Recorder Deck
Stereo design. Response 50-16,000 Hz ±3 dB; wow & flutter 0.25% rms; (S + N)/N 47 dB. Has line output 1.23 V. Inputs: mike 0.5 mV & line 50 mV. Has automatic stop and continuous playback, two VU meters, and input for optional remote control. Universal power supply. 13⅞" x 5½" x 10⅜". $209.95

GXR-82D 8-Track Record/Play Deck
Stereo design. Response 40-17,000 Hz ±3 dB; (S + N)/N 47 dB; record/play & erase heads; wow & flutter 0.25% rms. Features pause switch; automatic stop and continuous playback; fast-forward; automatic and manual program selection; VU meters; headphone monitoring jack; DIN jack; line input and output jacks. 100-240 V, 50-60 Hz operation. 13.6" x 5.3" x 10.5". $249.95

HEATH

GD-28 8-Track Stereo Deck
Home playback deck for use in component system. Response 50-10,000 Hz. Simulated peak level; wow & flutter 0.2% rms; crosstalk 50 dB & 40 dB channel separation, both at 1 kHz. Features automatic eject control, two VU meters, four front-mounted tape controls, 120-V, 60-Hz operation. 4¼" H x 13½" W x 9½" D. $129.95

JVC

ED-1103 8-Track Tape Deck
Playback stereo design. Response 30-15,000 Hz; (S + N)/N ~45 dB; wow & flutter 0.2% rms. Output 0.8 V. 33/8" x 6⅞" x 9¾". $49.95

ED-1240 8-Track Tape Deck
Record/play stereo design. Response 30-12,000 Hz (40-10,000 Hz ±3 dB); (S + N)/N 50 dB from record level. Features three-in-one head; automatic or manual cartridge eject; fast-forward; two VU meters; two record-level controls; electronic governor d.c. motor; automatic noise-reduction system (ANRS) on both record & playback; $169.95

CONCORD

F-128 8-Track Stereo Deck
Records and plays. Has two VU meters, a three-digit tape counter, slide record-level controls, fast-forward control, and headphone jack. Response 50-10,000 Hz, wow & flutter 0.3% rms, (S + N)/N 45 dB. $179.95

CHANNEL MASTER

6609 8-Track Player Deck
Features automatic track change; manual track selection; blackout track indicator lights; output. Comes with cabinet and connecting cables. 7¾" W x 10½" x 3½". $49.95

HEATH

ED-1245 8-Track Play/Record Deck
Features three-in-one head; automatic or manual cartridge eject; fast-forward; two VU meters; two record-level controls; electronic governor d.c. motor; automatic noise-reduction system (ANRS) on both record & playback; $169.95

GLENBURN

SP-12 8-Track Stereo Playback Deck
Solid-state, 3-stage preamplifier; straight-line head positioning system for precise track selection; heavy-duty four-pole synchronous motor; channel indicator light; positive automatic or manual channel selection; comes complete with connecting cables. Walnut-grain case. $49.95

GLENBURN

ED-1240 8-Track Tape Deck
Record/play stereo design. Response 30-15,000 Hz; (S + N)/N ~45 dB; wow & flutter 0.2% rms. Output 0.8 V. 33/8" x 6⅞" x 9¾". $49.95

JVC

ED-1240 8-Track Tape Deck
Record/play stereo design. Response 30-15,000 Hz; (S + N)/N ~45 dB; wow & flutter 0.2% rms. Output 0.8 V. 33/8" x 6⅞" x 9¾". $49.95
**8-Track Tape Machines**

**RADIO SHACK**

**TR-888 Automatic Tape Changer**
- 8-track tape changer/automatic cartridge changer, can play three cartridges in sequence; play any program on any cartridge; replay any individual cartridge; lighted program indicators; plugs into stereo Aux. Input. Comes with cables. $99.95

**TR-882 Record/Play Deck**
- Features dual VU meters; level controls; push-button fast-forward, pause, and record interlock; program select button; response 50-10,000 Hz; wow & flutter 0.2%; front-panel mike input for live recording. Walnut-finish wood-grain case. 3/4" x 13/4" x 8/4". $349.95

**TR-801 Record/Play Deck**
- Features digital timer; push-button control of continuous play, program repeat, auto-stop, push-button eject, program change, fast-forward, and pause; response 50-10,000 Hz; wow & flutter 0.2%; front-panel mike input for live recording. Walnut wood cabinet. 4 3/4" x 16 1/2" x 10. $149.95

**SONY from SUPERSCOPE**

**TC-228 8-Track Recorder Deck**
- Stereo design. Response 30-13,000 Hz; (S/N) 45 dB. Bias frequency 95 kHz. Wow & flutter 0.17%. Has two VU meters, one d.c.-type motor. Aux. (70 mV sensitivity) & mike (-70 dB sensitivity) inputs & line output (0.5 V sensitivity). Features automatic total mechanism shut-off. Walnut case. 14 3/8" x 44 3/8" x 89 3/4" D. $189.95

**TC-208 8-Track Playback Deck**
- Response 50-10,000 Hz; wow & flutter 0.2%; front-panel mike input for live recording. Walnut wood cabinet. 4 3/4" x 16 1/2" x 10. $149.95

**SUPERSCOPE**

**TD-28 8-Track Player Deck**
- Has built-in automatic tape program selector which plays all four programs; illuminated program indicators. Features a program selector push switch for selecting specific programs and a fast-forward for bypassing unwanted material; repeat switch for continuous replay. Response 50-10,000 Hz (S/N) -48 dB; 117-V, 60 Hz operation. Walnut wood-grained cabinet with white gold-anodized faceplate. 7 1/4" W x 9 1/4" H x 9 3/4" D. $74.95

**SYLVANIA**

**ET3752W 8-Track Record/Play Deck**
- Features two VU meters; automatic and manual eject/shut-off; two mike and one headphone jack; pause control; individual record/playback level controls; record safety interlock; frequency response 30-21,000 Hz (playback); 50-10,000 Hz (record/playback); wow & flutter 0.3% rms; S/N 40 dB; channel separation 40 dB. Walnut-grained vinyl cabinet. 4 1/4" H x 15" W x 8 1/4" D. $169.95

**TELEX**

**48H 8-Track Changer**
- Selects at random 16 hours of continuous, non-repetitive sound. Switches and selects 12 stereo 8-track cartridges. 5 Wch continuous into 8 ohms. Third harmonic distortion less than 2% at 4 W. Supplied with dust cover. 18" x 9" x 16". $262.45

**WOLLENSAK**

**8055 8-Track Recorder Deck**
- Features record/play of 8-track Dolbyized cartridges as well as cartridges using the new 3M ferric-oxide tape. Has minutes/seconds timer for precise timing of recordings; fast-forward mode 3%; bias actual speed; special cueing system. Response 30-15,000 Hz ± 3 dB with Scotch special high-performance tape (30-12,000 Hz with standard tape). (S/N) 50 dB at 4000 Hz and above (Dolby system on). Sensitivity: mike 0.25 mV; aux. 80 mV; 17 3/8" x 4 1/4" x 10 3/4". Walnut cabinet. $205.95

**8075 8-Track Recorder Deck**
- Features record/play of 8-track Dolbyized cartridges as well as cartridges using the new 3M ferric-oxide tape. Has minutes/seconds timer for precise timing of recordings; fast-forward mode 3%; bias actual speed; special cueing system. Response 30-15,000 Hz ± 3 dB with Scotch special high-performance tape (30-12,000 Hz with standard tape). (S/N) 50 dB at 4000 Hz and above (Dolby system on). Sensitivity: mike 0.25 mV; aux. 80 mV; 17 3/8" x 4 1/4" x 10 3/4". Walnut cabinet. $299.95

**ZENITH**

**F638 8-Track Play/Record Deck**
- 8-track play/record deck; features automatic stop or continuous play control; record; fast-forward; pause; manual program change; left & right record-level controls and meters. Comes with two microphones & stands. Grained walnut color cabinet. 4 3/4" H x 9 3/4" W x 8 1/4" D. $119.95

STEREO DIRECTORY & BUYING GUIDE

For 4-Channel Components. . . See SECTION 9
FISHER

30 Phono/Receiver System
Combines a precision automatic turntable with magnetic cartridge and diamond stylus; a 50 W/ch dynamic power amp with 5% THD at 8 ohms with both channels driven; and AM-FM tuner. Dust cover optional. Oiled walnut cabinet. 17 1/2" x 8 3/4" x 16" D. $299.95

2081 "MusiCenter" System
Combines an AM-FM stereo receiver; built-in 8-track player; separate turntable; and two speaker systems (each with 6" woofer & 2" tweeter; 3000 Hertz crossover); FM sensitivity 4 µV; selectivity 36 dB; Separation 30 dB at 1000 Hz; push-button controls; slide controls for volume, balance, bass & treble. 19 1/4" W x 13 3/4" D x 5 1/2" H. $299.95

SDT-3420 AM-FM/Phono/Cassette Recorder
Combines an AM-FM stereo receiver with 5 W/ch dynamic power at 5% THD, a BSR automatic turntable with cue & pause lever and automatic shut-off, anti-skating device, and magnetic cartridge; with a pair of two-way air-suspension speaker systems. With hinged detachable dust cover. $329.95

HEATH

AD-27A Phono/Radio System
Combines a 4-speed BSR McDonald automatic turntable with Shure M75 mag. cartridge with diamond stylus, a 15 W/ch (dynamic) power amp. (response 12-60,000 Hz ±1 dB at 1 kHz), an AM-FM tuner (5 µV sensitivity for 30 dB quieting), in an oiled walnut cabinet with tambour doors. 12 3/4" x 14 3/4" x 7 1/4" D. Speakers not included. Kit. $179.95

KHL

SDP-2820 8-Track/Phono System
Combines a cartridge tape player, a BSR automatic record changer, and a pair of separately housed speaker systems. Features 5 W/ch dynamic power at 5% THD. Supplied with dust cover. $279.95

SD-2470 Phono System
Combines a 3-speed BSR automatic turntable with mag. cartridge and diamond stylus; a 15 W/ch dynamic power amp with 5% THD at 8 ohms; an AM-FM tuner, and a pair of two-way speaker systems. Has slide-type controls for balance, bass, and treble. Comes with hinged dust cover. $249.95

SD-3210 Phono System
Combines an AM-FM stereo receiver with 12 1/2 W/ch dynamic power at 5% THD; a deluxe BSR automatic turntable with cue & pause lever and automatic shut-off, anti-skating device, and magnetic cartridge; with a pair of two-way air-suspension speaker systems. With hinged detachable dust cover. $329.95

LAFAYETTE

SR-80 8-Track/AM-FM Receiver
Combines an AM-FM stereo receiver, an 8-track cartridge recorder/player, with two acoustically matched wide-range speaker systems, each with 6½" speaker with multichannel diffuser. Has inputs for attaching a record changer or another tape recorder; microphones. Has full complement of controls and separate record-level meters for left and right channels. Speakers 14½" x 9½" x 5 1/2" D. Control center 18" W x 10" D x 4½" H. $179.95

RE-7554. Similar to RE-7014 but with separate automatic record changer. Walnut finish. $199.95

SE-2280. Similar to RE-8174 except automatic record changer is built-in. $249.95

SR-30-A Cartridge Player/Receiver
8-track cartridge player combined with an AM/FM stereo receiver and matching speaker systems (each containing multichannel diffuser). Has separate slide controls for bass, treble, and balance, a front-panel headphone jack, FM stereo light, black out and illuminated slide-rule tuning dials, plus a full complement of inputs and outputs. $129.95

PANASONIC

RS-828S 8-Track/Stereo Receiver
AM/FM stereo receiver with built-in twin-slot 8-track player/recorder; will record from original sources and pre-recorded tapes in lower slot; playback in upper slot; features auto-start and auto-stop; Quadruplex II circuitry for enhanced sound of stereo discs and tapes; mike mixing in playback mode with optional microphones; two 6½" air-suspension speaker systems; continuous tone, balance, and volume controls; tuning/VU meter; 3-pos. monitor switch; Wood cabinets. $299.95

RE-8174. Similar to RS-828S but 8-track player-only built-in and separate automatic record changer. Walnut finish. $199.95

RS-828S 8-Track/Stereo Receiver
AM/FM stereo receiver with built-in twin-slot 8-track player/recorder; will record from original sources and pre-recorded tapes in lower slot; playback in upper slot; features auto-start and auto-stop; Quadruplex II circuitry for enhanced sound of stereo discs and tapes; mike mixing in playback mode with optional microphones; two 6½" air-suspension speaker systems; continuous tone, balance, and volume controls; tuning/VU meter; 3-pos. monitor switch; Wood cabinets. $299.95

RE-8134. Similar to RS-8174 but without record changer. Walnut finish. $159.95

SE-2280. Similar to RE-8174 except automatic record changer is built-in. $249.95

SE-3280. Similar to RS-828S except with built-in automatic record changer; speaker systems each with 6½" woofers and 2½" tweeters. $329.95

RE-8134. Similar to RE-8174 but without record changer. Walnut finish. $159.95

RE-7014. Similar to SE-2280 but without 8-track tape player. $169.95

RE-7554. Similar to RE-7014 but with separate record changer. $219.95

SONY from SUPERSCOPE

CF-620A Cassette Recorder/Radio
Cassette recorder combined with AM/FM stereo tuner. Plays and records. Response 30-12,000 Hz, wow & flutter 0.22%, (S + N)/N 46 dB. Supplied with earphones and 6 W/ch continuous power at 5% HD. Features VU meters, $129.95
Sound so clear you can hear a pin drop, or a piccolo player catch his breath.

Listening to the Pep 79E is like being suspended from the concert hall ceiling with the microphones. Nothing comes between you and the music. Because we built a perfect membrane driver. An electrostatic element that produces the most transparent, distortion-free sound you’ve ever heard. And now electrostatic stereophones aren’t bulky or isolating. The Pep 79E weighs a mere 8½ ounces, and our trans-air concept blends outside sounds with inside sounds without sacrificing performance. Frequency response: 10 Hz to 22,000 Hz.

It’s black, with Chroma trim, has comfortable ear cushions, a fully adjustable headband, and 15 foot coil cord. Comes with a trouble-free, self-energized console. The system is guaranteed for 1 year. The only alternative is huge, costly speakers that will wake up your neighbors.

Superex Stereophones. Feel what you hear.

For free literature write: Superex Electronics Corp., Dept. 14, 151 Ludlow Street, Tonawanda, N.Y. 14150.

CIRCLE NO. 53 ON READER SERVICE CARD

AN IMPORTANT WORD FOR OUR READERS

The prices listed in this Directory are those supplied by manufacturers and/or distributors. But, as is the case with most prices these days, they are subject to change depending on foreign exchange rates, the current value of the dollar, and the availability of raw materials and components. Prices may also vary depending on the part of the U.S. in which you live. Listed prices often reflect costs in the manufacturer’s geographical area.

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CIRCLE NO. 28 ON READER SERVICE CARD

8 Stereo Compacts

counter, eject button, pause control, monitoring facilities, mike & line inputs, bias adjust and automatic shut-off. 5½" H x 16½" W x 12½" D

CF-550 Cassette Recorder/Radio
Combines AM/FM stereo receiver with cassette recorder. Has two built-in condenser microphones and four built-in speakers, built-in battery charger for optional NiCad battery (6 V) and automatic shut-off. Will operate from A.C. power line. Response 50-10,000 Hz. Has two line (0.06 V) and two microphone inputs. 1½ W/ch continuous power output at 5% THD. Portable, design. 13¾" x 9¾" H x 4¾" D

SYLVANIA

MST3736W Phonograph/8-Track/Receiver
Combines a Garrard automatic turntable with Pickering magnetic cartridge, viscous-damped cue/pause control, and anti-skating device; an AM/FM stereo receiver; an 8-track tape player; and a pair of sealed air-suspension speaker systems (18½" x 12" x 9" D) each with 8½-watt woofer and a 3" tweeter. Has built-in Phase Q4 matrix to synthesize regular two-channel stereo program material. 20 W/ch dynamic power at 1¾ HD (12½ W/ch continuous). Power bandwidth 25-20,000 Hz; response 25-20,000 Hz ±1½ db; FM sensitivity 2.5 µV for 30 dB quieting; capture ratio 5.5 db; Walnut veneer cabinets. Speakers 18½" H x 12" W x 9½" D.

MST3735W Phonograph/8-Track/Receiver
Features full-size BSR automatic turntable, AM/FM stereo receiver, 8-track play/record deck, pair of air-suspension speaker systems; built-in Phase Q4 matrix; front-panel headphone jack; cut/boost bass & treble controls; response 55-22,000 Hz ±1½ db; FM sensitivity 4 µV; S/N 60 dB. Walnut-grained vinyl. Control center 9¾" H x 25½" W x 15¼" D. Speakers 16½" H x 10½" W x 6¾" D.

MST3734W. Same as 3735W but without tape deck; control center 9¾" H x 22½" W x 16½" D. Speakers 15½" H x 9½" W x 7¼" D.

MS3720W. Similar to 3736 W except does not include the tape player; has 6½-watt woofer & 3" tweeter in each speaker cabinet; tape-record (Aux.) jack.

MST3730 Phonograph/8-Track/Receiver
Features full-size BSR automatic turntable, AM/FM stereo receiver, 8-track play/record deck, pair of air-suspension speaker systems; has built-in Phase Q4 matrix; front-panel headphone jack; cut/boost bass & treble controls; response 55-22,000 Hz ±1½ db; FM sensitivity 3 µV; S/N 60 dB. Walnut-grained vinyl. Control center 9¾" H x 25½" W x 15¼" D. Speakers 16½" H x 10½" W x 6¾" D.

MS3729W. Same as 3735W but without tape deck; control center 9¾" H x 22½" W x 16½" D. Speakers 15½" H x 9½" W x 7¼" D.

MS3728W. Similar to 3736 W except 8-track tape player; control center 9¾" H x 18½" W x 16¼" D; speakers 15½" H x 9½" W x 7¼" D.

AC539W Phonograph/Receiver
18 W rms/ch into 8 ohms with both channels driven; includes AM/FM stereo receiver, Dual 1214 automatic turntable with Shure M93E magnetic cartridge, pair of sealed air-suspension speaker systems; FM sensitivity 1.5 µV; S/N 60 dB; frequency response 17-35,000 Hz; power bandwidth 17-30,000 Hz; features front-panel headphone jack; AM/FM signal-strength meter. Walnut veneer cabinets. Speakers 18½" H x 12" W x 9" D. Control center 9¾" H x 12½" W x 18½" D.

AC538W Phonograph/Receiver
30 W/ch into 8 ohms (20-20,000 Hz); frequency response 7-70,000 Hz; FM sensitivity 1.8 µV; S/N 67 dB; features BSR 510 automatic turntable with Shure M75-6S magnetic cartridge/diamond stylus, base & dust cover; pair of air-suspension speakers with 10½-watt woofer, 3½ mid-range, and 2½ tweeter in each unit. Walnut-grained vinyl enclosures. Receiver 6½ H x 17½" W x 15½" D; turntable 7¼" H x 17½" W x 14½" D; speakers 22½" H x 14½" W x 11½" D.

STEREO DIRECTORY & BUYING GUIDE
Meet Jensen’s high fidelity family

Hear Jensen for the sound you like. Find out what we mean about total energy response and superior tonal reproduction in all our models. Most any price range is available, but there’s no compromise in quality because Jensen’s got a family sound relationship that lets you combine different pairs of models for precise stereo or quad set-up. Meet our family. You’ll like what you’ll hear.

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JENSEN SOUND LABORATORIES
Division of Pemcor, Inc. Schiller Park, Illinois 60176
"...the most powerful four-channel receiver we have tested to date..."

"The overall feel and handling of the RQ 3748 were superb."

"In virtually every respect the RQ 3748 met or surpassed its specifications..."

"The audio amplifier section was particularly impressive."

"...the RQ 3748 is one of the most refreshingly ‘different’ four-channel receivers we have seen."


Then they summed it up very neatly by concluding: "The Sylvania RQ3748 is obviously well designed and thought-out and therefore deserves serious consideration by anyone shopping for a top-grade four-channel (or two-channel) receiver."

And who manufactures this “powerful,” “superb,” “impressive,” “refreshingly different,” four-channel receiver? One of those well-known specialty companies?

Nope. Believe it or not, the RQ3748 is sold by a big American company.

A company with the know-how and facilities to produce and service a real quality product at a reasonable price.

And which company did it?

We did.

4-CHANNEL EQUIPMENT

BOESE

4401 Four-Channel Preamplifier
Provides complete 4-channel and matrix capability. Features four independent channels of preamplification; special phono preamp circuitry; modular PC board construction; tape recording flexibility; provision for external equalizers; compatibility with all types of program sources, modes, and equipment. 6 Hz x 18" W x 13/4" D. $849.00

4V250 Four-Channel Amp
250 W/cch continuous rms power into 8 ohms with two channels driven; 250 W/cch into 4 ohms. Response 2-80,000 Hz +0, -3 dB; 20-20,000 Hz +0, -0.2 dB; noise & hum 110 db below rated output into 8 ohms; input sensitivity 2 V for 40 V out (200 W, 8 ohms); damping factor 1000 at low frequencies into 8 ohms. Features crowbar circuit; IC op amp front end; current-limiting circuit. 19" rack panel x 7" H x 17" D. $1450.00

Quadraphonic Control Center
Four-channel preamp designed for true discrete systems of from 1 to 4 channels. Features built-in CD-4 demodulator; has provisions for SG demodulator, 2- & 4-channel tape recorders; equalizer filter system; 4 x 4 matrix mode control allowing any input channel to be assigned to any output channel. Gain: low-level phono to preamp output 60 db, phone to recording output 40 db, high level to main output 20 db. Input impedance: phono 47,000 ohms, high-level input 25,000 ohms. Sensitivity: low-level phono 1 mV input, 1 V at main output; high-level aux. 100 mV input, 1 V at main output. Frequency response (high level) 20-20,000 Hz +0.1 db at rated output, down -3 db 1 Hz and 100 kHz at rated output; (phone) +0.25 db from RIAA curve at rated output. Has 12 linear slide switches for amplitude, 3 frequency-select rotary switches, and 1 equalization switch; input selector; mode switch; tape monitor switch; tape copy switch; power switching; balance control; two headphone jacks; headphone volume control. $849.00

HEATH

AA-2010 Four-Channel Amplifier
Will operate in mono, stereo, discrete 4-channel, or matrixed 4-channel with its built-in "universal" decoder. 50 W/cch into 8 ohms (65 W/cch into 4 ohms; 30 W/cch into 16 ohms). Can be used to power two separate speaker systems or two 4-channel systems. Back-lighted front panel contains four calibrated VU meters with a meter-range switch covering three ranges: 0 VU at 35 W, 3.5 W, or 350 mW. Meters are used to balance output. Kit $399.00. MC-3, Optional meter kit $125.00. QSA-300M/A. Closeout version with four internally mounted illuminated meters and dual push-button meter-range switch. $599.00

HEATH

QSA-300 4-Channel Power Amp
75 W rms into 8 ohms with all channels driven (20-20,000 Hz); 100 W rms into 4 ohms; (33 W/ch at 4 ohms) with all four channels driven and at 0.5% THD. 100 W/ch dynamic power at 4 ohms with 2-channel power bridging (BTL). Power bandwidth 10-30,000 Hz. Input sensitivity: mag. phono 2.5 mV; aux. & tape monitor 75 mV. Features jacks for 4-channel headphones, built-in 4-channel decoder and synthesizer & optional remote control. $279.95

JVC

4VN-770 4-Channel Integrated Amp
16 W/ch dynamic power at 8 ohms (25 W/ch at 4 ohms); 12 W/ch continuous power at 8 ohms with all four channels driven and at 0.5% THD. 100 W/ch dynamic power at 4 ohms with 2-channel power bridging (BTL). Power bandwidth 10-30,000 Hz. Input sensitivity: mag. phono 2.5 mV; aux. & tape monitor 75 mV. Features jacks for 4-channel headphones, built-in 4-channel decoder and synthesizer & optional remote control. $279.95

JVC

4VN-990 4-Channel Integrated Amp
66 W/ch dynamic power at 8 ohms (70 W/ch at 4 ohms); 35 W/ch continuous power at 8 ohms (33 W at 4 ohms) with all four channels driven & at 0.5% THD. 155 W/ch dynamic power at 8 ohms with 2-channel power bridging (BTL). Power bandwidth 10-30,000 Hz. Input sensitivity: mag. phono #1 & #2 2.5 mV; aux. & tape monitor 150 mV. Features 5-position tone control network for front and rear channel centering on 40/250/1000/5000/15,000 Hz. Can reproduce all 4-channel discrete program.
Amplifiers

Material. Has built-in 4-channel decoder and synthesizer for reproducing 4 channels from regular 2-channel program material. Jack for optional remote control. 167 1/4 x 7 1/8 x 15 7/8

$599.95

VN-5101 4-Channel Add-On Amp

Basically a 2-channel amplifier with 4-channel inputs to be used with your present stereo system. 34 W/ch dynamic power into 8 ohms (50 W/ch at 4 ohms); 22 W/ch continuous power into 8 ohms (24 W/ch into 4 ohms) with both channels driven and at 0.5% THD. Power bandwidth 30-30,000 Hz. Features 5-position tone control network centering on 40/250/1000/2000/12,000 Hz. Features 5-position tone control; four lighted level meters; tape monitor for two tape decks. 15% x 5% x 14 3/4. Blackout meter panel & gold anodized front panel. $329.95

LAFAYETTE

LA-84 4-Channel Amplifier

Features full-wave matching plus variable SQR decoder and complete circuitry to play all other 4-channel matrix and stereo sources; provision for optional built-in CD-4 discrete demodulator (can be installed later, if desired); direct-coupled output circuitry; separate 2- and 4-channel tape monitoring; power output 20 W rms/ch into 8 ohms at 0.5% THD (20-20,000 Hz) with all channels driven; power bandwidth 10-35,000 Hz; input sensitivity: mag. phono 0.6 mV (hi), 1.8 mV (med), 4 mV (lo), aux. #1 & #2 250mV, 2 & 4-ch tape play 500 mV; hum & noise: aux. #1 & 2 -75 dB, phono -85 dB, tape play -75 dB; channel separation 65 dB. 15 1/16 W x 4 3/4 H x 12 3/4 D. $349.95

CD-4 Demodulator package. $69.95

MARANTZ

4000 Preamp/Adapter

Designed to permit two-channel stereo systems to be converted to 4-ch operation with addition of pair of speakers. Serves as control center for volume, balance, mode, and features rear-channel tone controls. All existing preamp controls remain completely operable. Features Vari-Matrix, balance controls, low and high filters, four illuminated meters, and remote-control output. $249.95

4060 4-Channel Integrated Amplifier

Complete four-channel control amp. Has circuits to synthesize 4-channel sound from 2-channel stereo records, all necessary balancing controls, input jack for optional SQ decoder, and remote-control. 15 W/ch continuous power at 4 & 8 ohms and at 0.5% THD with all channels driven; power bandwidth 10-35,000 Hz; input sensitivity; mag. phono 0.6 mV (hi), 1.8 mV (med), aux. 180 mV. Features main/remote speaker switches, switchable 4-channel headphone jacks. 14 3/4 x 4 x 12 3/4 D. $249.95

4070. Similar to Model 4060 with addition of low-filter, preamp out, and main amp in jacks and ability to switch unit into BTL mode to obtain 35 W/ch continuous power in stereo mode. $299.95

4100 4-Channel Integrated Amplifier

Has complete 2- or 4-channel capability. 25 W/ch continuous power into 8 ohms and at 0.3% THD with all four channels driven (60 W/ch for 2-channel operation). Power bandwidth 15-50,000 Hz; response 80-60,000 Hz ±2 dB. Input sensitivity: mag. phono 1.8 mV; aux. 180 mV. Has inputs for 4-channel discrete programs, and circuits for synthesizing 4-channel sound from 2-channel stereo records or tapes. Has input jacks for optional SQ decoder & remote control; four lighted level meters; tape monitor for two tape decks. 15% x 5% x 14 3/4 D. Blackout meter panel & gold anodized front panel. $499.95

4140. Similar to Model 4100 with addition of mid-range tone control, output jacks for 4-ch scope display and slightly higher output power (70 W/ch continuous power) in BTL mode. $549.95

PHASE LINEAR

4000 Preamplifier

Features built-in SQ system with differential logic for enhanced stereo separation. Joystick-controlled 4-channel balance. Response 20-20,000 Hz ±1 dB (phono & high-level); Gain: phono 65 dB; high level 15 dB. Total noise; high level 95 dB below full output; phono 85 dB below full output. 6 dB octave boost below 50 Hz and above 20,000 and +6 dB at 20 Hz. Downward expansion begins at -35 dB with ultimate limit -41 dB. Unlimiter window 35 dB wide, upper and lower thresholds simultaneously variable by means of front-panel unlim threshold controls. Has two monitor switches permitting any input source to be recorded on either of two tape machines, play back selection of either machine, or copy of tape machine 1 to 2 while listening to third source. Switched outputs will handle up to 25 amps. 19 W x 7 H x 10 D. $599.00

Cabinet. $37.00

PIONEER

QM-800A 4-Channel Power Amp

Features 42% W/ch (170 W total) dynamic power at 8 ohms (60 W/ch into 4 ohms); 30 W/ch continuous power into 8 ohms with all four channels driven & at 0.5% HD (36 W/ch into 4 ohms). Power bandwidth 5-50,000 Hz at 8 ohms & 0.5% HD. (S+N)/N 90 dB. Response 8-60,000 Hz ±0.5 dB. Input sensitivity: 850 mV at 50ohms, 1V at 80Kohms, and 2V at 105Kohms. Has four level meters, universal power supply, speaker switch. Amp could be used as four separate channels, or as a 2-channel, 2-way multiamp system with an electronic crossover network. $349.95

QC-800A 4-Channel Preamp

Has built-in SQ decoder and regular matrix decoder for synthesizing 4-channel reproduction from 2-channel discs or tapes. Design gives choice of three different 4-channel effects in addition to 4-channel discrete. Input sensitivities: phono #1 & #2 2.5 mV; tuner, aux. #1 & #2, tape monitor #1 & #2 150 mV. Recording output #1 & #2 150 mV and higher. (S+N)/N (phono) 80 dB. Output voltage 2.5 V (4 V max.). Features tape-to-tape duplication and universal power supply. 17 x 5 1/8 x 13 3/4 D. $279.95

QA-800A 4-Channel Integrated Amp

Features 36 W/ch (144 W total) dynamic power into 8 ohms (51 W/ch into 4 ohms); 20 W/ch continuous sine wave into 8 ohms with all four channels operating & at 0.5% HD (24 W/ch into 4 ohms). Power bandwidth 15-50,000 Hz at 8 ohms & 0.5% HD. Response 8-70,000 Hz ±1 dB. Input sensitivity: mag. phono #1 & #2 2.5 mV; tuner, aux. #1 & #2, tape monitor #1 & #2 200 mV. Tape output #1 & #2 200 mV. Has SQ and regular matrix decoder built-in and will provide for four-channel discrete tapes or discs. Universal power supply. 17 x 5 1/8 x 13 3/4 D. $399.95

SANSUI

QA-7000 4-Channel Amplifier

20 W/ch continuous power into 8 ohms (27 W/ch (IHF) into 4 ohms); strappable for twice power per channel when operating in stereo mode. THD 0.1%; IM 0.15%. Power bandwidth (IHF) 10-30,000 Hz. Has built-in 85 vario matrix decoder/synthesizer and Phase Matrix. Will provide decoded 4-channel signal to tape for dubbing "discrete." 17 3/4 x 5 1/4 x 12 3/4 D. $499.95

SUPERSCOPE

QA-450 4-Ch Integrated Amplifier

Will reproduce SQ records, FM broadcasts, or tapes; simulate 4-ch reproduction from standard stereo sources. 10 W/ch continuous power with all channels driven; THD 1% at rated output. Response 20-20,000 Hz ±1 dB. Features master 4-ch volume control; loudness control selector; tape monitoring; h. filter; simplifiers bass & treble controls. 14 3/4 x 5 1/2 x 12 3/4 D. $299.95

TOSHIBA

SB-404S 4-Ch. Integrated Amp

15 W/ch continuous power (60 W total) into 8 ohms and at 0.5% HD with each channel driven separately (26 W/ch for 2-channel stereo). 17 W/ch dynamic power (68 W total). HD 0.4% at rated output (0.1% at 2 W/ch). Response 10-55,000 Hz ±1.5 dB, power bandwidth 10-30,000 Hz.
receivers

FISHER

4020 4-Channel AM-FM Receiver
10 W/ch continuous power into 8 ohms with all four channels driven; 60 W total IHF music power at 8 ohms. Has built-in SQ decoder, HD (at 1 kHz) 1%; IM 0.8%. Sensitivity: phone 2.5 mV/aux. & tape monitor 200 mV; recorder output (30% modulation) 350 mV. Response: phone (RIAA equalized) 20-30,000 Hz, aux. & tape monitor (-2 dB) 30-20,000 Hz. FM usable sensitivity (IHF) 2.5 µV; HD 0.8%; (S + N)/N 64 dB; stereo separation (1 kHz) 35 dB; capture ratio 18 dB (IHF at 1 mV) 2.5 dB, 17½" W x 5½" H x 15½" D. Walnut-grained wood cabinet ........................................ $299.95

4060 4-Channel AM-FM Receiver
15 W/ch continuous power into 8 ohms with all four channels driven; 85 W total IHF music power at 8 ohms. Has built-in SQ decoder. HD (at 1 kHz) & rated rms power 0.3%; IM 0.8%. All other specifications same as Model 4200. 19½" W x 5½" H x 16½" D ........................................... $369.95

Studio Standard 634 Receiver
35 W rms/ch into 8 ohms with all channels driven; THD at rated power 0.5%; power bandwidth 20-22,000 Hz, frequency response 20-50,000 Hz ±3 dB; THD stereo 0.4% at 1000 Hz; stereo separation 38 dB (1000 Hz); spurious response rejection 90 dB; has L12 dB boost & cut (bass at 50 Hz; mid-range at 1 kHz; treble at 10 kHz). Hum & noise 90 dB below rated output (unweighted) in stereo or 4-ch mode. FM sensitivity (IHF) 2.0 µV (S - N)/N 70 dB; capture ratio 2.5 dB; image rejection 50 dB; spurious response rejection >75 dB. Has same tone control features. 20¾" W x 17" D (including knobs) x 6¼" H (including feet) ........................................... $499.95

HARMAN/KARDON

800+ 4-Channel AM-FM Receiver
Has same built-in 4-ch facilities as 700+. 22 W/ch continuous power into 8 ohms with all four channels driven (50 W/ch in stereo mode both channels driven into 8 ohms); power bandwidth 10-40,000 Hz into 8 ohms with all channels driven at less than 0.5% THD. Hum & noise 85 dB below rated output (unweighted) in stereo or 4-ch mode. FM sensitivity (IHF) 2.0 µV (S + N)/N 70 dB; capture ratio 2.5 dB; image rejection 50 dB; spurious response rejection >75 dB. Has same tone control features. 20¾" W x 17" D (including knobs) x 6¼" H (including feet) ........................................... $499.95

900 - 4-Channel AM-FM Receiver
Has same built-in 4-ch facilities as 700+. 22 W/ch continuous power into 8 ohms with all four channels driven (90 W/ch both channels driven into 8 ohms); power bandwidth 10-20,000 Hz into 8 ohms with all channels driven at less than 0.5% THD. Hum & noise 90 dB below rated output (unweighted) in stereo or 4-ch mode. Response 20-70,000 Hz <0.5% at normal power levels. FM sensitivity (IHF) 1.8 µV (S + N)/N 70 dB; capture ratio 1.6 dB; image & spurious response rejection >90 dB. Has 12 dB boost & cut (bass at 50 Hz; mid-range at 1 kHz; treble at 10 kHz). 20¾" W x 17" D (including knobs) x 6¼" H (including feet) ........................................... $749.95

Above receivers can accommodate additional speakers, turntables, two tape decks (either 2- or 4-ch), two- or four-channel headphones, plus miscellaneous accessories.
9 Receivers

HEATH

AR-2020 Four-Channel Receiver
15 W/ch continuous power at 8 ohms with all channels driven. Will handle all matrix encoded sources. Power bandwidth 5-30,000 Hz; frequency response 75-70,000 Hz (-1 dB); IM & HD 0.5% at rated power, 8-ohm load. (S+N)/N = 60 dB at rated output. Has master volume, individual output level, front & back bass and treble controls, power, speaker, source (4 positions), and mode (4 positions) switches. Outputs: 4 speaker; headphones (1 pr. each front & back); one tape feed; 4-channel tuner. Taper section: 2 µV (IHF) FM sensitivity; capture ratio 2 dB; HD 0.5%, channel separation at midband 35 dB min., antenna inputs 300 and 75 ohms. Features modular circuit-board construction, phase-locked loop multiplex demodulator. Has 2-ch, mag. phono & aux. inputs; 4-ch tape & aux. inputs. 4x11/4” H x 191/4” W x 14” D. Walnut end panels included.

JVC

4VR-5404 4-Channel AM-FM Receiver
5 W/ch into 8 ohms at 1000 Hz; power bandwidth 20-30,000 Hz. Capture ratio 2 dB; FM sensitivity 2.2 µV. Can be used for discrete 4-channel reproduction and built-in matrix decoder for E-V, QS, RM, and SQ. 4 ch/2 ch tape monitoring, built-in joystick master balance control (PPC). 5x11/4” x 13” x 13” $229.95 4VR-5406. Basically same as 4VR-5404 in design and styling except has built-in CD-4 discrete 4-channel record demodulator. Features automatic 4-channel switching 5x11/4” x 13” x 13” D $299.95

4VR-5414 4-Channel AM-FM Receiver
28 W/ch dynamic power at 8 ohms (30 W/ch at 4 ohms); 15 W/ch continuous power at 8 ohms (20 W/ch at 4 ohms) and at 0.5% THD at channels driven. Will handle all matrix encoded sources. Power bandwidth 75-70,000 Hz; frequency response 75-70,000 Hz (-1 dB); IM & HD 0.5% at rated power, 8-ohm load. (S+N)/N = 60 dB at rated output. Has master volume, individual output level, front & back bass and treble controls, power, speaker, source (4 positions), and mode (4 positions) switches. Outputs: 4 speaker; headphones (1 pr. each front & back); one tape feed; 4-channel tuner. Taper section: 2 µV (IHF) FM sensitivity; capture ratio 2 dB; HD 0.5%, channel separation at midband 35 dB min., antenna inputs 300 and 75 ohms. Features modular circuit-board construction, phase-locked loop multiplex demodulator. Has 2-ch, mag. phono & aux. inputs; 4-ch tape & aux. inputs. 4x11/4” H x 191/4” W x 14” D. Walnut end panels included.

Kit $249.95

4VR-5436 4-Channel AM-FM Receiver
Equipped with built-in CD-4 demodulator and features an individual output control for connection of a demodulator for 4-ch FM broadcasting (when authorized). Also has one matrix decoder for SQ records and another to handle other encoded material. 14 W/ch continuous rms power at 8 ohms with all four channels driven (20-20,000 Hz); 17 W/ch rms power at 1 kHz. Frequency response 20-30,000 Hz (-1 dB); HPF power bandwidth 20-20,000 Hz; FM sensitivity 2.0 µV; selectivity 65 dB; FM capture ratio 2 dB; FM image rejection 55 dB; FM stereo separation 35 dB. Has two VU meters; bass/treble control; speaker selector switch; 2 auxiliary inputs; high/low cut filters; Walnut case; blackout dial. $569.95

4VR-5446 4-Channel AM-FM Receiver
Has same circuit options as 4VR-5436 except 21 W/ch continuous rms power into 8 ohms with all four channels driven (24 W/ch rms power at 1 kHz). IHF power bandwidth 20-30,000 Hz. Has source indicator lights and a 7-position speaker selector switch.

4VR-5456 4-Channel AM-FM Receiver
Has same circuit options as 4VR-5436 except 43 W/ch continuous rms power into 8 ohms with all four channels driven (48 W/ch rms power at 1 kHz). IHF power bandwidth 5-45,000 Hz. FM sensitivity 1.8 µV; FM capture ratio 1.5 dB; image rejection 90 dB; FM stereo separation 38 dB. Has 7-position speaker selector switch.

KENWOOD

KR-9940 4-Channel Receiver
50 W rms/channel power output into 8 ohms with all channels driven (20-20,000 Hz; 10-40,000 Hz; impedance 4 to 16 ohms; FM tuner sensitivity (IHF) 1.8 µV; S/N 65 dB (1 mV input); capture ratio 1.5 dB; stereo separation 40 dB; has full complement of inputs & outputs, filters and tone controls. 21 1/2” W x 6 1/2” H x 14” D. $799.95

KR-8840 4-Channel Receiver
40 W rms/channel power output into 8 ohms with all channels driven (20-20,000 Hz); built-in circuitry for all 4-channel formats; “Tape-Through” circuit; THD & IM dist. 0.8%; power bandwidth (IHF) 10-45,000 Hz; impedance 4 to 16 ohms; FM tuner sensitivity (IHF) 1.9 µV; S/N 63 dB (1 mV input); capture ratio 3 dB; selectivity (IHF) 50 dB; stereo separation ±0.25 dB; power bandwidth 7-70,000 Hz (IHF); FM sensitivity 1.8 µV; THD 0.3%; stereo selectivity 75 dB; capture ratio 1.5 dB; stereo separation 42 dB at 1000 Hz; spurious rejection 95 dB; image rejection 90 dB; features Dolby noise-reduction circuit; built-in oscilloscope; facilities for separating tuner/preamp section from main amplifiers for connection of amps, electronic crossovers, and/or equalizers; decoder pocket for connecting optional SQ de-

LAFAYETTE

LR-5000 AM-FM 4-Channel Receiver
37 W rms/ch into 8 ohms at 0.5% THD (20-20,000 Hz) with all channels driven; features full-logic wave-matching plus vari-blend SQ decoder and other 4-channel circuitry to play back SQ, RM, and other 4-ch stereo sources; CD-4 optional discrete 4-ch demodulator built-in (or can be installed later); power bandwidth 10-40,000 Hz; input sensitivity: 0.6 mV (hi), 1.8 mV (med), 4 mV (lo); aux. #1 & #2 250 mV, tape play 500 mV; S/N high-level ~75 dB, low-level ~60 dB; FM (IHF) sensitivity 1.65 µV; capture ratio 1.5 dB; stereo separation 40 dB; has self-resetting output circuit. 21 1/2” W x 5 1/4” H x 15” D. $599.95 CD-4 Demodulator package. $69.95

SQR-20 4-Channel Receiver System
Receiver features sensitive AM-FM stereo tuner, 4-channel “SQ” matrix decoder, “Com-

MARANTZ

4400 4-Ch AM-FM Receiver
50 W continuous power into 8 ohms with all four channels driven (20-20,000 Hz); THD & IM 0.15%; frequency response 20-20,000 Hz ±0.25 dB; power bandwidth 7-70,000 Hz (IHF); FM sensitivity 1.8 µV; THD 0.3%; stereo selectivity 75 dB; capture ratio 1.5 dB; stereo separation 42 dB at 1000 Hz; spurious rejection 95 dB; image rejection 90 dB; features Dolby noise-reduction circuit; built-in oscilloscope; facilities for separating tuner/preamp section from main amplifiers for connection of amps, electronic crossovers, and/or equalizers; decoder pocket for connecting optional SQ de-

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HEATH

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1975 EDITION

CIRCLE NO. 25 ON READER SERVICE CARD
Receivers

coder or 4-channel matrix decoder; Vari-Matrix for synthesizing 4-ch sound; has full complement of inputs, outputs, controls, and filters. walnut finish; $1250.00 Optional walnut cabinet available.

4300 4-Ch AM-FM Receiver
40 W/ch continuous power at 8 ohms with all channels driven; 0.15% THD & IM 20-20,000 Hz. Features Dolby B circuit for simultaneous recording and playback with any tape machine and decoding of Dolby-encoded FM broadcasts. Has phase lock loop multiplex decoder and an FM Quadrilateral output jack. Separate tuner-preamp section permits use with additional external power amps. Has Vari-Matrix for stereo program enhancement. 4-ch ready for addition of SQ decoder and CD-4 demodulator. FM sensitivity 94 dB; features SQ & regular matrix decoders; four VU meters with independent level controls for each channel; loudspeaker level & treble controls for front & back; full complement of controls, inputs, outputs, and switches. 6" H x 22" W x 15" D. Veneer cabinet with walnut finish. .........................$999.95

ONKYO

TS-500 Automatic 4-Ch Receiver
Built in logic and analog computer circuitry for automatic sensing of 4-channel signal being transmitted; automatic routing to CD-4 decoder or matrix decoder; automatic mode selector permits any mix of 4-channel or stereo discs or tapes; 20 W/ch rms into 8 ohms with all four channels driven (20,000 Hz); 25 Wrch rms at 1000 Hz; distortion 0.5% at rated power; IM 0.4%; power bandwidth 20-20,000 Hz -3 dB, THD 0.05% frequency response 20-30,000 Hz ±1 dB; FM sensitivity 1.8 µV (IHF); selectivity 65 db; capture ratio 2 dB; image rejection 70 dB; S/N 70 db; stereo separation 40 db at 200 Hz; frequency response 15-50,000 Hz ±1.5 db; features dual-purpose tuning meter; tape monitoring & dubbing facilities; full complement of inputs & outputs; switches; filters; and controls. Walnut-finished wood cabinet. 21" W x 16½" D x 5½" H. .......$749.95

4320 4-Ch AM-FM Receiver
12 W/ch continuous power into 8 ohms with all channels driven; THD & IM 0.5% FM sensitivity (IHF) 2.8 µV. Response 20-20,000 Hz ±1 db; power bandwidth 15-50,000 Hz. Features Dolby noise reduction circuit; 4-ch balance controls, remote-control outlet, provisions for two tape recorders, provision for connecting decoders and demodulators. .................$499.95

MX

1620 4/2 Ch. AM-FM Receiver
18 W rms/ch into 8 ohms with all four channels driven at 1000 Hz; 14 W/ch 20-20,000 Hz; stereo bridged power (1000 Hz) 35 W rms/ch; power bandwidth 10-40,000 Hz; frequency response 20-25,000 Hz ±2 db (Aux.); HD 0.5%; IM 0.8%; FM sensitivity (IHF) 1.8 µV; selectivity 75 db; capture ratio 1.5 db; stereo separation 50 db (1000 Hz); 40 db (10,000 Hz); HD 0.2%; image rejection 94 db; spurious rejection 94 db; features SQ matrix decoder; regular matrix decoder; four VU meters with independent level controls for each channel; special speaker matrix for "surround-sound" effect; full complement of controls-auto/ off switch for use with automatic turntable turnoff system. 6" H x 23½" W x 15½" D. .........$499.95

1630 4/2 Ch. AM-FM Receiver
35 W rms/ch into 8 ohms with all four channels driven at 1000 Hz; 28 W/ch 20-20,000 Hz; stereo bridged power (1000 Hz) 70 W rms/ch; power bandwidth 10-40,000 Hz; HD 0.5%; IM 0.8%; frequency response 20-25,000 Hz ±2 db (Aux.); FM sensitivity (IHF) 1.8 µV; selectivity 75 db; capture ratio 1.5 db; stereo separation 50 db (1000 Hz); 40 db (10,000 Hz); HD 0.2%; image rejection 94 db; spurious rejection 94 db; features SQ & regular matrix decoders; four VU meters with independent level controls for each channel; loudspeaker level & treble controls for front & back; full complement of controls, inputs, outputs, and switches. 6" H x 22" W x 15" D. .........$499.95

4230 4-Ch AM-FM Receiver
4240. Similar to Model 4300 but 17 W/ch; 0.5% IM (IHF), 75 dB; capture ratio 1.5 db; 75/300 ohm antenna inputs; 4-gang front-end; FM muting; detector output; tape output 250 mV. FM sensitivity 2.5 µV for 30 dB (S+N) /N; capture ratio 2.5 db. Has same 5-position switch as the Model 365 4-channel receiver and center-channel tuning meter. Walnut veneer wood cabinet. 18½" x 6½" x 17½" D. .........$439.90

365 4-Channel AM-FM Receiver
15 W/ch (60 total) continuous power at 8 ohms with all four channels driven & at 0.5% THD; Power bandwidth 20-25,000 Hz; response 20-20,000 Hz ±1 db. Input sensitivity: mag, phono 2.5 to 4.5 mV, aux, 300 mV; tape output 250 mV. Frequency response 20-20,000 Hz ±1 dB. FM sensitivity 2.5 µV for 30 dB (S+N) /N; capture ratio 2.5 db. Has same 5-position switch as the Model 365 4-channel receiver and center-channel tuning meter. Walnut veneer wood cabinet. 18½" x 6½" x 17½" D. .........$439.90

366 4-Channel AM-FM Receiver
18 W rms/ch into 8 ohms with all four channels driven at 1000 Hz; 14 W/ch 20-20,000 Hz; stereo bridged power (1000 Hz) 35 W rms/ch; power bandwidth 10-40,000 Hz; frequency response 20-25,000 Hz ±2 db (Aux.); HD 0.5%; IM 0.8%; FM sensitivity (IHF) 1.8 µV; selectivity 75 db; capture ratio 1.5 db; stereo separation 50 db (1000 Hz); 40 db (10,000 Hz); HD 0.2%; image rejection 94 db; spurious rejection 94 db; features SQ matrix decoder; regular matrix decoder; four VU meters with independent level controls for each channel; special speaker matrix for "surround-sound" effect; full complement of controls-auto/ off switch for use with automatic turntable turnoff system. 6" H x 23½" W x 15½" D. .........$499.95

PILOT

QX-646 4-Ch. Stereo Receiver
Reproduces all regular matrix, SQ, and CD-4 program sources without additional components. FM usable (IHF) sensitivity 2.2 µV; capture ratio 3 db; selectivity 40 db. (S+N)/N 65 dB. Image rejection 50 db; i.f. rejection 85 db; spurious rejection 80 db. Stereo separation 40 db at 1000 Hz. Antenna input: 300 ohms balanced, 75 ohms unbalanced. Has "on/off" muting switch. Continuous power output 10 W + 10 W at 0.75% harmonic distortion into 8 ohms. Has balanced line input. 5-position mode switch; SW, SQ, CD-4, Matrix decoder, stereo (double-power), and mono operation. With walnut veneer cabinet. 18½" x 6½" x 17½" D. .........$579.90

PIONEER

QX-747 4-Ch. Stereo Receiver
Continuous power output 20 W x 4 into 8 ohms with all four channels driven and from 20-20,000 Hz. Includes CD-4, regular matrix, and SQ decoders. Power bandwidth (IHF, 4-ch. driven) 7-40,000 Hz at 0.5% HD. Response (aux. 10-25,000 Hz ±1 db. FM usable (IHF) sensitivity 1.9 µV; capture ratio 1 db; selectivity 60 db. HD 0.2% mono, 0.4% stereo. .........$694.95

QX-949 4-Ch. Stereo Receiver
Includes built-in CD-4 demodulator and decoders for regular matrix and SQ sources. Continuous power output 40 W x 4 into 8 ohms with 4-ch. driven from 20-20,000 Hz. Power bandwidth 20-25,000 Hz ±1 db. Frequency response 20-25,000 Hz ±1 db. Input sensitivity: mag, phono 2.5 to 4.5 mV, aux, 300 mV; tape output 250 mV. Frequency response 20-20,000 Hz ±1 dB. FM sensitivity 2.5 µV for 30 dB (S+N)/N; capture ratio 1.8 db. Features automatic/remote 4-channel speaker switch, tape monitor, "Pilotone" for balancing speakers. Has 5-position mode switch for discrete, CBS, "SQ", Matrix-4 decoder, stereo, (double power), and mono operation. With walnut veneer cabinet. 18½" x 6½" x 17½" D. .........$579.90
ADC cartridges and speakers are considered the best available...

by a select group of people who take their sound seriously.

Most people love some form of music—from Bach to rock. Yet few are demanding enough to insist on reproducing it in their homes as close to the live performance as possible.

Those who do are ADC fans. Or should be. They are people blessed with a sensitivity to sound. And they take pride in finding components that satisfy their needs.

They are the people who make companies like ADC create great products. If you rank yourself among this select group and don’t own ADC products, it’s worth locating an ADC dealer. His interest in sound is as serious as yours. For complete information, write ADC.
**Receivers**

**ORX-6001 4-Ch Receiver**
- Control; L-R independent balance control; F-B balance features IC "Vario-Matrix" for 20 dB separation
- S/N 70 dB; stereo separation 40 dB at 1000 Hz; power bandwidth driven (20-20,000 Hz); THD & IM dist. 0.5%; conventional 2-channel recording to 4 channels.

**QRX-6500 4-Ch Receiver**
- 37 W/ch continuous power output at 8 ohms with 0.5% THD. Response 20-30,000 Hz ±1 dB
- Four-channel headphone jack; center-tuning and signal-strength meters; full complement of inputs & outputs. $759.95

**QRX-7001**
- Similar to QRX-6001 except 35 W

**ROTEL**

**RX-154A 4-Channel AM-FM Receiver**
- Can be used as a 2- or 4-channel receiver. 10 W/ch continuous power at 4 ohms for 4 ch. operation (20 W/ch for two channels) and 0.5% THD. Power bandwidth 30-30,000 Hz. FM sensitivity 4 µV for 30 dB quieting. Capture ratio 8 dB. Will play 4-channel discrete sources. 4-channel SQ matrixed discs or tapes, and will synthesize regular 2-channel stereo sources. 4-channel headphone jack, 17 1/2" × 5' × 12 1/4" D. Walnut cabinet $289.95

**RX-454 4-Channel Receiver**
- 20 W/ch continuous rms power with all channels driven into 8 ohms (45 W/ch in stereo mode). HD 0.1% at rated output at 1 kHz; IM at rated output 0.2%. Response 15-90,000 Hz; power bandwidth (IHF) 20-50,000 Hz. Hum & noise: phono 65 dB; aux. & tape input 75 dB. FM usable sensitivity (IHF) 2.5 µV; (S + N)/N 65 dB; selectivity 45 dB; spurious rejection 80 dB; i.f. rejection 70 dB; image rejection 60 dB. Separation 40 dB (1 kHz, 100% modulation); capture ratio 3. Has dual front & back bass and treble controls; 4 individual volume controls; push-button tuning for main & remote speaker systems. $479.95

**SANSUI**

**QRX-6001 4-Ch Receiver**
- 25 W rms/ch into 8 ohms with all channels driven (20-20,000 Hz); THD & IM dist. 0.5%; power bandwidth (IHF) 10-35,000 Hz; FM sensitivity 2 µV (IHF); capture ratio 1.5 dB; S/N 70 dB; stereo separation 40 dB at 1000 Hz; features IC "Vario-Matrix" for 20 dB separation in SQ and QS, modes and built-in CD-4 demodulator; has independent front/back/balance control; L-R independent balance control; F-B balance control; loudness control for all channels; 30-30,000 Hz ±1.5 dB. 180 W power (IHF). FM sensitivity 2.2 µV (IHF).vario matrix synthesizer/decoder; two 4-channel and one 2-channel tape monitors. 20" x 7' x 13' D. $549.95

**QRX-3000 4-Ch Receiver**
- 15 W/ch continuous rms output with all channels driven into 8 ohms at 0.5% THD; Response 20-30,000 Hz;
- IM, 100 W power (IHF). Response 30-30,000 Hz ±1.5 dB. FM tuner sensitivity 2.5 µV (IHF). Has vario matrix synthesizer/decoder; two 4-channel and one 2-channel tape monitors. 19 1/2 x 13' x 5" D. $349.95

**DCX-3000KA 4-Channel Receiver**
- Designed for both discrete and matrix 4-channel operation. Has SQ logic & Sanyo matrix decoder. Can be used as a 2- or 4-channel amplifier. AM-FM stereo receiver sensitivity 2.2 µV for 30 dB quieting. HD & IM. 0.5% (S + N)/N 60 dB, 10 W/ch (40 W total) continuous power into 8 ohms and at 1% HD. Response 25-40,000 Hz; power bandwidth 25-40,000 Hz. Input sensitivity: mag. phono 5.0 mV; aux. 200 mV; tape 300 mV. Has remote speaker facility. 18% x 13" x 4%". Walnut cabinet $299.95

**DCX-3300KA 4-Channel Receiver**
- Has all the features for 4-channel discrete and three matrix decoder circuits (SQ logic and variations). AM-FM stereo receiver with FM sensitivity 2.0 µV. Selectivity 40 dB, 16 W/ch 64 W total) continuous power into 8 ohms & at 0.8% HD. Response 20-45,000 Hz; power bandwidth 20-40,000 Hz. Input sensitivity: mag. phono 3 mV; aux. 100 mV; tape 300 mV. Features four output-level meters; 2- or 4-channel operation; mike input. 19% x 12% x 6". Walnut cabinet $449.95

**DCX-2700K 4-Channel Receiver**
- Designed for both discrete and matrixed 4-channel operation (SQ and matrix). FM sensitivity 2.7 µV; HD 1%; (S + N)/N 45 dB stereo; selectivity 38 dB; stereo separation 30 dB. 7½ W/ch continuous rms power at 1% THD; HD & IM 1% at rated output. Response 25-30,000 Hz, power bandwidth 30-30,000 Hz. Has individual channel level controls: master volume; bass & treble function selector; power switch; loudness switch; tape monitor; 2/4 channel selector, Outputs: 4 speaker; 2/4 ch recording; DIN connector. Inputs: mag. phono; 2/4 ch aux.; 2/4 ch tape; DIN connector. 18" x 14" x 5". Walnut cabinet $269.95

**DCX-3100K 4-Channel Receiver**
- Designed for both discrete and matrixed 4-channel operation (SQ and matrix). SQ logic (discrete). FM sensitivity 2.2 µV; HD 0.89%; (S + N)/N 50 dB stereo; selectivity 40 dB; stereo separation 30 dB. 12½ W/ch continuous rms power at 0.8% THD. HD 0.5% and IM 1.0% both at rated output. Response 20-45,000 Hz; power bandwidth 25-40,000 Hz. Has same controls as DCX2700K with addition of mike level control. Outputs: 4 speaker; 2/4 ch recording; DIN connector. Inputs: mag. phono (2); 2/4 ch aux. (4); 2/4 ch tape (4); DIN connector (2); mike. Walnut cabinet. 19 1/2 x 13" x 5". $349.95

**DCX-3500K 4-Channel Receiver**
- Designed for SQ, discrete, and matrixed 4-channel operation (SQ and matrix). FM sensitivity 2.2 µV; HD 0.89%; (S + N)/N 50 dB stereo; selectivity 40 dB; stereo separation 30 dB. 12½ W/ch continuous rms power at 0.8% THD. HD 0.5% and IM 1.0% both at rated output. Response 20-45,000 Hz; power bandwidth 25-40,000 Hz. Has same controls as DCX2700K with addition of mike level control. Outputs: 4 speaker; 2/4 ch recording; DIN connector. Inputs: mag. phono (2); 2/4 ch aux. (4); 2/4 ch tape (4); DIN connector (2); mike. Walnut cabinet. 19 1/2 x 13" x 5". $349.95

**STEREO DIRECTORY & BUYING GUIDE**
channel operation, 17½ W/ch continuous rms power at 0.8% THD, HD 0.5%. Controls: tuning, individual channel level; master volume; bass & treble; function selector; power switch; loudness switch; tape monitor; mike level; 2¼ ch selector; speaker switch; CD-4 adjust (rear panel). Outputs: 4 speaker; 2¼ ch recording; DIN connector. Inputs: magnetic phono; 2¼ ch aux. (4); 2¼ ch tape (4); DIN connector; mike. 19¼" x 12¼" x 6½". $549.95

SHERWOOD

RQ3747 4-Channel Receiver
25 W/ch at continuous power (four channels) into 8 ohms from 20-20,000 Hz; 0.5% THD. Walnut veneer cabinet with extruded aluminum control panel. 6¾" H x 15" W x 15" D. $499.95

SA-5400X 4/2-Ch. AM-FM Receiver
Designed for any 4- or 2-channel application with complete discrete and matrix capability.

Two-position switch for decoding any matrix source or optimum synthesizing/enhancing. Two tape monitors. The i.f. stages have ceramic filtering and monolithic IC's. FM sensitivity 1.9 µV for 30 dB quieting. IHF dynamic power 17 W/ch (68 W total) at 4 ohms in 4-channel mode. Continuous 4-channel power with all channels driven 9 W/ch at 4 ohms (36 W total); 8 W/ch at 8 ohms (32 W total). Continuous 2-channel (TL) power 25 W/ch with both channels driven; 18 W/ch (36 W total) at 8 ohms. THD 0.8% at rated power. Power bandwidth 7-28,000 Hz. (S+N)/N 75 dB (aux.); 50 dB (phono). $319.95

SA-6700X 4/2-Ch. AM-FM Receiver
Features built-in AFD 4-ch scope for audio display to check signal distribution, separation, crosstalk, balance. Scope also serves as precise center-channel tuning indicator and multipath signal indicator. Also features variable AFD matrix decoder/synthesizer that can be set for any matrix system plus inputs to accommodate any 4-ch discrete or 2-ch sources. 240 W total (IHF) music power; 4 ohms; 45 W continuous rms power per channel at 4 ohms; 32 W at 8 ohms. With all four channels driven; 30 W/ch at 4 ohms; 23 W/ch at 8 ohms. THD 0.5% at rated power. Power bandwidth 7-40,000 Hz. (S+N)/N 70 dB (phono), 90 dB (aux.). FM sensitivity (IHF) 1.8 µV for 30 dB quieting. Ceramic filtering and monolithic IC's in FM. $699.95

SA-8500 X 4/2-Ch. AM-FM Receiver
Features built-in CD-4 demodulator for playback of discrete phono discs plus a variable AFD matrix decoder/synthesizer that can be matched to any matrix system. BTL (balanced transformerless) amplifier design enables 2- or 4-channel stereo operation. Has four VU meters, 6-element ceramic i.f. filters in FM. FM sensitivity 1.9 µV for 30 dB quieting. IHF dynamic power 40 W/ch (160 W total) into 4 ohms (160 W at 8 ohms in 2-channel (BTL) mode). With all channels driven continuous power is 18 W/ch (72 W total) at 4 ohms; 16 W/ch (64 W total) at 8 ohms. In 2-channel (BTL) operation, continuous power with both channels driven is 38 W/ch at 8 ohms. THD 0.5% at rated power. Power bandwidth 5-40,000 Hz. (S+N)/N 72 dB (phono), 94 dB (aux.). $549.95

SA-6000X 4/2-Ch. AM-FM Receiver
Features variable AFD matrix decoder/synthesizer that can decode any matrix system; automatic separation and carrier-level adjust adapts cartridge characteristics automatically. BTL amplifier design for full output power in both 2-ch & 4-ch modes. Has four VU meters plus signal-strength meter; CD-4 blend switch for noisy records; 3-4-ch tape monitors. Accommodates two sets of 4-ch speakers or four sets in 2-ch mode; FM MPX output; all-stage direct-coupled OCL power amps; speaker protection circuit; low-noise phono preamp; click-stop tone controls; hi & lo filters. 34 W rms/ch into 8 ohms in 4-ch mode, 85 W rms/ch into 8 ohms in 2-ch BTL mode; HD 0.5%; IM 0.7%; power bandwidth 5-40,000 Hz; S/N 90 dB (Aux.), 70 dB (phono). FM sensitivity 1.9 µV for 30 dB quieting; FM THD 0.4% stereo; separation 40 dB at 1000 Hz. (S+N)/N 72 dB (phono); 94 dB (aux.). FM sensitivity (IHF) 1.9 µV for 30 dB quieting. $399.95
9 Receivers

SA-7300X. Similar to SA-8500X except 10 W rms/channel into 8 ohms in 4-channel mode. 24 W rms/channel into 8 ohms in 2-channel stereo mode; power bandwidth 5-25,000 Hz. 6 1/2" H x 19 5/8" W x 15 1/4" D. .............. $739.95

SA-304 4-Channel AM-FM Receiver
15 W/channel continuous power (60 W total) into 8 ohms at 0.8% HD and each channel driven separately (20 W/channel for 2-channel operation). Response 20-40,000 Hz. ±2 dB. Power bandwidth 20-30,000 Hz at 0.8% HD. Sensitivity: mag. phono 3 mV; aux. 150 mV. FM sensitivity 2.5 µV for 30 dB quieting. Capture ratio 2.5 dB. Has built-in RM (Regular Matrix) and SQ 4-channel matrix decoder. Has input provisions for CD-4 discrete decoder. Has universal line inputs. Has AT15S. Similar to AT12S except 1 kHz channel separation 25 dB; channel balance 2 dB. Tracking force 1.7 g (recommended tonearm adjustment for Shibata stylus); dual-magnetic low-mass magnetic system. Vertical tracking angle 20°. Has tapered cantilever for lower mass. Comes with Shibata stylus, stylus guard. .............. $495.00

SA-504 4-Channel AM-FM Receiver
35 W/channel (140 W total) continuous power into 8 ohms & at 0.4% THD and with each channel driven separately (70 W/channel for 2-channel stereo). Response 20-40,000 Hz ±1 dB; power bandwidth 10-50,000 Hz. FM sensitivity 1.8 µV for 30 dB (S + N)/N; capture ratio 1.5 dB. Input sensitivity: mag. phono 2.5 mV; condenser phono 30 mV; aux. & tape 160 mV. Has built-in RM & SQ 4-channel matrix decoder, FM muting, signal-strength & center-of-channel tuning meters, and tape monitor. Can be used for 4-channel discrete playback. 20° x 4 3/4" x 14" .......... $569.95

SA-514 CD-4 AM-FM Receiver
20 W rms/channel into 8 ohms with all channels driven at 0.8% HD (20-20,000 Hz); 45 W/channel in stereo mode. FM sensitivity 2 µV (IHF); S/N 65 dB; capture ratio 2 dB; selectivity -400 kHz 60 dB; -400 kHz 60 dB; HD 0.3%; input sensitivity: mag. phono 2.5 mV; condenser phono 30 mV; aux. & tape 160 mV; features built-in CD-4 demodulator; RM and SQ decoder; FM muting; signal-strength & center-of-channel tuning meters; tape monitoring. 20° x 4 3/4" x 14" .......... $749.95

TOSHIBA

Tape Monitor & CD Player
12 W/channel continuous power into 8 ohms with all channels driven; 22 W/channel into 8 ohms with two channels driven; power bandwidth 20-20,000 Hz. Has SQ decoder; balance, volume, and tone controls; FM sensitivity 2.0 µV; capture ratio 3 dB; selectivity -400 kHz 60 dB; -400 kHz 60 dB; HD 0.3%; input sensitivity: mag. phono 2.5 mV; condenser phono 30 mV; aux. & tape 160 mV; features digital clock radio with sleep switch, 4-channel phones. 17 1/2" W x 14 1/2" D x 5 2/5" H. .......... $370.00

9 Cartridges & Record Players

Audio-Technica

AT12S Dual-Magnet Cartridge
Designed specifically for use with discrete four-channel discs (CD-4), matrixed four-channel as well as mono and stereo records. Frequency response 15-45,000 Hz; channel separation (at 1 kHz) 25 dB; channel balance 2 dB. Tracking force 1-2 g (recommended tonearm adjustment for Shibata stylus); dual-magnetic low-mass magnetic system. Vertical tracking angle 20°. Has tapered cantilever for lower mass. Comes with Shibata stylus, stylus guard. .............. $64.95

AT 145. Similar to AT12S except channel balance 1.5 dB. .......... $75.00

Super-XLM Cartridge
For both 4-channel & stereo use; specially shaped stylus for discrete 4-channel discs; output 2.5 mV at 5.5 cm/sec. Tracking force range 0.5-1.25 g; frequency response 0-20,000 Hz ±2 dB, 20,000-50,000 Hz ±10 dB; channel separation 25 dB; compliance 50 cm/dyne x 10^4. .............. $75.00

ADC

CD-4 cartridges. Also, see Section 3 for turntables with low-capacitance tonearm leads for four-channel use.

Super-XLM Cartridge

For both 4-channel & stereo use; specially shaped stylus for discrete 4-channel discs; output 2.5 mV at 5.5 cm/sec. Tracking force range 0.5-1.25 g; frequency response 0-20,000 Hz ±2 dB, 20,000-50,000 Hz ±10 dB; channel separation 25 dB; compliance 50 cm/dyne x 10^4. .............. $75.00

Bsr mcdonald

4620W 4-Ch. Automatic Turntable
Two-speed (33 & 45 rpm) for 7"; 10" & 12" records; features variable pitch control & strobe disc; synchronous motor; heavy die-cast platter; viscous damped cue & pause control; dual-range anti-skate control; slide-in cartridge head; comes with Audio-Technica AT12S 4-channel cartridge, low-capacitance cables, walnut base, and dust cover. .............. $179.80

4310X 4-Ch. Automatic Turntable
Has 4-pole induction motor; anti-skate; cue & pause controls; accessory panel; comes with Audio-Technica AT12S 4-channel cartridge, low-capacitance cables, wood-grained base, and hinged dust cover. .............. $135.80

Empire

4000D/Ill Wide-Response Cartridge
Will play any 4-channel or stereo system; frequency response 5-50,000 Hz; output 3.0 mV/20k channel separation 35 dB (left to right), 25 dB (front to back); tracking force ¾ to 1¼ g; miniature nude diamond with 0.1-mil tracing radius. .............. $149.95

4000D/Ill. Same except frequency response 5-45,000 Hz; tracking force ¾ to 1¼ g. .......... $124.95

EMPIRE

215SA/Quad Automatic Turntable
Heavy-duty 4-pole motor; 11" turntable platter with protective mat; bi-directional viscous-damped cue and pause control; adjustable anti-skate control calibrated for conical and elliptical stylus; calibrated stylus pressure control; interchangeable automatic and manual spindles; ball-race pivoted tonearm; record stabilizer arm with fingerlift. Comes with Audio-Technica's AT12S wide-response CD-4 cartridge; designed to perform in the CD-4 mode when used with high-performance CD-4 equipment.
GRADO

F+ Series CD-4 Pickups
Available in three groups for varied applications. All series feature low electrical inductance and thus tonearm cable length is not critical for any length up to 15 feet; low mechanical tip mass permitting use of standard stylus shapes. Professional. Designed for high output and stability under severe use; suitable for broadcast purposes. Frequency response 40 kHz and tracking capability 2-3 grams; for use with record changers and tonearms which will not track 1 gram.

FTR+ Spherical diamond stylus $9.95
FTE+ Elliptical diamond stylus $13.95
FTRi Spherical diamond stylus $11.95
FCE+ Specially selected unit with elliptical diamond stylus $39.95
Super Flux-Bridge. Designed for use with highest quality equipment. Tracking force 1.5-2 g.

FTR+ Spherical diamond stylus $9.95
FTRi Spherical diamond stylus $11.95
FCE+ Specially selected unit with spherical diamond stylus $39.95

MICRO/ACOUSTICS

QDC-1q CD4 Phono Cartridge
Features a self-energized IC transducer which puts out a linear signal from 5-50,000 Hz; stylus bar directly attached to transduction IC to eliminate losses inherent in flux-field coupling. Response 5-20,000 Hz ±2 dB; 20,000-50,000 Hz ±2 dB. Tracking force range 0.9-1.5 g; channel separation 30 dB at 1 kHz, 20 dB at 10 kHz.

Output voltage: 3 mV each channel at 5 cm/sec peak recorded velocity. 47,000 ohms recommended load. Comes with "Quadra-Point" stylus...

$120.00

PANASONIC

EPC-450C-II CD-4 Cartridge
Wide-range, linear strain-gauge semiconductor cartridge; response 0-50,000 Hz; requires complementary demodulator with built-in bias supply; non-capacitive, non-inductive character matches preamp input circuit; rated output voltage 5 mV (50 mm/sec, 1 kHz, lateral, 4 mA); separation 20 dB at 1000 Hz; 15 dB at 30,000 Hz. Imp. 1000 ohms pure resistance; compliance 10 x 10^-4 tracking force 1.5-2.5 g. Weight 3.2 g.

$64.95

SL-750 2/4-Ch Changer
Full-size 2-4 channel record changer with built-in CD-4 demodulator, semiconductor cartridge with diamond stylus; features CD-4 IC chip, cueing and pause control; anti-skate adjustment; umbrella spindle; can be used with the company's "Series 44" products. Walnut finish.

$159.95

SL-850. Similar to SL-750 but with pivoted tonearm with adjustable counterweight and detachable cartridge shell; viscous cueing and pause control...

$199.95

STANTON

780/400 Four-Channel Cartridge
Designed to play the new discrete 4-channel records as well a standard stereo disc or 4-ch matrix-derived compatible records. Response 10-50,000 Hz (when terminated in recommended load of 100 kohms and 100 pf). Tracking force 1-3 g; channel separation 35 dB. Output: 0.7 mV/cm/sec =2 dB. Inductance & resistance (each channel): 350 mH; 750 ohms. Features new "Quadrahedral" stylus...

$125.00

PICKERING

UV-15/2400-Q Cartridge
For discrete 4-channel playback; tracking force with Dymastic brush 3 g ≅ 1/2 g (resulting tracking force 2 g ≅ 1/2 g); frequency response 10-50,000 Hz (when terminated by 100k ohm load and 100 pf); output 3.3 mV ±2 dB; channel separation 35 dB; inductance each channel 350 mH; resistance each channel 750 ohms; comes with "Quadrahedral" diamond stylus assembly.

$125.00

UV-15/2000Q. Similar to 2400-Q except response 20-45,000 Hz; channel separation 30 dB.

$69.90

1730D-SS 4-Channel Tape Deck
Features surround stereo. Four-track, 4 & 2 channel play and record with two erase heads...
CR-80D-SS 4-Ch. 8-Track Deck
Features 2- or 4-channel play/record. Response 30-16,000 Hz ±3 dB. Wow & flutter 0.25% rms; (S + N)/N 47 dB. Has four mike (0.5 mV) & line (50 mV) inputs; four record-level meters; universal power supply $329.95

BSR McDONALD
TD-80W 8-Track Stereo/4-Ch Deck
Deck automatically selects stereo or discrete 4-channel tapes. Includes 0.40 V stereo/4-ch preamp. Comes with wood grain cabinet and connecting cables $99.95

CHANNEL MASTER
6690 4-Ch 8-Track/Receiver
5 W rms/ch; 4-ch discrete 8-track and SQ 4-channel FM reception; features push-button control of channel selection, loudness, FMmuting, a.f.c., "on/off," remote-control panel with 14-ft cord; automatic and manual track changing. Control center 5½' H x 23½' W x 12½' D. Air-suspension speakers (2 pairs) 18' H x 11' W x 7' D $349.95

CROWN INTERNATIONAL
CX44 Tape Recorder
Three-speed (15, 7'/2, 33/, ips), 4-channel, 4-track, 3-motor design. Will handle up to 10½' reels. Has 3 heads. Response 20-25,000 Hz ±2 dB. Wow & flutter 0.09% at 7½ ips. Features braking, pause control, four VU meters, remote record, and automatic photocell shut-off $2995.00

SX744 Tape Recorder
Two-speed (7'/2 & 33/, ips), 4-track, 4-channel, 3-motor design. Will handle up to 10½' reels. Has 3 heads. Response 20-25,000 Hz ±2 dB. Wow & flutter 0.09% at 7½ ips. Features braking, pause control, four VU meters, and automatic shut-off $1995.00

DOKORDER
7140 2/4 Ch Stereo Tape Deck
Provides complete 4-channel record & playback facilities. Has three motors (synchronous capstan and eddy-current induction reel), mechanical speed change; solenoid operation. Tape speeds 7½ & 3½ ips; wow & flutter ±0.08% max. at 7½ ips. Will handle 5½ & 7½ reels; operates horizontally or vertically. Has three separate heads; full tape/source monitoring; NAB equalization. Response 30-22,000 (±3 dB) at 7½ ips; (S + N)/N 55 dB at 7½ ips; crosstalk 55 dB at 1000 Hz; stereo channel separation 45 dB at 1000 Hz. Includes Multi-Sync function which permits recording separate tracks individually and re-recording any individual track at any time in perfect sync with the other three tracks. Electronic echo, sound-on-sound, and sound-with-sound are switched selected. Response 25-26,000 Hz (30-23,000 Hz ±3 dB) at 15 ips; 25-24,000 Hz (30-20,000 Hz ±3 dB) at 7½ ips; S/N 60 dB; crosstalk 58 dB; wow & flutter 0.04% at 15 ips, 0.06% at 7½ ips, 17¼' W x 15¼' D x 2’ H $1199.95

FISHER
40 4-Channel System
Combines an AM/FM stereo receiver, a 4-speed automatic turntable with magnetic cartridge, and a 4- and 2-channel 8-track tape cartridge player. Includes matrixing circuit to provide 4-channel reproduction from conventional 2-channel programs. 25 Wch (100 W total) dynamic (EIA) power at 5% HD. FM sensitivity 2.5 µV. 25” x 8¾” x 17½” D $499.95

4001 "Musicenter" System
System includes 5 W rms/ch strapped power amplifier; separate turntable; SQ circuit; four two-way speaker systems (each with 6” woofer & 2” tweeter, 3000 Hz crossover). FM sensitivity 4.0 µV; selectivity 36 dB; S/N 60 dB; capture ratio 4 dB; has full complement of controls. 18½’ W x 14’ D x 5’ H $399.95

Also available with 3-way speaker systems (each with 8” woofer, 4½” mid-range, 2” tweeter, crossovers 800 & 3000 Hz) at additional cost. 4081. Same as 4001 except includes a built-in

STEREO DIRECTORY & BUYING GUIDE
GENERAL ELECTRIC

TA400 2-4Ch Player Deck
Automatic start when cartridge is inserted; auto or manual program selection; indicator lights; mixing switch for playing 4-ch tapes through stereo system; output jacks for connection to stereo or 4-ch system; patchcords. $99.95

TA-640 2-4Ch Deck
Provides 2-ch record and 2-4-ch channel playback; automatic mode selection; pause control for editing or cueing; manual or auto eject; dual lighted VU meters; record-level controls; tape timer; fast-forward; front-panel mike jacks; comes with mikes and patchcords. $219.95

SC4210 4-Ch./8-Track System
Combines a 4-ch AM-FM stereo receiver with 4-ch/2-ch 8-track cartridge player and four speaker systems; will play SQ and CD-4 records with accessory record changer; has 4-ch headphone jacks; matrix 4-ch decoder; four-position mode switch for SQ synthesis, or stereo operation; lighted slide-rule dial; vernier tuning; 6½" dual-cone speaker in each 17" x 1" enclosure; formed grille cloths; full complement of inputs and outputs. $319.95

SC4205. Similar to SC4210 except 40 W peak music power; speaker systems in air-suspension enclosures with 8" woofers & 3" tweeters in each. $349.95

SC4300. Similar to SC4205 except has built-in SQ and RM decoders as well as matrix decoder; 3-speed automatic record changer. $469.95

PIONEER

RS-862S 8-Track Recorder/Radio
Four-channel, 8-track player which will record in 2-channel. Has AM-FM stereo radio, four built-in amplifiers, two VU meters. With optional mike can be used for sound with sound. Features automatic stop, fast-forward, a stereo broadcast indicator light, continuous tone control, two headphone jacks, and a 4-channel MXP jack. Comes with four matching 2-way walnut speakers with latticework grilles. $399.95

RE-8244 8-Track Deck/Receiver
Discrete 4-channel, 8-track system with AM-FM stereo receiver with "Quadruplex IV" 4-ch simulation from stereo sources: has four slide volume controls; continuous tone control; blackout & illuminated slide-rule tuning; FM stereo eye; program selector; speaker jacks twin headphone jacks; remote 4-ch balancer. Comes with four separate air-suspension speakers. Can be used with optional CD-4 record changer for discrete 4-ch sound. $269.95

S-14400. Similar to RE-8244 but includes 3-speed automatic CD-4 record changer as well; adaptable for discrete and matrix sound; 4-ch Aux. input for addition of any 2/4-ch accessory. $349.00

RE-8860. Similar to RE-8244 but has built-in 4-channel balance scope. $395.95

RE-8585. Similar to RE-8400 but with a 4-channel "radar" eye to indicate a CD-4 disc is being played. $429.95

RE-5757. Similar to SE-4400 but with auto-sensor for 2/4-ch records and tapes; proper matrix or CD-4 circuitry selected automatically. $499.95

LAFFAYETTE

RK-94 2/4 Channel Tape Deck
Plays all pre-recorded 8-track cartridges: stereo, SQ and discrete GB-4 channel; has program indicator lights; manual program selector; quadraphonic 4-channel indicator; hinged cartridge door. Walnut finish case with black & silver front panel. 8" x 4½" x 9". $59.95

SOR-40 4-Ch, 8-Track/Receiver System
Receiver features sensitive AM-FM stereo tuner, 4-channel "SQ-M" decoder, "Composer" derived 4-channel from 2-channel sources, discrete 4- & 2-channel 8-track tape player, and four separate amplifiers. Comes with four-wide range walnut speaker systems (8½" W x 14½" H x 5½" D). 21½"W x 11½"D x 4½"H. $189.95

1975 EDITION
**SANUI**

**QD-55000 2/4 Ch Record/Play Deck**
Two-speed (7½, 3½, & 1½ ips) deck. Will record and play back 4-track stereo or 4-channel. Wow & flutter 0.07%. Response 25-30,000 Hz at 7½ ips. (S + N)/N 40 dB. Has three heads, three motors, three-way mixing. Features four mike & tape head automatically senses and adjusts to either 2- or 4-channel tapes. Walnut-grain wood cabinet with brushed aluminum front panel. $399.95

**494 4-Channel Deck**
Three-speed (7½, 3½, & 1½ ips), four-track, three-head design. Has four discrete channels, four VU meters, and level controls. Response 50-18,000 Hz; wow & flutter 0.13% rms at 7½ ips. Records discrete 4-channel and standard 2-channel stereo. Walnut wood cabinet with brushed aluminum front panel. 16½" x 14½" x 6½". $329.95

**SANYO**

**RD-8000 8-Track 2/4 Ch Player Deck**
Will play 2- or 4-channel 8-track cartridges. Features fast-forward, automatic sensing system for 2- & 4-channel cartridges. Response 50-12,000 Hz. (S + N)/N 42 dB. Wow & flutter 0.2% at 15 ips. $149.95

**RD-8010 8-Track 2/4 Ch Player Deck**
Will play both 2- and 4-channel 8-track cartridges. Features include automatic selection of correct playback circuits; channel indicator lights; program selector switch. Response 50-12,000 Hz; wow & flutter 0.2%. 9½" x 8½" x 3½". $69.95

**DXL-5486 2/4 Ch Music System**
Combines an AM-FM stereo receiver, a 2/4-channel 8-track tape deck, SQ circuitry, four amplifiers; and four separately housed speaker systems (11¾" W x 7¾" H x 12½" D). Has two heads (4-channel record changer). 10 W/ch power output. Has inputs for tape recording from radio, built-in 8-track deck, or from the phonograph. 19½" x 14½" x 9½". $299.95

**DXL-5489 2/4 Ch Music System**
Combines an AM-FM stereo receiver, a 2/4-channel 8-track tape deck, SQ circuitry, four amplifiers; and four separately housed speaker systems (11¾" W x 7¾" H x 12½" D). Has two heads (4-channel record changer). 12½ W/ch power output. 20" x 14½" x 9½". $379.95

**GXT-4831 2/4 Ch Music System**
Combines an AM-FM stereo receiver, a 4-channel matrix decoder circuit; four power amplifiers; and four separately housed speaker systems (9¾" W x 7″ D x 15½" H) each with a full-range speaker. Will handle SQ records or 4-channel 8-track tapes. 10 W/ch power output. $299.95

**GXT-4652 2/4 Ch Music System**
Combines an AM-FM stereo receiver, four amplifiers; decoder matrix circuit; cassette tape deck; automatic 3-speed record changer; and four separately housed speaker systems (9¾" W x 7½" D x 15½" H) each with full-range speaker. The cassette deck will record in 2-ch stereo at the same time 2-ch stereo or 4-ch SQ stereo discs are played; recorded cassettes may be played back in 4-ch stereo. 10 W/ch power output. 19½" x 14½" x 9½". $349.95

**GXT-4651 2/4 Ch Music System**
Combines an AM-FM stereo receiver, four amplifiers; decoder matrix circuitry; cassette tape deck; automatic record changer; four separately housed speaker systems. 12½ W/ch power output. Features two recording level meters; automatic stop; automatic eject on cassette deck. 21½" x 14½" x 9½". $399.95

**GXT-4881 2/4 Ch Music System**
Combines AM-FM stereo receiver; four amplifiers; matrix circuitry; 8-track record deck; four separately housed speaker systems (same as in DXT-5489). 20" x 12½" x 6½". $479.95

**GXT-5481 2/4 Ch Music System**
Combines AM-FM stereo receiver; Garrard automatic record changer; 8-track tape deck; four amplifiers; decoder matrix circuitry; and four separately housed speaker systems (same as in DXL-5489). 12½ W/ch power output. 21½" x 14½" x 9½". $479.95

**SANYO**

**DXT-5487 2/4 Ch Music System**
Combines AM-FM stereo receiver; Garrard automatic record changer; 8-track tape deck; four amplifiers; decoder matrix circuitry; and four separately housed speaker systems (same as in DXL-5489). 12½ W/ch power output. 21½" x 14½" x 9½". $479.95

**DXT-5341 2/4 Ch Music System**
Combines AM-FM stereo receiver; cassette tape deck; 8-track player; automatic record changer; decoder matrix circuitry; four amplifiers; and four separately housed speaker systems (same as in DXT-5489). 20" x 12½" x 6½". $479.95

**SONY from SUPERSCOPE**

**TC-277-4 Quadrangular Tape Deck**
Reel-to-reel, 3-speed (7½, 3½, & 1½ ips), 4-channel, in-line design. Response 50-16,000 Hz; ± 3 db at 7½ ips; S/N 52 dB; wow & flutter 0.12% at 7½ ips. Has two heads (4-channel erase & record/play), four inputs, and four line outputs (1/ch). Input sensitivity 0.06 V. 15½" W x 7¾" D x 15½" H. $469.95

**STEREO DIRECTORY & BUYING GUIDE**
TEAC 3340S 4-Channel Tape Deck
Four-channel, three-motor, three-head stereo tape deck with 15 & 7 1/2 ips speeds. Features "Simul-Sync" which allows recording four discrete but fully synchronized channels on each track of a 4-track tape; permits synchronized overdubbing, professional mix-down and special effect tapes. Up to eight inputs (four mike, four line) can be recorded simultaneously. Push-button transport control with logic circuitry. Has 4/8 pole dual-speed hysteresis synchronous motor and two eddy-current induction reel motors. Hyperbolic-shape Permaflux fluxunit, shielded for max. channel separation and protection from leakage flux fields. Unit includes separate bias level and EQ switches; total remote ability; four expanded-scale VU meters; fast-forward, repeat, and program selector push switches; walnut wood-grained cabinet. Ph" H x 9 1/4" W x 9 5/8" D. $299.95

SUPERSCOPE
QRT-440 4-Ch Receiver/8-Track
Will reproduce SQ records, FM broadcasts or tapes; simulaton 4-ch reproduction from standard stereo sources. Will play Q-8 cartridges through built-in 8-track 2/4-ch tape player. FM usable sensitivity 5 µV (HF); stereo separation 32 dB at 1 kHz; response 20-12,000 Hz ±1.5 dB; THD 1.5% stereo; capture ratio 5 dB. Has complete set of controls; signal-strength tuning meter; four-channel FM output. 18¾" W x 5¾" H x 14½" D. $329.95

TD-48 4/2 Ch Cartridge Player
Has automatic 2- and 4-channel switching that sets tape player for correct operation; illuminated 4-channel indicator; built-in automatic program selector; illuminated program indicator; fast-forward, repeat, and program selector push switches; walnut wood-grained cabinet. Response 50-10,000 Hz; wow & flutter 0.04% at 15 ips, 0.06% at 7 1/2 ips. Has four VU meters, continuous circuitry. Has 4/8 pole dual-speed hysteresis synchronous motor and two eddy-current induction reel motors. Hyperbolic-shape Permaflux fluxunit, shielded for max. channel separation and protection from leakage flux fields. Unit includes separate bias level and EQ switches; total remote ability; four expanded-scale VU meters; mike & line inputs plus pause control and noise-suppressor switch. Response 30-12,000 Hz; wow & flutter 0.2%. 8¾" x 21 1/2" x 11 1/4". $299.95

TELEX 2 + 2 Tape Deck
Four- or two-channel reel-to-reel design. Can provide discrete 4-channel playback only. Has

120-V, 60-Hz operation .......... $119.95

TC-388-4 Quadradial Tape Deck
Open reel, 2-speed (7 1/2 & 3 1/4 ips) 2- and 4-channel recorder. Response 20-25,000 Hz (standard tape) and 20-25,000 Hz ±3 dB (SLH-180 tape) at 7 1/2 ips; 55 dB SLH-180 tape. Has four auxiliary inputs; impedance 100,000 ohms; four mike inputs; sensitivity ±72 dB. Three heads (erase, record, playback); four VU meters. Wow & flutter 0.09% at 7 1/2 ips (rms NAB weighted). Features push button on-off switch; mike attenuator (-20 dB); built-in reel locks; line output level control. 16½" W x 19¾" H x 8½" D. $679.95

SUPERSCOPE
QRT-440 4-Ch Receiver/8-Track
Will reproduce SQ records, FM broadcasts or tapes; simulaton 4-ch reproduction from standard stereo sources. Will play Q-8 cartridges through built-in 8-track 2/4-ch tape player. FM usable sensitivity 5 µV (HF); stereo separation 32 dB at 1 kHz; response 20-12,000 Hz ±1.5 dB; THD 1.5% stereo; capture ratio 5 dB. Has meters; 2-ch/4-ch play switch; front & rear stereo headphone jacks; pause control with indicator light; Quik-Lok reel holders. Response 25-24,000 Hz at 15 ips; 25-22,000 Hz at 7 1/2 ips; wow & flutter 0.04% at 15 ips, 0.06% at 7 1/2 ips.
Tape Machines

speeds (1/4, 3/4 & 7/8 ips), 3 heads. Response 30-20,000 Hz ±3 dB with low-noise tape. (S + N)/N 50 dB. Wow & flutter 0.09% at 7/8 ips. Has regular & low-noise tape switch. 153/4" x 171/2" H x 83/4"D. $499.95

WOLLENSAK

8054 4-Channel Player
Plays 8-track, 2- and 4-channel quadrasonic cartridges. Has a channel-selector key, automatic programming facilities for 2- or 4-channel, fast-forward. Response 30-15,000 Hz, wow & flutter 0.25%. (S + N)/N 52 dB. $119.95

8060 8-Track, 4-Channel Tape Deck
Record-play deck. Can record and play stereo and matrixed four-channel but play-only discrete four-channel material. Has digital counter for accurately timing recordings, cueing, automatic eject, pause lock, fast-forward, and stereo headphone jack. $249.95

8080 4-Ch Player/2-Ch Recorder
Will record & play stereo and play 4-channel tapes; features Dolby noise-reduction circuit which operates on both play & record and FM broadcasts; tape selector switch for standard or company's Classic cartridge tapes; digital minute & second counter for timing recordings; fast-forward; end-of-tape shut-off; response 30-15,000 Hz (Classic tape), 30-12,000 Hz (standard); 5/8 60 dB (Dolby in), 50 dB (Dolby out); wow & flutter 0.1% rms (weighted). 193/8" L x 101/2" W x 5" D. $344.99

FISHER

QP-44 2/4 Channel Stereo Headphones
Response 20-18,000 Hz. Switchable 2-channel/4-channel operation. Sensitivity: 10 mV for average listening. Max. power 0.2 W. 8 ohms. 10-ft coiled cord. 20 ounces. $69.95

KOSS

K2+2 4-Channel Headphones
Dynamic type. Features four separate drive elements (2 in each phone) for 4-channel reproduction, arranged in conventional 4-channel format. Has switch for conventional stereo operation. Frequency response 20-20,000 Hz. Has fluid-filled ear cushions for 40 dB ambient noise isolation. $75.00

KOSS

K/6LCQ. Response 20-17,000 Hz. Has foam-filled vinyl ear cushions for ambient noise isolation averaging 18 dB. $49.95

PRO/5Q. Response 20-20,000 Hz. Has fluid-filled ear cushions for 40 dB ambient noise isolation. $75.00

HEAR-MUFFS

QM-440 "Quadramuffs"
Features a velour-covered curved polyurethane cushion worn around the back of the head while reclining. Contains four 3/4" dynamic drivers and is supplied with double stereo phone plugs. Response 20-18,000 Hz. Compatible with 4-16 ohm output impedance. THD unmeasurable at 95 dB SPL, 1.5 W/ich max. power handling capacity. 26 ounces. $49.95

JVC

5944 4-Channel Headphones
2- or 4-channel design. Response 20-20,000 Hz. HD 0.5% at 1 mW. Has a built-in phase changeover switch. $49.95

F736 Phono/8-Track/Receiver
Combines an AM-FM stereo receiver with built-in 2/4-channel 8-track tape player, record player, and four Allegro 1000 speaker systems; same features as F712 plus record player with low-mass tonearm; cueing control; 0.7 mil x 3.0 mil stylus. Control center 9" H x 25 1/2" W x 15 1/2" D. $399.95

D762 2/4 Ch. 8-Track Player
Activated when cartridge is inserted, turns off when cartridge is removed; automatic switching for 2-ch to 4-ch mode; push-button program selector. Grained walnut veneer cabinet. 43/8" H x 9 1/2" W x 9 1/2" D. $89.95

ZENITH

F712 8-Track/Receiver
Combines an AM-FM stereo receiver with built-in 2/4-channel 8-track tape player and four Allegro 1000 speaker systems; features separate bass & treble controls; loudness and balance controls; speaker system has 6 1/4" woofer & treble horn; LC crossover network; response 60-15,000 Hz; 8 ohm imp.; grained-walnut enclosure (16 1/2" H x 10 1/2" W x 7 1/2" D). Control center 5" H x 25" W x 15" D. $349.95

Headphones

BEYER/DYNAMIC

DT-204 4-Channel Headphones
Frequency range 20-20,000 Hz; impedance 4 x 200 ohms (4-channel), 2 x 100 ohms (stereo); independent volume controls for each front channel built into right earcup; 4-ch./stereo slide switch on right earcup; two jack plugs color-coded for front & rear channels; 10-ft detachable cable. Weight 14 ounces. $120.00

FISHER

QP-44 2/4 Channel Stereo Headphones
Response 20-18,000 Hz. Switchable 2-channel/4-channel operation. Sensitivity: 10 mV for average listening. Max. power 0.2 W. 8 ohms. 10-ft coiled cord. 20 ounces. $69.95

GENERAL ELECTRIC

H28 Quadraphones
For 4-ch or stereo use; max. input 800 mW, imp. 8 ohms; comes with coiled cord with two hpone plugs; cushioned earcups & padded head-band. $24.95

PRO/5Q. Response 20-20,000 Hz. Has fluid-filled ear cushions for 40 dB ambient noise isolation. $75.00

HEAR-MUFFS

QM-440 "Quadramuffs"
Features a velour-covered curved polyurethane cushion worn around the back of the head while
1975 EDITION

Has four separate drivers which will deliver HD sound from any discrete or matrixed four-channel source. Has quad/stereo switch for maximum utilization of the four drivers in the 2-channel stereo mode. Response 20-20,000 Hz. Impedance 4-300 ohms. Sensitivity 100 dB SPL 1.1 mW. Max. input 14 mW; max. output 110 dB. HD at 1 kHz 0.7%. Ambient noise isolation 40 dB. Has liquid-filled ear cushions 14-ft coiled cord with dual jacks. Black with chrome-plated headband. 24 ounces. $59.95

**XQ-4 4-Channel Headphones**
Features dual-driver cavity assembly with four separate acoustic-suspension drivers; response 15-20,000 Hz (20-15,000 Hz ±4 dB); HD 0.6% at 110 dB SPL 1000 Hz; impedance 4-1000 ohms; sensitivity 4.0 mW (95 dB SPL); max. input power (loaded) 45 mW; max. acoustical output (loaded) 110 dB; liquid earseals; padded head cushion; comes with 14-ft coiled cord with dual jacks; 19 ounces. $79.95

**TELEPHONICS**

**TEL-101F “Fixler Effect” Phones**
Patented design involving specially designed drivers positioned in front of and behind ear for realistic spatial distribution of sound; two dynamic drivers per phone; response 20-20,000 Hz; sensitivity 100 dB SPL at 1000 Hz for 1 mW; disc. 0.2% max; features “Quadrablend” control to adjust ambience; open-cell foam ear cushions, 23 ounces. $99.95

**TECHNICS BY PANASONIC**

**EAH-420 4-Channel Headphones**
Dynamic type using six drivers; each earpiece has center-mounted 3” woofer with two isolated front-back 1¾” tweeters; high efficiency; independent tone & volume controls on each earpiece; 4-ch/2-ch selector switch; input imp. 4-16 ohms; response 20-20,000 Hz; max. input 1000 mW; sensitivity (1 mW, 200 Hz) = 104 dB; 9-1/2 ft cord. 23.8 ounces. $79.95

**RADIO SHACK**

Nova-44 4-Channel Headphones
Quadrophonic/stereophonic dynamic design. Each earcup has separate speakers for two channels. Dual plugs provided for stereo or 4-channel use. Ported earcups. Frequency range 20-20,000 Hz; 8 ohms; 15-ft coiled cord. $44.95

**SCINTREX**

HQ 4 4-Channel Headphones
Has four separate drivers which will deliver 1975 EDITION

**LAFAYETTE**

**F-4400 4-Channel Headphones**
Four separate 2½” speakers, each in its own acoustically isolated chamber, deliver 4-channel sound from 4-channel amplifiers and receivers. Exclusive, patented baffle plate increases front-to-rear separation. Has 4-channel/2-channel switch. Built-in circuitry derives 4 channels from 2-channel sources. Frequency response 20-20,000 Hz. Impedance 4-16 ohms. Foam-filled vinyl leatherette earpieces and adjustable headband. With 9V2-ft cable, connectors marked for easy identification. $90.00

**MURA**

**QP-280N “Quadset” Headset**
Has 4-channel/stereo switch; 10-ft coiled cord with dual plugs marked for easy identification. Response 20-20,000 Hz. Power rating 0.2 W; impedance 8-16 ohms. Custom leather-type padding on earcups and headband. With 9V2-ft cable, connectors marked “L” and “R” for accurate listening orientation. Sensitivity: 100 dB SPL (at 0.1 V input 10 dB SPL transient peaks. Dist. V2% at 110 dB SPL; features “Quadrablend” control to adjust ambience; open-cell foam ear cushions, 14 ounces. $49.95

**STANTON**

**Dynaphase Sixty-Five Four C**
Has two speakers in each earpiece for 20-20,000 Hz response. Equipped with two plugs (blue for front, black for rear); earpieces marked “L” and “R” for accurate listening orientation. Sensitivity: 100 dB SPL (at 0.1 V input at 1 kHz each channel). Maximum power input 1.25 V rms continuous with provision for 10 dB SPL transient peaks. Dist. ⅛% at 110 dB SPL. Input imp. (at 1 kHz) 15 ohms ±20%. Vinyl-covered foam ear cushions; adjustable headband. 11-ft coiled cord with four-channel/stereo switch, front & rear plugs. 19 ounces. $64.95

**SUPEREX**

**QT-4 “Quad-Tette” Headphones**
Has four identical reproducers (two to an earcup) with frequency response of 25-17,000 Hz. 15-ft. cord. Ivory/Cordovan. $50.00

**QT-48 “Quad-Tette” Headphones**
Has four identical reproducers (two to an earpiece) with frequency response of 20-18,000 Hz. Features four matched driver elements; sensitivity, and zipper carrying case with 6-ft cable, plugs marked for easy identification. $49.95

**PIONEER**

**SE-Q404 2/4 Ch Headphones**
Features four matched driver elements; sensitivity 105 dB/0.3 V (4-ch, each channel), 111 dB/0.3 V (2-ch, each channel); frequency range 20-20,000 Hz; max. input power 500 mW/ch; has volume controls; 2/4 ch selector switch; adjustable headband; 8 ohms; matching imp. 4 to 16 ohms. $69.95

**TECHNICS BY PANASONIC**

**EAH-420 4-Channel Headphones**
Dynamic type using six drivers; each earpiece has center-mounted 3” woofer with two isolated front-back 1¾” tweeters; high efficiency; independent tone & volume controls on each earpiece; 4-ch/2-ch selector switch; input imp. 4-16 ohms; response 20-20,000 Hz; max. input 1000 mW; sensitivity (1 mW, 200 Hz) = 104 dB; 9.1-1/2 ft cord. 23.8 ounces. $79.95
DYNACO

Quadaptor

The simplest type decoder for recovering 4-channel information from 2 channels. Does not require two additional power amplifier channels. Provides level adjust for rear speakers. Unit connects between speakers and power-amp outputs. Is a passive device. 4 1/4" x 4 1/4" x 6 7/8" D. Kit $22.50 Assembled $29.95

FISHER

IMA-40 Integrated Rear Amplifier

Converts 2-channel stereo system into 4-channel (discrete, SQ, RM). 13 W/ch rms; 5.5 W/ch $99.95

JVC

4DD-5 4-Channel Demodulator

Designed to be used with the CD-4 four-channel system. Can be added to any existing 2-channel turntable & 4-channel reproducing system. Input 1.5 mV at 100,000 ohms impedance. Output 300 mV at 5000 ohms impedance. Response 20-16,000 Hz. Separation semi-adjustable. $129.95

LAFAYETTE

LA-524 4-Channel Decoder/Amplifier

Designed to convert regular 2-channel stereo systems into discrete and SQ matrix 4-channel systems. Features built-in SQ decoding circuit for playback of Columbia and other SQ-decoded discs; firm's 4-channel matrixing circuit for regular 2-channel stereo program sources. Requires separate 2-channel amp & speakers. Features master front-and-rear-volume control. Has fused speaker outputs. $59.95

Concord

CSQ-2-4 SQ Decoder

Designed specifically to reproduce SQ matrixed program material. Will also synthesize regular 2-channel stereo records. Gain 1.3 db. Response 20-20,000 Hz. Input imp. 1 megohm. Dist. 1% THD max. Must be connected at output of a preamp. 3 3/4" H x 9 3/4" W x 7" D. Walnut cabinet $87.95

Electro-Voice

EVX-44 Universal 4-Channel Decoder

Automatically provides correct decoding of all types of matrixed 4-channel program material. Provides optional front-to-rear separation enhancement. Connects into hi-fi system between preamp & power amp or through tape jacks. Has inputs for 2- and 4-channel tape sources. (S + N)/N 70 db below 1/4 V. Gain is unity. Maximum input 4 V rms. Response 20-20,000 Hz. $59.95

Fisher

TX-420 4-Channel Converter

Designed to be used with present stereo systems to provide 4-channel reproduction. Has 4-channel preamps and 2-channel stereo power amp. Includes a 4- or 2-channel 8-track cartridge player and decoding (matrixing) system for producing 4-channel material from 2-channel conventional or encoded sources. 18 W/ch. $99.95

General Electric

QA40 4-Ch Decoder/Amp

For use with 2-channel systems with decoder jacks; had 3-pos. selector switch for discrete 4-ch, matrixed 4-ch, and synthesized 4-ch; built-in SQ decoder & 4-ch synthesizer circuit; input jacks for radio, tape, phono, and CD-4 signal sources $99.95

Harman/Kardon

44+ CD-4 Demodulator

Outboard demodulator for use with multi-channel receivers without built-in CD-4 capability; uses same circuitry as the company's 700+, 800+, and 900+ four-channel receivers: response 20-10,000 Hz ±1.5 dB (at 5 dB at 15,000 Hz), (S+N)/N 60 dB (CD-4 "on"), 65 dB (CD-4 "off"); channel separation 20 db; phono input sensitivity 2 mV; input impedance 100,000 ohms ±10% with 30 pf; output impedance 2000 ohms. Enclosure designed to match company's multi-channel receivers. 4 1/4" W x 12" D. 15" D with knobs and connections $119.95

Hitachi

IMA-40 Integrated Rear Amplifier

Converts 2-channel stereo system into 4-channel (discrete, SQ, RM). 13 W/ch rms; 5.5 W/ch $239.95

JVC

4DD-5 4-Channel Demodulator

Designed to be used with the CD-4 four-channel system. Can be added to any existing 2-channel turntable & 4-channel reproducing system. Input 1.5 mV at 100,000 ohms impedance. Output 300 mV at 5000 ohms impedance. Response 20-16,000 Hz. Separation semi-adjustable. $129.95

Lafayette

LA-524 4-Channel Decoder/Amplifier

Designed to convert regular 2-channel stereo systems into discrete and SQ matrix 4-channel systems. Features built-in SQ decoding circuit for playback of Columbia and other SQ-decoded discs; firm's 4-channel matrixing circuit for regular 2-channel stereo program sources. Requires separate 2-channel amp & speakers. Features master front-and-rear-volume control. Has fused speaker outputs. $59.95

SQ-M 4-Channel Decoder

For reproducing 4-channel sound. Includes the company's "Composer Circuit" (similar to Dynaco system) to convert conventional 2-channel stereo sound sources into 4-channel reproduction. Also includes CBS matrixing circuits for playback of CBS 4-channel SQ Quadrophonic records. Has simulated walnut-finished case. $24.95

Stereo Directory & Buying Guide
1975 EDITION

**4-Channel Adapter for Cars**

Derives 4-channel sound from present 2-channel car stereo tape system or FM radio. Front panel contains rear-level speaker control, 2- or 4-channel mode switch, and front (L & R) speaker-level controls. If present system has four speakers, only adapter is required; if two speakers, two more speakers must be added. For 12-V negative ground systems. Includes two 3-ft., two 6-ft., and two 15-ft. connecting cables. 51/4" H x 153/8" W x 121/8" D. #99-85128. $5.95. 99-62994. Pair of 3" x 5" matching rear deck speaker systems. $7.95.

**SQW Decoder**

Features full SQ logic (front/back logic and wavematching logic). Will also handle RM and other matrices; derives 4-ch sound from 2-ch program sources. Has 2- and 4-ch inputs. Outputs: two sets of 4 outputs for decoded or discrete; 2-ch tape outputs. Controls: power "on/off"; master volume; function switch (tape/source, power indicator, tape/source indicator, and tape and source sensitivity slide switches. $109.95.

**MARANTZ**

**SOA-2 Full-Logic Decoder**

Full-logic SQ decoder featuring wave-matching and variable blend; separation of up to 20 dB; designed to fit into special under-chassis slot of company's Quadraline receivers. $79.95.

**CD-400 Demodulator**

Designed to be used with any 4-channel receiver; phase-lock loop for the 30 kHz carrier signal; built-in noise reduction circuits for each channel; has rear-channel calibration controls & CD-4 calibration disc; features auxiliary set of 4-channel inputs; front-panel Aux. push switch. $139.95.

**TEAC**

**AN-300 4-Ch. Dolby Noise Attenuator**

Has four separate Dolby-B type noise-reducing systems within a single housing. Features four VU meters. With channels operated in pairs the unit affords simultaneous decoded stereo monitoring or full 4-channel Dolby encoding. Has a standard 400-Hz recording calibration tone on all four channels and a 420-Hz pulse circuit for easy identification of the calibration tone. In-creased (S + N)/N of 10 dB at 10,000 Hz (5 dB at 1000 Hz). Sensitivity: tape and line 0.1 V. Outputs: record and monitor 0.3 V. Has multiplex filter. Response 20-20,000 Hz ±1.5 dB. 61/4" H x 161/4" W x 101/4". $399.50.

**AX-300 4-Channel Mike/Line Mixer**

Has a preamplifier and features inputs for six low-impedance microphones (four circuits mike/line switchable and two circuits mike only). Has a six in and four out format. (S + N)/N is -62 dB (±72 dB line); mike (600 ohms balanced) input 0.1 V max.; line input 0.3 V (7 V max.). 61/4" x 161/4" W x 101/4" D. $429.50.

**TECHNICS BY PANASONIC**

**SE-405H CD-4 4-Ch. Demodulator**

Low-distortion, high separation demodulator for playback of CD-4 discrete 4-channel recordings. Includes 4-channel semiconductor cartridge for mounting in any standard tonearm and will also play 2-channel and all other discs. Phon cartridge response d.c. to 50,000 Hz. Demodulator audio response 20-16,000 Hz. Built-in equalizer/preamps. Inputs: phone #1 (semiconductor cartridge) 3 mV; phone #2 (magnetic cartridges) 1.5 mV. Input impedances: phone #1 4700 ohms, phone #2 100,000 ohms. Output 300 mV. Has 3-position mode selector including 4-Ch. Auto for demodulating CD-4 records or automatically switching to 2-channel stereo, depending on record being played; 4-Ch. Aux.; Conventional Stereo. Indicator automatically lights to indicate playing and demodulation of CD-4 record. Separation adjustment. 31/4" H x 81/4" W x 13/4" D. $429.50.

**SH-3433 4-Channel Audio Scope**

3-inch screen to view all 4-channel signal levels & phase relationships. Connects either at speaker terminals or outputs of any preamp. $259.95.

**TOSHIBA**

**SC-410 4-Channel Adapter**

Designed as a 2-channel stereo system with 15 W/ch rms continuous power for use with any conventional 2-channel stereo system to provide 4-channel sound reproduction. Can be used with both discrete or matrix inputs. Has matrix decoding circuits similar to Dynaco system. Will extract out-of-phase material from a 2-channel program source or any 4-channel encoded material. Features four choices of multi-channel listening: "Concert Hall," "Studio," "Surround," and "Stage." Apparently derived from variations in mixing and high-frequency roll-off. $169.95.

**ZENITH**

**E9029 4-Channel Adapter**

When used with stereo receiver permits 4-ch matrixed records, 4-ch tapes & 4-ch FM stereo broadcasts to be played; requires two additional speakers. Grained-walnut enclosure. 41/4" H x 14" W x 91/4" D. $89.95.

**it's over!**

To the serious listener in search of an accurate reproducer of sound, we offer the electrostatic principle. Listen, and your search will be over.

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Minneapolis, Minnesota 55427

a division of Electronic Industries, Inc.
In the beginning there was folded horn bass reflex acousticsuspension.

And now BIC VENTURI

For about 40 years, speaker designers have been juggling the characteristics they wanted from speakers: Compact size, high efficiency, high power-handling, and deep ranging, pure, clean, gut-reaction bass.

They tried folded horns: efficient, clean, good power-handling, but too large for most homes, quite expensive. They tried the bass reflex: Efficient, compact, but limited by uneven, one-note bass. Ditto the labyrinth, but far less efficient.

Today's favorite, the acoustic suspension: Compact, smooth, deep-ranging bass. But inefficient (requiring costly, high-powered amplifiers) and limited dynamic range.

A virtue here, a virtue there — but all with corresponding compromises.

Ironically, the principle that combines these objectives into one compact cabinet has been around for some 180 years: The VENTURI principle of fluid motion transformation, reapplied in a form better suited to acoustics (patents pend). Our simplified diagram shows how the scientifically formulated VENTURI coupled path functions as a step-up transformer. Up to 140 times more bass energy comes from the duct than comes directly from the woofer. And bass is reinforced broadly over the low frequency spectrum, not at a single "tuned" frequency.

The BIC VENTURI coupled path also operates as a low pass acoustic filter, cleansing harmonics and distortion components from the bass waves. So, the bass not only goes down further and is louder, it's cleaner and more natural. And requires a fraction of amplifier power of other speakers of comparable size and performance.

Yet, even though BIC VENTURI need less amplifier power, they can handle more. This new principle eliminates compromises in cone, suspension and magnetic design to "match" cabinet characteristics.

Above the woofer, you can see our midrange. To match the exceptional high efficiency of the bass section, we had to invent a new horn, combining two different types of flare, conical and exponential, BICONEX™ (pats pend). It provides wide, smooth dispersion in both horizontal and vertical planes, so placement in the home won't be critical. BICONEX covers the full midrange to well beyond 15,000 Hz without crossover network interruptions, for distortion-free, smooth response.

Our super tweeter handles just a half octave from 15,000 to over 23,000 Hz. While you can't hear single frequency tones in that range, the accuracy of musical "timbre" depends upon those frequencies being added in proper proportion to the complex tones you do hear. An important subtlety.

Because you hear less bass and treble at low and moderate levels, we built a DYNAMIC TONAL COMPENSATION circuit (patents pending) into the speaker. It adjusts speaker frequency response as sound pressure output changes, automatically. Amplifier "loudness contour" controls can't do that. Result: aurally "flat" musical reproduction always, regardless of volume control settings.

Our Formula 2 is the most efficient speaker system of its size, yet can be used with amplifiers rated up to 75 watts per channel! Formula 4 has deeper bass and can be used with amplifiers up to 100 watts. Formula 6, the most efficient, will handle 125 watts. The Formula 1, newest and smallest model, handles up to 50 watts and needs only a few watts input for clean, high level sound. Hear them at franchised BIC VENTURI dealers. Or write for brochure: BRITISH INDUSTRIES CO., Westbury, N.Y. 11590, Div. of Avnet, Inc. Canada: C. W. Pointon, Ont.
ACOUSTIC RESEARCH

AR-3a 3-Way System
Sealed acoustic-suspension 3-way bookshelf system with 10" woofer, 3½" mid-range, and ¾" dome-type tweeter. Response 43-20,000 Hz ±5 dB; (in test chamber); crossovers at 1400 and 5000 Hz. Has mid-range and tweeter level controls, 8 ohms impedance, 20 watts rms driving power recommended. 13½" H X 24" W X 11½" D. Walnut finish. .............. $165.00

AR-9 2-Way System
Has 10" acoustic-suspension woofer & 1½" wide-dispersion cone tweeter. Free air resonance of woofer 26 Hz; 52 Hz in enclosure. Minimum recommended amplifier power 15 W/ch continuous rms. Crossover 1800 Hz. 8 ohms impedance. Has 3-pos. high-frequency level adjustment switch. 13½" x 24" x 11½" D. Walnut-grained finish. .............. $129.00

AR-3a 3-Way System
Sealed acoustic-suspension 3-way bookshelf system with 12" woofer, 1½" mid-range, and ¾" dome-type tweeter. Response 30-20,000 Hz ±5 dB (in test chamber); crossovers 525 and 5000 Hz. Has mid-range and tweeter level controls, 4 ohms impedance. 25 watts rms driving power recommended. 14" H x 25½" W x 11½" D. Walnut finish. .............. $295.00

AR-4xa 2-Way System
Improved version of the AR-4x. Has 8" acoustic suspension woofer and improved 1½" wide-dispersion cone tweeter. Free-air resonance of woofer 30 Hz; 65 Hz in enclosure. Minimum recommended amplifier power 15 W/ch continuous rms. Crossover 1600 Hz. Impedance 8 ohms. Has high-frequency level adjust. 10" x 19½" x 9" D. Walnut-grained finish. .............. $85.00

AR-5 3-Way System
Sealed acoustic-suspension 3-way bookshelf system with 10" woofer, 1½" mid-range, and ¾" dome-type tweeter. Response 43-20,000 Hz ±5 dB (specialized test conditions); 550 and 5000 Hz crossovers. Has mid-range and tweeter level controls, 8 ohms impedance, less than 4% HD at 60 Hz at 15 W. 20 watts rms driving power recommended. 13½" H x 24" W x 11½" D. Walnut finish. .............. $215.00

AR-6 2-Way System
Sealed acoustic-suspension 2-way bookshelf system with 8" woofer and 1½" cone-type tweeter; 1800 Hz crossover. Has tweeter level control, 8 ohms impedance. 20 watts rms driving power recommended. 12" H x 19½" W x 7" D. Walnut-grained finish. .............. $99.00

AR-7 2-Way System
Has 8" acoustic-suspension woofer & 1½" wide-dispersion tweeter. Average free-air resonance of woofer 25 Hz; 68 Hz in enclosure. 15 W/ch continuous rms minimum recommended amplifier power. 2000 Hz crossover. 8 ohms impedance. Has 2-position high-frequency level adjust. switch. 9½" x 13½" x 6½" D. Walnut-grained finish. .............. $75.00

AR-LST Transducer
Has flat profile from 30-20,000 Hz ±2 dB. Features 12" acoustic-suspension woofer, four 1½" mid-range hemispherical radiators, and four ¾" hemispherical tweeters. Speakers are the same as in AR-3a. Crossovers at 525 and 5000 Hz. Has 6-position switch for six accurately repeatable output profiles. 8-ohm impedance. Power handling ability (with FNM 2 fuse) 180 watts for 10 sec., 23 watts long-term average. 27½" x 20" x 9¼". .............. $600.00

AR-LST/2
Three-way system incorporating 10" acoustic-suspension woofer, three 1½" hemispherical midranges, and three ¾" hemispherical dome tweeters. Crossovers at 525 and 5000 Hz. Has 3-position switch for three accurately repeatable output levels. 8-ohm impedance. Power handling capability (with FNM 2 fuse) 135 watts for 10 sec., 23 watts long-term average. 25¾" x 18½" x 9½" .............. $400.00

AR-1/one
Three-way system incorporating a 12" acoustic-suspension woofer, 1½" dome hemispherical midrange, and ¾" dome hemispherical tweeter. Crossovers 525 and 5000 Hz. Front panel controls feature "woofer environmental control" for proper spectral balance of speakers irrespective of location, room acoustics. Also features two 3-level set equalizers for mid-range and tweeter adjustment. 8-ohm impedance. 25 watts rms/ch minimum recommended amplifier power. 14" x 25" x 12". .............. $329.00

ADC

WD-JS-12 Pritchard Speaker System
Multi-driver, direct-radiating two-way system with 12" low-frequency driver, two 1½" wide-dispersion Mylar dome radiators, and two ¼" wide-dispersion Mylar super-tweeters. Cross-over between 600 & 5000 Hz. Response 30-25,000 Hz ±2 dB. Imp. 6 ohms. Contour control provides four repeatable settings above 650 Hz. Features equal energy radiation in a forward horizontal direction over an included angle of 120 degrees at all frequencies. Sealed oiled-walnut cabinet. 26" L x 14½" H x 12" D. Removable grille. .............. $300.00

WDDS-11. For smaller rooms; response 38-25,000 Hz ±2.5 dB; dispersion 100 degrees. .............. $200.00

WDDS-10. For rooms of moderate size; response 30-25,000 Hz ±3 dB. .............. $125.00

XT-10 Loudspeaker System
Two-way system with 10" high-compliance low-frequency driver and two 2½" cone tweeters. Response 37-20,000 Hz ±3 dB. Impedance 8 ohms. Contour control permits anechoically flat response or down 3 dB at 10,000 Hz. Sealed oiled-walnut cabinet. 23¾" x 13" W x 11¾" D. .............. $115.00
XT-9 Loudspeaker System
Sealed enclosure; 10" high-compliance woofer & 2½" viscous-impregnated cone tweeter; response 45-20,000 Hz ±3 dB; 8 ohms imp. Walnut-grained cabinet. 23" H x 12½" W x 10½" D. ........................................... $89.00

XT-6 Speaker System
Designed for small rooms or 4-channel installations; has 6" woofer & 2¾" viscous-impregnated cone tweeter; response 42-20,000 Hz ±3 dB; 6 ohms imp. Walnut-grained, air-light cabinet. 12½" H x 8½" W x 8½" D. ........................................... $56.00

303AX 2-Way System
Sealed enclosure, 2-way bookeh system with 10" woofer and wide-dispersion tweeter. Response 37-20,000 Hz ±3 dB (average living room); 1500 Hz crossover frequency; 3 dB change mid-range and tweeter level controls. 8 ohms impedance. Requires 10 watts driving power. Oiled walnut finish and removable grille cloth frame. 23½" H x 13" W x 11½" D. $100.00

ADVENT

Advent Loudspeaker
Sealed enclosure, 2-way bookeh system with 10" woofer & 2¼" impregnated-paper-cone tweeter. Response 20-15,000 Hz ±5 dB; 1000 Hz crossover. Has tweeter control. 8 ohms impedance. Requires 20 W (rms) driving power. 14¼" H x 25¾" W x 11½" D. Walnut. ... $121.00
Same but vinyl enclosure .................................... $107.00

Smaller Advent Speaker System
Sealed enclosure, 2-way bookeh system. Response 20-15,000 Hz ±5 dB; 4 ohms impedance. Requires 15 W (rms) driving power. 11½" H x 20" W x 9½" D. Viny-clad walnut ... $74.00

Advent/2 Speaker System
Sealed enclosure, 2-way bookeh system. 8 ohms impedance. Requires 10 W (rms) driving power. 11½" x 19" x 7½" D. White ... $58.00

Kriket 750 Speaker System
Acoustic-suspension type with 5" full-range speaker, 10 oz. ceramic magnet, ¼" voice coil. Design features company's patented "working wall" of acoustic fiberboard. Will handle 10 watts rms, 15 watts program, and 18 watts peak. Response 60-20,000 Hz; 8 ohms, female phone jack connector. 7½" cube. Comes in Rogue Buckskin, Rayne White, Rayne Lemon, Rayne Carmine, and Rogue Walnut. ... $39.95 pr.
The Three Advent Speakers

When products become best-sellers largely on the strength of word-of-mouth advertising, and when people consistently go out of their way to write the company and say thanks for making them, you have reason to believe that something special is going on.

The something special is this:
The three speakers described below do exactly what they are represented to do.

The Advent Loudspeaker

The original Advent was designed to compete in every audible respect with the most expensive speakers available, at a fraction—often a very small fraction—of their cost. Its useful frequency range is as wide as any speaker's, and its sound is clean, clear, and beautifully defined, with a musical balance that is satisfying not just with the best recordings or one kind of musical material, but with the whole range of music and the various ways of recording it. Its bass response is approached by only a handful of speakers at any price, and surpassed by none.

It costs $107 to $130, depending on cabinet finish and what part of the country it's shipped to.

The Smaller Advent Loudspeaker

The Smaller Advent was designed to do exactly what the original Advent does, at half the size and two-thirds the cost, except that it will not play quite as loud. Its range and overall sound are the same as the original (not close, but the same), and for anything short of roof-raising volume levels in really big rooms, you would be very hard-pressed to hear any difference between original and Smaller.

The Smaller Advent costs $74 to $79.

The Advent/2

This is the newest Advent and it sounds just like the other two except that it doesn't have the final half-octave of bass response that they do. It's designed to get the absolute maximum of useful performance at lowest cost, and its own low price is made lower still by the fact that it works superbly with low-cost, low-power amplifiers and receivers. It comes in a beautiful, warm-white molded cabinet instead of the usual low-cost imitation wood finish, and since the enclosure does what a wood one does at far lower weight, it's much easier to mount on a wall or shelf.

The Advent/2 hasn't had as much time as the other Advents to get word-of-mouth going. But it will. What it does is enable people to put together a stereo system for $350 or less that isn't a "starter" or a compromise for a tight budget, but a joy to live with ever after.

The Advent/2 costs $58 to $59.50.

To check the accuracy of the above statements, just take along your eyes and ears and (whatever shape it's in these days) your common sense to the nearest Advent dealer. We will be happy to send you his name, and literature on our speakers, if you will write us.

Thank you.

Advent Corporation, 195 Albany Street, Cambridge, Massachusetts 02139.
AUDIONICS

TL30-B Speaker System
Two-way design with 8" woofers which operates up through 2500 Hz, crossing over at 12 dB.

116

AURATONE

5C "Super-Sound-Cube"

Ultra-compact, full-range speaker system with high-compliance 4" woofer and 2" tweeter; response 50-15,000 Hz, 8 ohms impedance; power handling, 3 to 30 watts (10 watts rms). Has two-screw binding strip. 6 1/2" x 6 1/2" x 6" D. Walnut wood-grained vinyl: finished four sides & back; grille with bronze-tone molding...

$17.95

AZTEC

Minuet Speaker System
Sealed, two-way bookshelf system with 8" woofer and 2" tweeter; response 35-18,000 Hz; crossover 2500 Hz. Has 5-yr. warranty. Floating grille available in either brown or off-white. Brackets for wall mounting included. 8 1/2" W x 27 1/2" H x 9 1/2" D...

$79.90

duLane II Speaker System
Dual-distributed-port system with 10" woofer and 2" tweeter with wide-angle dispersion lens; response 30-20,000 Hz; crossover 2000 Hz; 8 ohms, 30 W max. power input. Oiled walnut hand-rubbed finish. 13 1/2" x 23" x 9 3/4" D...

$98.00

Picasso II Speaker System
Rear ported, 3-way bookshelf system with 10" woofer, 6" mid-range, and 2" x 6" horn tweeter...

STEREO DIRECTORY & BUYING GUIDE
Malcolm Scholl, Audioanalyst, As Seen Through The Eyes Of His A-200X Speaker

He can torture a tweeter out of its bird.

Called an “audio wizard” by Sight & Sound Marketing, this engineering genius will put a crossover panel through fifty changes, if necessary, before he’ll give it his Six Year Warranty.

Audio Magazine says his product “has an extremely good crescendo handling capability.” It should, after bench testing every single driver before it goes into assembly and every single assembly before it goes into the box. $94 to $249.

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**BANG & OLUFSEN**

Beovox 2702 Speaker System  
Sealed, 2-way bookshelf system with 7" woofer and dome-type 1½" tweeter. Response 45-20,000 Hz, 4 ohms impedance, 45 W dynamic maximum input power. 8½" H x 16½" W x 8¼" D. $100.00

Beovox 5700 Speaker System  
Sealed, 3-way floor-standing system with 10" woofer (with passive 10" bass radiator system), 2½" dome mid-range, and ¾" dome-type tweeter. Response 20-20,000 Hz, 8 ohms impedance. 100 W dynamic maximum input power. 26" H x 14½" W x 11¼" D. $300.00

Beovox 4703 Speaker System  
Sealed, 3-way bookshelf system with 2 7" woofers, 5" dome mid-range, and 1" dome-type tweeter. Response 30-20,000 Hz, 4 ohms impedance. 100 W dynamic maximum input power. 11½" x 22½" W x 11¼" D. $220.00

Beovox 3702 Speaker System  
Sealed, 3-way system with 8 woofer, 3½" mid-range, and 1½" dome tweeter. Response 40-20,000 Hz, 4 ohms. 1% HD. 19¼" x 9½" x 9½" D. $125.00

All speaker cabinets are available in Burmese black, beige, burnt orange, blue, or red. 15" x 10½" x 10½" D. $179.00

**BOSE**

501 Series II Speaker System  
Special Direct/Reflecting speakers with one woofer providing direct sound and two tweeters reflecting sound from rear wall. 20 W rms minimum recommended power; 100 W rms maximum power. 4 ohms impedance; walnut enclosure. 24" H x 14½" W x 14½" D. $149.00

901 Series II Speaker System  
Special Direct/Reflecting speakers with nine full-range speakers per enclosure to provide wider range of home environments. 8 ohms impedance; walnut cabinet. 12½" H x 11½" W x 9½" D. $74.95

**BIC VENTURI**

Formula 2 Speaker System  
Utilizes Venturi principle (operation as an acoustic transformer in bass range) with 8" rms amplifier power. 25" x 13¼" x 13½" D. Same grille options. $149.95

Formula 4 Speaker System  
Same as Formula 2 but with 10" woofer; response 25-23,000 Hz; and 100 W rms max. $129.50

**BOZAK**

Sonora B-201 Speaker System  
Two-way bookshelf system with 8" aluminum-cone bass/mid-range driver and 2" high-frequency unit. Response 45-20,000 Hz; crossover 1800 Hz at 6 dB/octave, 8 ohms impedance. Will handle 60 watts program. 1½" x 20½" x 10 D. Sculptured foam grille. $99.50

Tempo B-301F Speaker System  
Floor-standing unit on pedestal base; three-way bookshelf system with 12" high-compliance bass driver, 4½" mid-range, 2" tweeter. Response 40-20,000 Hz; crossovers 1200 & 3600 Hz at 6 dB/octave, 8 ohms impedance. Will handle 50 watts program, 14½" x 24½" x 11½" D. Sculptured foam grille. $179.50

Rhapsody B-401 Speaker System  
Three-way compact speaker system with 12" high-compliance bass driver, 6½" mid-range response 30-20,000 Hz; crossovers 1000 & 3000 Hz; 8 ohms; 40 W rms max. power; tweeter-level control. Oiled walnut hand-rubbed finish. 15½" x 23¼" x 11¼" D. $139.00

Matisse II Speaker System  
Dual-distributed-port system with 12" woofer, 6½" mid-range with whizzer, and 2" horn tweeter; response 20-20,000 Hz; 8 ohms; 3-way crossover over 1000-3000 Hz and tweeter-level control; 50 W rms max. power. Oiled walnut hand-rubbed finish. 25½" x 15¼" x 11¼" D. $179.00

**BRAUN**

L-500A Two-Way Speaker System  
Acoustic-suspension design; response 25-25,000 Hz (DIN); power handling 35 watts rms; crossover 1500 Hz/12 db per octave; impedance 4 ohms; has one 1½" soft-dome tweeter, one 8½" high-compliance woofer; efficiency 88 dB SPL for 2-watt input at 10 feet; walnut finish; removable grille cloth. 20½" H x 11½" W x 9½" D. $129.50

L-700A Two-Way Speaker System  
Acoustic-suspension design; response 25-25,000 Hz (DIN); power handling 35 watts rms; crossover 1500 Hz/12 dB per octave; impedance 4 ohms; has one 1½" soft-dome tweeter, two 7½" high-compliance woofers; efficiency 88 dB for 2-watt input at 10 feet; white acrylic lacquer on wood or walnut veneer finish; removable black or beige cloth grille. 21½" H x 12½" W x 10½" D. $159.50

L-810A Three-Way Speaker System  
Acoustic-suspension design; response 20-20,000 Hz (DIN); minimum recommended amplifier power 20 watts rms; crossovers at 550 & 4000 Hz; has one 1½" soft-dome tweeter, one 2½" soft-dome mid-range, and two 8½" high-compliance woofers; impedance 4 ohms; efficiency 88 dB SPL for 2-watt input at 10 feet; white acrylic lacquer or walnut finish; removable beige tweed or black double-knit grille cloth. 25½" x 12½" W x 11½" D. $299.50

**LVE speakers**

L-700. Optional speaker stand to permit vertical or horizontal mounting. $37.50 ea.

LV1020 Tri-Amplified Speaker System  
Features active electronic crossover and three integral power amplifiers; has three sealed acoustic chambers housing 1½" dome tweeter, 2½" dome midrange, and 12" long-exursion woofer, RC power amplifiers 400 & 3000 Hz/12 db per octave; power amplifiers: woofer 55 W rms, tweeter 35 W, midrange 75 W. $632.50

STEREO DIRECTORY & BUYING GUIDE
0.1% dist. at 40 Hz at 40 W; midrange 30 W rms, 0.1% dist. at 1 kHz at 20 W; tweeter 15 W rms, 0.1% dist. at 15 kHz at 15 W; S/N 90 dB for mid-range channel. Response 20-25,000 Hz (DIN 45,500); sound pressure 110 dB at 3 feet. Walnut veneer cabinet; perforated anodized aluminum grille (cloth grille optional). 15" W x 29.15" H x 11.8" D. $749.00 LF-706. Optional speaker stand to permit vertical or horizontal mounting $37.50 ea.

CAMBRIDGE AUDIO

TL 200 Speaker System

Features low-frequency driver covering 30-400 Hz loaded with 7-ft tapered labyrinth damped with lamb'swool; mid-range driver covering 400-3000 Hz in separate damped tapered pipe to avoid IM distortion, high-frequency unit with pressure-driven dome covering band above 3 kHz; plus super tweeter for smoothness above 10,000 Hz; crossovers 400, 3000 & 10,000 Hz. Will handle 50 watts program material, 8 ohms impedance. Response 25-25,000 Hz. Walnut or teak enclosure. 33" H x 14.5" W x 12.5" D. $150.00

TL100. Similar except doesn't have super tweeter; crossovers at 400 & 3000 Hz. Will handle 40 watts program material. Response 35-20,000 Hz. May be used vertically or horizontally. 31.5" H x 13" D x 12.5" W. $375.00

Diton 66 Studio Monitor

Three-way system with 12" ultra-linear bass driver, 12" mid-size driver, 12" horn driver, super tweeter. Response level 25-30,000 Hz (over-all 16-40,000 Hz); crossovers 500 & 5000 Hz. 80 W maximum power. Impedance 4-8 ohms. Walnut cabinet. 40" x 15" x 11.5". $500.00 TL100. Similar except doesn't have super tweeter; crossovers at 400 & 3000 Hz. Will handle 40 watts program material. Response 35-20,000 Hz. May be used vertically or horizontally. 31.5" H x 13" D x 12.5" W. $400.00

CELESTION

Diton 25 Speaker System

Has 12" bass driver plus 12" ABR, two treble speakers, and one super tweeter. Response 25-30,000 Hz, 60 W maximum power handling capacity. Impedance 4-8 ohms. Walnut cabinet. 32" x 14" x 11". $343.50 pr.

Diton 44 Monitor Speaker

Three-way system with 12" bass/driver, mid-range, and super tweeter. Response 20-30,000 Hz, crossovers 500 & 5000 Hz. 44 W maximum power handling capacity. Impedance 4-8 ohms. Walnut cabinet. 30" x 14.5" x 10". $280.00 pr.

CERWIN-VEGA

320 Modular Speaker System

Separated bass system for placement flexibility combined with separately housed mid-bass speakers; designed to be used with standard 2 or 4-channel amplifiers. 320MT. Has special 12" mid-bass speaker, HF-91 horn-driver, super tweeter assembly, two dthorn tweeters; frequency range 125-25,000 Hz; crossovers 125, 1500 & 4000 Hz, direct-radiating with side reflecting upper mid-range; 100 W rms max. power input; 8 ohms. Oiled walnut. 14.5" H x 6" D x 18" W (back), 16.5" W (front). $350.00 326B. Same as 320MT but uses 300 W ultra-compliant 18" woofer $450.00

320B. Omnidirectional cubic compnade with 15" woofer, frequency range 25-250 Hz, cross-over 125 Hz (200 Hz optional), 150 W rms max. power input, bottom-radiating. Oiled walnut. 25" H x 20" W x 25" D. $300.00 320C. Same as 320B except has two 12" bass speakers; 300 W rms max. input power. $350.00

24 Two-Way Speaker System

Direct-radiating, two-way system with 12" woof-er & 2½" dome tweeter; crossover 2500 Hz; frequency range 25-25,000 Hz; dispersion 100 degrees; impedance 4-8 ohms; 40 W rms max. power input. 80 W peak. Oiled walnut. 26" H x 14.5" W x 15" D. $119.50 28. Same as Model 24 except max. power input 60 W rms, 120 W peak. $139.50

211 Two-Way Speaker System

Two-way, front-radiating system with 12" woofer & 2½" dome tweeter; frequency range 25-25,000 Hz; crossover 2500 Hz; dispersion 100 degrees; dynamic range 72 dB in 40 dB ambient noise field; max. power input 100 W rms, 200 W peak. Oiled walnut. 26" H x 15" W x 15.5" D. $179.50 211R. Same as Model 211 except direct-radiating with controllable upper mid-reflection; HF-91 horn driver assembly; crossovers 1500 & 3000 Hz. $269.50

217(R) Three-Way Speaker System

Floor-standing, direct radiating unit with controllable upper and mid reflection; frequency range 25-25,000 Hz, 15" woofer, HF-91 horn driver assembly, 2½" dome horn tweeter; crossovers at 1500 & 3000 Hz; dispersion 100 degrees; imp. 4-8 ohms; dynamic range 78 dB in 40 dB ambient noise field; max. power input 100 W; 8 ohms. Oiled walnut. 33" H x 14.5" W x 12" D. $449.50

CONCEPT E.Q.

EQ-5 Speaker System

Consists of two 3-way bookshelf speakers and an active equalizer in walnut cabinets. Designed for amplifiers with no more than 60 W peak power. Features a 12" acoustic-suspension woofer, a 5" mid-range & a dome-radiator tweeter. Active equalizer applies inverse curve for flat response (30-20,000 Hz = 2.2 dB). Capacity 100 W; 8 ohms; crossovers at 800 & 4000 Hz. Input sensitivity 0.5 V (5 V max.); input impedance 500,000 ohms. HP 0.1% at 1.5 V output. Has mid-range and high-frequency level controls. Equalizer size 9" W x 3" x 8" D. Speakers are of oiled walnut with black reticulated foam grilles (can be spray painted any color). 25½" H x 15½" D x 10½" W. $575.00

MAGNATIST II Speaker System

Two-way design with thin-film mid-hi transducer: 12" 100 W woofer crosses over at 600 Hz to Magnatist element which handles 600-20,000 Hz; diaphragm is virtually massless and presents resistive load to amplifier. Oiled walnut finish. 33½" H x 14½" W x 12" D. $449.50

CONCORD

CS-10 Bookshelf Speaker System

Two-way bookshelf system with 8" woofer & 3½" wide-dispersion mid-range/tweeter; crossover 3500 Hz; frequency range 50-18,000 Hz; 8 ohms impedance, 60 W maximum power (40 W rms with super tweeter) at 4 W. Features airborne-suspension woofer for low distortion combined with specially vented enclosure for high efficiency. Acoustic "transformer" cabinet design for high-velocity acoustic energy at the vent slot to permit accurate control of system characteristics. Has sculptured foam grille. 23½" H x 12½" W x 11¼" D. $749.00

PAPER BACK BOOK CASES

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PB-15. Stores up to 15 standard size paperback books compactly, attractively, 13¼" H x 8¾" D x 4¼" W. $7.95 ea. 3/$22.00."

PB-15Q. Stores up to 15 oversized (quality) paperback books: 13¼" H x 8¾" D x 5¼" W. $9.50 ea. 3/$27.00."

PB-11. For smaller shelves, holds up to 11 standard size paperback books: 1¾" H x 7¾" D x 4¼" W. $6.50 ea. 3/$18.75.

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PB-11 @ $6.50 each: 3 for $18.75
PB-15 @ $7.95 each: 3 for $22.00
PB-15Q @ $9.50 each: 3 for $27.00

Add 50¢ per unit ordered for postage and handling. Outside U.S. A. add $1.00 per unit ordered. Payment must be enclosed with order if not charged. Check color choice for back of case (sides in black only): Brown Green Black

print name ________________________

address ________________________

city ________________________

state ___________ Zip ________
**CREATIVE SOUND**

**10 Speaker Systems**

**CS-20.** Similar to Model CS-10 except has two 8" woofers; frequency range 40-18,000 Hz; power capacity (rms) 80 watts. Has mid-range and treble switches, each with two positions. 24¾" H x 13¾" W x 11¾" D ... $119.95

**Autograph 99 4-Way System**

Four-way floor-standing system with 15" woofer, 5" mid-range, 3" upper mid-range, and 1" dome tweeter. Response 30-20,000 Hz; special computer-grade modular network with crossovers at 700, 3000 & 8000 Hz. Will handle 55 W continuous power. 8 ohms. Has mid-range & brilliance trim controls. 25¾" x 20½" x 17" ... $249.95

Genuine Italian marble or smoked glass top ... $29.95

**Autograph 100 Lab-Type Monitor**

Three-way system with 12" woofer, 5" mid-range, and 1" dome tweeter. Response 30-20,000 Hz. Will handle 50 W continuous power. Crossover 700 & 3000 Hz. 8 ohms impedance. 23¾" x 14¾" x 14¾" ... $209.95

**CS-12-4 Speaker System**

Four-way system with 12" woofer, 5" mid-range, 4" super-horn tweeter, and 4" dome tweeter; response 19-40,000 Hz; imp. 8 ohms; will handle 75 W rms. Herculex laminated surface with hand-rubbed satin luster finish. 23½" H x 21½" W x 12½" D ... $224.95

CS-12-3. Three-way system with 12" woofer, 5" mid-range, and 4" tweeter; response 12-22,000 Hz; imp. 8 ohms; will handle 75 W rms. Same type enclosure except measures 23¾" H x 16" W x 12¾" D ... $159.95

CS-8. Two-way system with 8" woofer & 2½" tweeter; response 25-18,000 Hz; imp. 8 ohms; will handle 50 W rms. Same type enclosure except measures 20¼" H x 11¾" W x 11¼" D ... $89.95

**DAHLQUIST**

**DQ-10 Five-Way Speaker System**

Response 30-20,000 Hz; crossovers 2000, 4000 & 10,000 Hz. Will handle 40 W continuous power. Has lower mid-range and brilliance trim controls. 23¾" x 14¼" x 12½" ... $169.95

"Phased Array" moving-coil speaker system with 10" woofer in a sealed air-suspension enclosure, a 5" mid-bass driver; 2½" soft-dome mid-range, 4½" dome tweeter; and piezoelectric ceramic super tweeter; crossovers 400, 1000, 7000 & 12,000 Hz. Nominal impedance 8 ohms. Response 30-27,000 Hz. Recommended power input 50-100 W. Features continuously variable high-frequency contour control on rear for boost or cut. Grille cloth is black with solid walnut trim. 30½" W x 31½" H x 9½" D ... $395.00

**DATHAR**

**DA-I Speaker System**

System consists of two channel units, each with six 5" coaxial speakers plus six 2¼" x 2¼" tweeters; unique array permits maximum dispersion giving broad source effect without loss of stereo imaging (one channel is the mirror image of that for the other channel). Rated 120 rms watts/ch; will take 250 watts of program material for 5 min.; response 22-22,000 Hz ±3 dB; fuse protection provided. Recommended amplifier power 30 rms watts/ch for average size living room. System resonance 26 Hz ±3 Hz; THD 0.8% over usable audio range; 8 ohm impedance. Filter capacitor in crossover instead of crossover network. Has three-position frequency balance switch. Hand-rubbed walnut cabinet. 15" x 25½" x 13½". Sold in pairs ... $660.00 pr.

**DESIGN ACOUSTICS**

**Design-6 Speaker System**

Three-way system with five 2½" cone tweeters, a 5" mid-range driver, and 10" high-compliance woofer. Response 30-15,000 Hz ±3 dB. Vertical and horizontal dispersion 180 degrees. Cross-overs 800 and 2000 Hz. Switch control of high, mid, and low-frequency levels. 20 W/ch minimum driving power. 8 ohms imp. 24½" x 16½" x 13½". Walnut veneer cabinet with black grille. Grille cloth also available in azure, cocoa and crimson ... $279.00

**Design-12 Speaker System**

A dodecahedron (12 sided) omnidirectional enclosure with 10" woofer, an enclosed heavily damped 5" mid-range driver, and nine high-frequency radiators. Enclosure volume is 2½ cubic feet and is tuned with a tube to produce a Helmholtz resonance of 27 Hz. Crossover at 1500 Hz is between mid-range speaker & tweeter. Can be used with amplifiers up to 100 W/ch. (20 W/ch should be minimum). Response 30-15,000 Hz ±2 dB. 8 ohms impedance. 30" H with pedestal. Lacquered walnut finish, walnut stem, black steel legs, and black grille cloth ... $399.00

With chrome base instead of walnut & steel ... $425.00

**Design-4 Speaker System**

Wide-dispersion, three-way column system with three cone tweeters, 5" mid-range, 10" high-compliance woofer; crossovers at 800 & 2000 Hz. Response 40-15,000 Hz ±3 dB; fundamental resonance 43 Hz. Recommended amp power 20-60 W/ch. 37½" H x 9½" D x 17½" W (rear) x 9" W (front) ... $199.00

**STEREO DIRECTORY & BUYING GUIDE**
DYNACO
A-25 Speaker System
2-way bookshelf system with critically damped port 10' woofer and 11/2" soft-dome tweeter. 1500 Hz crossover. Has 5-position tweeter level control, 8 ohms impedance. 60 W maximum music input. Features aperiodic enclosure design. Comes with wall-mounting brackets. 111/2" H x 20" W x 10" D. Oiled-walnut finish. $89.00
A-25PW. Same as A-25 except vinyl-covered, walnut-grained wooden enclosure. $79.95

A-25XL Speaker System
2-way bookshelf system with a new type woofer with ferrite magnet structure and aluminum voice coil, 1" non-rigid hemispheric tweeter; 1200 Hz crossover, aperiodic design of cabinet uses highly damped vent with controlled acoustical resistance, 50 W (DIN) power handling capacity; recommended amplifier power 15 W or more. Oiled walnut cabinet, beige linen grille cloth. 111/2" x 20 x 10" D. $189.00

A-50 Speaker System
Sealed, dual chamber aperiodic 2-way floor-standing system with two 10" woofers and 11/2" dome tweeter. 1000 Hz crossover. Has 5-position tweeter level control, 8 ohms impedance. 25 W recommended driving power; 75 W maximum music input. Features dual spectrum damping. 28" H x 211/2" W x 10" D. Oiled walnut finish. $99.00

A-10 Speaker System
2-way miniature bookshelf enclosure with critically damped port and 61/2" woofer and 11/2" dome tweeter. 2500 Hz crossover, 8 ohms impedance. 15 W recommended driving power. Up to 50 W music input. Features aperiodic design. Comes with wall-mounting brackets. 81/2" x 15" x 8" D. Sold in pairs only. $119.00 pr.
A-10VW. Same as A-10 except vinyl-covered, walnut-grained wooden enclosure. $110.00 pr.

A-35 Speaker System
Sealed, dual-chamber 2-way bookshelf system with 10" woofer and 11/2" soft-dome tweeter. 1200 Hz crossover. 8 ohms impedance. 20 W recommended driving power. Up to 60 W maximum music input. Features aperiodic design. 221/2" x 121/2" x 10" D. Comes with wall-mounting brackets. $120.00

ELECTRO-VOICE
Sentry IA Speaker System
Bass-reflex 2-way wall-mounting system with 12' woofer and diffraction horn mid-range/tweeter. Response 30-20,000 Hz. 16 ohms impedance. 37" H x 211/2" W x 17" D. Walnut finish. $220.50
Sentry 11A. Same except floor model 32" H x 20" W x 13" D. $220.50
Sentry III Professional Speaker System
3-way direct-radiator vented design with fourth-order Butterworth tuning. Has 15" woofer & mid-range/high-frequency horn array, 500 & 3500 Hz crossovers. Response 40-18,000 Hz; capacity 50 W. Has device that interrupts power to tweeter when power surges occur. Walnut cabinet, black grille. 281/2" x 201/2" x 341/2" H. $650.00

ELECTROSTATIC
ER-139 Speaker System
A 360-degree radiafing system using eight electrostatic mid/high tweeters in horizontally circular array mounted on downward-directed 10' dynamic woofer; response 30-30,000 Hz; flat 38-20,000 Hz; crossover 2000 Hz; 20 W min. rms power per channel, 100 W max.; 8 ohms impedance, self-energizing. Walnut finish with optional polyacoustic grille fitting over speaker array upon cabinet. 28" H x 16" W x 16" D. $399.90
With grille. $159.90

Fairfax speakers pretty as a picture
and sound to match.

To listen to a Fairfax SuperSound system is to listen with no distortion and no coloration. You hear only the natural sound and presence of the source, with true pitch, zero overlap and total musical balance.

Sound is not the only area where a Fairfax SuperSound speaker system outweighs the competition. Our cabinetry, cut and crafted in our own factory, is made of the finest American oiled walnut veneer, and the craftsmanship rivals that of the finest furniture makers. Fairfax speaker systems are recognized (and sold) throughout the free world as superior sounding speakers.

You owe it to yourself to make a side-by-side comparison test of a Fairfax speaker with any other speaker you're considering. 6

If your dealer is not a Fairfax dealer and you want to make the comparison, have him contact us and we will send him a pair of speakers for your evaluation.

Circle No. 22 on Reader Service Card

1975 Edition
Speaker Systems

10A Speaker System
Three-way acoustic-suspension system with response 30-20,000 Hz; crossovers at 700 & 3000 Hz; 8 ohms imp.; can handle 70 W peak; has 12" woofer, 5" mid-range, shallow-profile tweeter, continuously variable level control for tweeter. Walnut-grain vinyl cabinet. 14½" x 25" x 13½" D. $149.95

15A. Same as 16A except has 10" woofer & 2½" tweeter; response 40-20,000 Hz; 13½" x 24" x 11½" D. $129.95

14A. Same as 15A except two-way system; response 40-18,000 Hz; crossover 1500 Hz. ... $109.95

13A. Same as 14A except 10" woofer; response 50-18,000 Hz; 1500 Hz crossover. 10" x 19" x 8½". $69.95

Grenadier 9500M/II Speaker System
Six-driver, 3-way design. Has two 12" woofers facing down in a horn-loaded configuration; two wide-angle lenses, each with ultrasonic dome tweeter & direct radiator mid-range. Built into an octagon-shaped enclosure. Power ratings 200 W rms from 20-450 Hz; 100 W rms from 450-5000 Hz; 40 W rms from 5000-20,000 Hz. Has built-in automatically resetting circuit breakers to prevent burn-out. Response 30-18,000 Hz ±5.5 dB. HD 0.1% at 1 W & 1000 Hz. 30" W x 20½" D x 28" H. With marble or walnut top. $399.95

EMPIRE

60 Speaker System
Two-way system with 6" woofer & 1" air-spring tweeter; crossover at 1800 Hz; response 50-18,000 Hz ±3 dB; 8 ohms; recommended rms power input 10-35 W. 17" x 9" x 7". $69.95

90 Speaker System
Two-way system with 8" woofer & 1" air-spring tweeter; crossover 1800 Hz; response 45-18,000 Hz ±3 dB; 8 ohms; recommended rms power input 12-50 W. 21" x 11" x 9". $89.95

110 Speaker System
Two-way system with 8" woofer & 1" air-spring tweeter; crossover 1800 Hz; response 35-18,000 Hz ±3 dB; 8 ohms; recommended rms power input 15-60 W. 24" x 14" x 10". $119.95

180 Speaker System
Double-module system with two 8" woofers & 1" tweeters; response 30-19,000 Hz ±3 dB; recommended rms power input 32-125 W. 25" x 16" x 12". $189.95

EPICURE

100 2-Way Speaker System
Sealed, 2-way bookshelf system with 8" woofer & 1" tweeter. Response 45-18,000 Hz ±3 dB; 1800 Hz crossover. 8 ohms impedance. Can handle 10-75 W rms/ch. 2½" H x 11" W x 9" D. $99.95

50 Speaker System
Combines a 6" acoustic-suspension woofer and a 1" air-spring tweeter in a walnut cabinet measuring 12" x 10" x 18" D. Response 55-18,000 Hz ±3 dB. Recommended amp. 10-50 W rms/ch. 8 ohms impedance. Sold in pairs. $130.00

150 Speaker System
Combines an 8" woofer and a 1½" inverted dome tweeter in walnut cabinet 11½" x 15½" x 24" H. Response 40-18,000 Hz ±3 dB; crossover 1800 Hz. 8 ohms impedance. Recommended amp. 10-85 W rms/ch. $149.00

201 2-Way Speaker System
Similar to Model 100, but contains two 8" woofers and two air-spring tweeters. The extra woofer and tweeter are angled toward ceiling. Response 30-19,500 Hz ±3 dB. Can handle 10-125 W rms/ch; 4 or 16 ohms imp. 29½" H x 18" W x 11½" D. $219.00

202 Speaker System
Has same speakers as Model 201, but cabinet 15½" x 15½" x 24". Since woofer is mounted lower to the floor, system produces a heavier bass. Impedance 4 or 8 ohms. Recommended amp. 20-125 W rms/ch. $239.00

ESS

amt 1 Speaker System
Incorporates the ESS Heil air-motion transformer which "squeezes" air instead of pushing it, creating a five times velocity increase over a normal speaker.
This advertisement originally appeared in 1969. It is true today and will still be true in another five years.

Oh No! Not Again! Yes it seems that every year someone “re-invents” one of the discarded speaker designs of the past. Or they purport to modify the laws of physics by miniaturizing a 32-foot wavelength. They may even write a “technical” article on their revolutionary discovery and succeed in getting it published.

We customarily make an optimistic estimate that these speakers will survive five years. Some make it. Some even get re-invented all over again after a subsequent five years. In the meantime they sell. Because they sound different. Different from all other speakers. Different from the live performance.

We’d sort of miss them if they failed to show up. After all, what would spring be without a new major breakthrough? And would it really be fall without the letter edged in black? Pity!

So—aren’t you glad you own KLIPSCHORNS?

—

Paul W. Klipsch
Klipsch and Associates, Inc.

P. S. We have a list of over 20 major breakthroughs that have appeared, died and were interred. Your Klipsch dealer will be glad to show it to you. We know some more good prospects for this list. You can’t see those names — until next year.

KLIPSCH & ASSOCIATES, INC.
P. O. Box 688 SB-10
Hope, Arkansas 71801

Please send me complete information on Klipsch speakers and Klipsch Wide Stage Stereo. Also include the name of my nearest Klipsch Authorized Audio Expert.

Name ________________________________
Address ________________________________
City ___________________ State ______ Zip __________
Occupation ____________________ Age _________
FX-350 Speaker System

Three-way, 2-way ducted port design. Has 10" high-compliance woofer, 4" mid-range, 4" high-frequency tweeter. LC crossover network at 2000 Hz. Response 20,000 Hz. 8 ohms. Minimum power required 14 W rms, maximum 60 W rms. Column tower of 1" high-density board with oiled-walnut veneer finish; acoustically transparent foam grille. 36" H x 14" W x 12" D. $189.95

FX-300 2-Way Speaker System

Ducted-port design with heavy-duty 10" bass driver and special 3" wide dispersion tweeter. Continuously variable control for mid-range and highs. Response 24,000 Hz. 40 W input; 10 W min. power. 8 ohms imp. Oiled-walnut veneer cabinet. 24" H x 14" W x 12" D. $159.95

F-2A 2-Way Speaker System

Ducted-port design with 8" bass driver and 3" tweeter. Continuously variable control for mid-range and highs. Response 35,000 Hz. 8 W min. power. 8 ohms. Oiled-walnut veneer cabinet. 18" H x 12" W x 9" D. $79.95

XP-7S Speaker System

Sealed 4-way bookshelf system with 12" woofer, 6½" mid-range, 5" upper-mid-range, and two 3" tweeters. Response 30,000 Hz; crossovers 350, 800, and 3500 Hz. 8 ohms impedance. 50 W dynamic maximum input power. 14" H x 24½" W x 12" D. Walnut finish. $169.95

XP-445 Three-Way Speaker System

Sealed 2-way bookshelf system with 6½" woofer & 3" tweeter. Response 39,190 Hz; crossover. 8 ohms impedance. 20 W dynamic maximum input power. 8½" H x 15½" W x 6¼" D. Walnut vinyl finish. $49.95

XP-55S Speaker System

Sealed 2-way bookshelf system with 8" woofer & 3" tweeter. Response 37,200 Hz; 1500 Hz crossover. 8 ohms impedance. 30 W dynamic maximum input power. 10" H x 20" W x 7½" D. Walnut vinyl finish. $59.95

XP-56S 2-Way Speaker System

Bookshelf design with 8" woofer & 3" tweeter. Response 35,20,000 Hz; 1500 Hz crossover. 8 ohms impedance. 350 W maximum input power. 11½" H x 21" W x 9". Walnut vinyl finish. $89.95

XP-655 Speaker System

Sealed 3-way bookshelf system with 10" woofer, 5" mid-range, and 3" tweeter. Response 33,20,000 Hz; 600 & 3000 Hz crossovers. 8 ohms impedance. 30 W rms power handling; 80 W program material. 13" H x 23" W x 10" D. Walnut finish. $109.95

ST-415 Two-Way Speaker System

Acoustic-suspension system with 8" woofer & 3" flare-dome tweeter; tweeter level control 2.5 dB/step; response 58-20,000 Hz; crossover 2500 Hz; 8 ohms; 30 W rms power handling; 150 W program material; SPL 128 dB. Walnut veneer. $89.95

ST-445 Three-Way Speaker System

Has 10" woofer and 1½ Mylar dome tweeter. Response 55-20,000 Hz; 2500 Hz crossover. 6-8 ohms. 15-20 W minimum amplifier input required. Has 3-position treble control. 20 W maximum power capacity. 12½" x 22¾" x 10" D. Walnut vinyl. $119.95

ST-655 Three-Way Speaker System

Has 12½" woofer, 3½" dome mid-range, and 1½ Mylar dome tweeter. Response 40-20,000 Hz; crossover at 450 & 650 Hz; 6-8 ohms. Requires minimum of 25 W amplifier input; maximum power capacity 25 W. Has 3-position mid-range and treble controls. 14" x 24½" x 12½" D. Walnut vinyl finish. $199.95

J Modular Speaker System

System consists of separate "building blocks," each designed to operate separately to eliminate cross vibrations and nodal patterns; each "block" can be used with other systems if desired. Speaker complement: 1 low-bass woofer, 1 upper-bass woofer, one 8-inch low-mid-range, 1 mid-range/treble and a 1" dome tweeter element to form static array. Frequency response 22-48,000 Hz; crossovers 40, 150, 1600 & 5000 Hz; nominal impedance 8 ohms. 150 W program material. 20 W maximum power capacity. Walnut veneer cabinet. 58½" x 17½" x 14" D.

STEREO DIRECTORY & BUYING GUIDE
For those people who don't care how much their audio equipment costs as long as it's the best, we offer a line of audio equipment which we don't care how much it costs to build.

Epicure Corporation is that division of Epicure Products, Inc. that has been designated as spawning ground for all the company's state-of-the-art products.

Think of the luxurious position that puts us in:

We don't worry about the economics of the products we develop. We just worry about the quality of them.

The result of this approach, as you can well imagine, is a collection of remarkably good audio equipment. Not surprisingly, it's not inexpensive.

The Epicure Model One Power Operating Amplifier, for example, is an incredible piece of equipment that uses multiple emitter-site epitaxial output devices, resulting in a phenomenal power bandwidth and tremendous current and thermal capability.

The Model One is easily years ahead of its time. It goes for $649.*

Or, for $1600, an audio perfectionist might own the Epicure Model Two Audio Function Center. This may seem high for a pre-amplifier; but the Model Two is, in fact, the beginning of a whole new generation of pre-amplifier.

Then there's our speaker line that ranges in price up to $1000 each. This line includes our new Model 400 Plus— an improved version of a speaker that was already top-rated by Stereo Review.

And soon you'll be hearing about a new tuner from Epicure. Not an inexpensive tuner, perhaps. But a good tuner. A very good tuner.

Write and we'll tell you more: Epicure Corporation, Newburyport, Mass. 01950.

As long as it's the best.

Epicure

A step closer to reality.

*All West Coast prices even higher!

A Division of Epicure Products, Inc.
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<tr>
<th><strong>FMI-100 Two-Way Speaker System</strong></th>
<th>$140.00</th>
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<tbody>
<tr>
<td>Has one 10&quot; &amp; four 2½&quot; super-tweeters; response 40-22,000 Hz; crossover 1200 Hz; 8 ohms; power handling 60 W at 400 Hz; suggested amplifier power 12 W and up (fused at 2½ A); 90 W program material, SPL 105 dB. Walnut veneer cabinet. 14&quot; x 22&quot; x 9½&quot; D.</td>
<td>$139.00</td>
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<tr>
<th><strong>FMI-80 Two-Way Speaker System</strong></th>
<th>$45.00</th>
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<tr>
<td>Two-way design with one 8&quot; woofer &amp; two 2½&quot; super-tweeters; response 50-22,000 Hz; crossover over 1600 Hz; 8 ohms; will handle 50 W at 400 Hz; suggested amplifier power 7½ W and up (fused at 2½ A); 70 W program material, SPL 96 dB. Walnut veneer cabinet. 9½&quot; x 17½&quot; x 8½&quot; D.</td>
<td>$89.00</td>
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<tr>
<th><strong>FMI-60 Speaker System</strong></th>
<th>$59.00</th>
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<tr>
<td>Has dual-cone 6½&quot; extended-range speaker; response 60-15,000 Hz; 8 ohms; power handling 30 W, 45 W program material; suggested amplifier power 5 W and up (fused at 2 A). Walnut veneer cabinet. 8&quot; x 15&quot; x 8½&quot; D.</td>
<td>$88.95</td>
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<th><strong>FRAZIER</strong></th>
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<tr>
<td><strong>F4-4 Super Midget IV System</strong></td>
<td>$45.00</td>
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<tr>
<td>Tuned ducted-port bookshelf system. Response 52-12,000 Hz; 8 ohms imp. Oiled walnut finish all four sides, brown fabric grille cloth. 15¾&quot; x 7½&quot; x 9¾&quot;.</td>
<td>$140.00</td>
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<tr>
<th><strong>F8-4SC Monte Carlo IV System</strong></th>
<th>$45.00</th>
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<tr>
<td>Two-way tuned ducted-port bookshelf system. Has 8&quot; woofer &amp; 3&quot; tweeter. 8 ohms imp. Oiled walnut finish all four sides. Response 50-15,000 Hz. Brown fabric grille, 19¾&quot; x 10½&quot; x 11½&quot;.</td>
<td>$88.95</td>
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<tr>
<th><strong>F-10-HA Mark IV-A System</strong></th>
<th>$129.95</th>
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<tr>
<td>Two-way tuned ducted-port bookshelf system. Has 10&quot; woofer, special high-frequency horn, and HF control. 2000 Hz crossover. Response 40-15,500 Hz. 8 ohms imp. Oiled walnut finish all four sides, brown scupltered double-knit grille. 14&quot; x 24&quot; x 12&quot;.</td>
<td>$140.00</td>
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<th><strong>F-10-3Y Manhattan III System</strong></th>
<th>$60.00</th>
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<tr>
<td>Two-way tuned ducted-port floor-standing system. Has 10&quot; woofer, special high-frequency horn, and HF control. 2000 Hz crossover. 8 ohms imp. Oiled walnut finish all four sides, brown fabric grille cloth. Response 35-17,000 Hz. 23¾&quot; x 19&quot; x 11½&quot;.</td>
<td>$190.00</td>
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<th><strong>F-10W-37 Concerto System</strong></th>
<th>$217.50</th>
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<tr>
<td>Two-way tuned ducted-port floor-standing system. 10&quot; woofer, special high-frequency horn, and HF control. 1500 Hz crossover. Response 30-17,000 Hz. Oiled walnut finish four sides, removable foam grille. 19&quot; x 16½&quot; x 17½&quot;.</td>
<td>$150.00</td>
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<tr>
<th><strong>F10W-H-U Capsule</strong></th>
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<tr>
<td>Same except flat black finish</td>
<td>$150.00</td>
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<tr>
<th><strong>F12-2-ST Mark V System</strong></th>
<th>$124.00</th>
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<tr>
<td>Three-way tuned ducted-port floor-standing or bookshelf system. Has 12½&quot; woofer, two specially isolated 4½&quot; high-frequency horns, and separate mid-range and HF controls. 800 &amp; 3300 Hz crossovers. Response 30-17,000 Hz. Oiled walnut finish four sides, brown fabric grille cloth. 14&quot; x 25½&quot; x 12½&quot;.</td>
<td>$725.00</td>
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<th><strong>F12-2-H Seven System</strong></th>
<th>$320.00</th>
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<tr>
<td>Three-way tuned ducted-port floor-standing system with 12½&quot; woofer, 8½&quot; mid-range, special high-frequency horn with separate mid-range &amp; HF controls. 600 &amp; 3000 Hz crossovers. 8 ohms imp. Response 30-18,000 Hz. Oiled walnut finish four sides, with floor base. Foam removable grille available in burnt orange, brown and black-on-black. 19½&quot; x 29½&quot; x 16½&quot;.</td>
<td>$275.00</td>
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<tr>
<th><strong>F12-2-HU Super Midget IV System</strong></th>
<th>$45.00</th>
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<tr>
<td>Walnut veneer cabinet. 8½&quot; x 15½&quot; x 8½&quot; D.</td>
<td>$80.00</td>
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<th><strong>FMI-60 Speaker System</strong></th>
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<td><strong>F12-2-5T Mark V System</strong></td>
<td>$150.00</td>
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<tr>
<td>Three-way tuned ducted-port floor-standing system with 12½&quot; woofer, 8½&quot; mid-range, special high-frequency horn with separate mid-range &amp; HF controls. 600 &amp; 3000 Hz crossovers. 8 ohms imp.</td>
<td>$375.00</td>
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<th><strong>F333-1037 Dixielander</strong></th>
<th>$310.00</th>
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<td>Dual exponential horn system consisting of folded LF horn and straight exponential horn. 10½&quot; woofer. Response 40-17,000 Hz. Utility finish all four sides, brown fabric grille cloth. 25½&quot; x 29½&quot; x 16½&quot;.</td>
<td>$129.95</td>
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<tr>
<th><strong>F333-1037L Dixielander</strong></th>
<th>$310.00</th>
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<tr>
<td>Dual exponential horn system consisting of folded LF horn and straight exponential horn. 10½&quot; woofer. Response 40-17,000 Hz. Utility finish all four sides, brown fabric grille cloth. 25½&quot; x 29½&quot; x 16½&quot;.</td>
<td>$129.95</td>
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<th><strong>HEATH</strong></th>
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<tr>
<td><strong>AS-105 2-Way Speaker System</strong></td>
<td>$21.95</td>
</tr>
<tr>
<td>Bass-reflex, 2-way floor-standing system with 15&quot; woofer and Sectoral horn mid-range/tweeter. Response 30-20,000 Hz; 800 Hz crossover. Has horn-level control, 8 ohms impedance, 50 watts (rms) maximum input power. 29½&quot; H x 27½&quot; W x 19¼&quot; D.</td>
<td>$319.95</td>
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| **AS-103 3-Way Speaker System** | $199.95 |
| Sealed-enclosure, 3-way bookshelf system with 12" woofer, 1½" mid-range, and dome-type ½" tweeter. Response 30-20,000 Hz ±5.0 dB; 575 and 8000 Hz crossovers. 8 ohms imp. Oiled walnut finish all four sides, with floor base. Has tweeter control. 40-25,000 Hz; 2000 Hz crossover. Has horn-level control, 8 ohms impedance, 25 watts (rms) driving power. Similar to AS-3A. | $319.95 |

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<tr>
<th><strong>AS-104 3-Way Speaker System</strong></th>
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<tr>
<td>Bass-reflex, 3-way floor-standing system with 10&quot; woofer, 4½&quot; mid-range, &amp; dome-type 3/4&quot; tweeter. Response 30-30,000 Hz; 10-100 watts maximum input power. 8 ohms. Walnut veneer cabinet. 24&quot; W x 13½&quot; H x 11½&quot; D.</td>
<td>$330.00</td>
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<tr>
<th><strong>AS-105 2-Way Speaker System</strong></th>
<th>$99.95</th>
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<tr>
<td>Bass-reflex, 2-way floor-standing system with 10&quot; woofer, 3½&quot; dome tweeter. Response 30-18,000 Hz. 10-100 watts maximum input power. 8 ohms. Walnut veneer cabinet. 24&quot; W x 13½&quot; H x 11½&quot; D.</td>
<td>$330.00</td>
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<tr>
<th><strong>AS-106 2-Way Speaker System</strong></th>
<th>$21.95</th>
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<tr>
<td>Full-range speaker; will handle any 4 to 20 W amplifier; response 40-18,000 Hz; sealed acoustic-suspension infinite-baffle cabinet with fiberglass sound-dampening material. Walnut veneer cabinet measures 12½&quot; H x 7½&quot; W x 6½&quot; D.</td>
<td>$21.95</td>
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| **AS-48 2-Way Speaker System** | | $79.95 |
|---------------------------------|---------|
| Features custom-designed JBL speakers, 14" woofer & 2" direct radiating; 8 ohms impedance; crossover 2000 Hz (unaffected by 3-position high-frequency level control); damped reflex, tuned-port cabinet of oak veneer and furniture-grade hardwoods. Will handle up to 50 watts; response 40-20,000 Hz. 14" H x 23½" W x 12½" D. | $324.95 |

<p>| <strong>AS-1042 2-Way Speaker System</strong> | | $324.95 |
|----------------------------------|---------|
| High-compliance 8½&quot; woofers &amp; 3½&quot; cone/ dome tweeter; response 40-18,000 Hz; crossover over 1500 Hz; system resonance 65 Hz. Rear-panel control tailors high frequencies to lis- | $324.95 |</p>
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<th><strong>FRAZIER...</strong></th>
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<td><strong>HED</strong></td>
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<td>V-8 Two-Way Speaker System</td>
<td>Two-way system with 8&quot; woofer and dome-type tweeter; crossover 2800 Hz; 8 ohms; max. power input 30 W rms; 120 degree dispersion. Vinyl-finished cabinet. 21 1/2&quot; H x 11&quot; W x 10 1/4&quot; D.</td>
</tr>
<tr>
<td>V-10. Same as V-8 but with 10&quot; woofer; crossover at 2500 Hz; power input 40 W rms; 25&quot; H x 14&quot; W x 12&quot; D.</td>
<td>$89.50</td>
</tr>
<tr>
<td>V-12. Same as V-8 but with 12&quot; woofer; crossover at 2300 Hz; power input 25 W rms; 25&quot; H x 14 1/2&quot; W x 12&quot; D.</td>
<td>$99.50</td>
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<tr>
<td><strong>HEGEMAN</strong></td>
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<td>H-1A Loudspeaker System</td>
<td>Two-way coaxially mounted system with 8&quot; full-range high-compliance driver and 1&quot; dome super-tweeter. Floor-standing, closed-back baffle enclosure. Response 30-20,000 Hz; 5000 Hz crossover. Will handle up to 25 W rms continuous; 20 W amp. power recommended. 8 ohms imp. 11&quot; x 8 9/16&quot; x 26&quot;. Walnut with black grille.</td>
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<tr>
<td><strong>HITACHI</strong></td>
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<tr>
<td>HS-220 Speaker System</td>
<td>Two-way air-suspension design with 8&quot; woofer &amp; 2 1/2&quot; tweeter. Capacity 20 W. Response 50-20,000 Hz. Wood cabinet with walnut vinyl.</td>
</tr>
<tr>
<td><strong>WHY BUY A FRAZIER LOUDSPEAKER?</strong></td>
<td>When you buy a Frazier loudspeaker, you make an investment in sound. And your return is great. Great Sound. Incomparable sound is what Frazier builds into each of its loudspeakers. Frazier utilizes only the best components in every system, so that you will get the very best, most faithful sound from any speaker you choose. We call it &quot;state of the art&quot; performance. You have to hear it to appreciate the incomparable quality. For more than 30 years, Frazier has built an enviable reputation around this outstanding craftsmanship. Consistent quality is what put Frazier in a class all its own. And keeps it there. Choose from an imaginative selection of loudspeakers like the handsome Mark IV-A, that fits snugly into a bookshelf for a custom-designed look, or the Frazier Concerto, ideally suited for an end table. Both created to add flair to any room setting. Or listen to the Super Midget, Mark V, Mark VI or Seven. All Frazier. All quality. For the finest in sound, look to Frazier. Hear for yourself the difference quality reproduction can make. For us, it's a matter of pride. For you, it's a sound investment. For a demonstration of the finest loudspeakers available, see your Frazier dealer today.</td>
</tr>
<tr>
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<td>1530 Valley View Lane Dallas, Texas 75234 Phone 214-241-3441</td>
</tr>
<tr>
<td><strong>CIRCLE NO. 23 ON READER SERVICE CARD</strong></td>
<td>127</td>
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</tbody>
</table>
**Speaker Systems**

**Maloney Jr. Concert Master**
Five-way system with eight speakers, four 8" rolled-edge woofers, 4'/2" mid-range, 10" mid-range horn, piezoceramic horn & dome tweeter for highs and ultra-higs; nine-way dual LC electronic crossovers at 500, 1000, 4000 & 8000 Hz; response 25-20,000 Hz; recommended minimum amp power 50 W rms per channel. Hand-rubbed oak or hand-rubbed dark walnut butcher block veneer with foam grille. 29" x 19'/2" x 17" D. $449.95

**Maloney M2-12-4 Speaker System**
Four-way, dual 12", 5-speaker system with electronic crossovers at 500, 5000 & 7500 Hz. response 28-21,000 Hz. 27" x 19" x 14" D. $359.95

**Maloney Streakers**
Four-way, 8-speaker system with two 10" rolled-edge woofers, 4'/2" mid-range, special piezoceramic horn, and dome tweeter. Frequency range 25-22,000 Hz; electronic crossovers 375 & 3000 Hz; frequency range 30-20,000 Hz. Efficiency (measured via pink noise 1 meter on-axis) 44 W produces 100 dB; nominal impedance 8 ohms; driving power required 20-50 watts. Transmission-line loading for the mid-band; bass loading by means of resistive tunnel. Supplied in "mirror image" pairs. 18" x 11" x 11'/2" W. $200.00 ea.

**“Super-Compact” Loudspeaker**
Bookshelf speaker with 8" bass driver with roll surround, 5" mid-range, and dome tweeter; crossovers 375 & 3000 Hz; frequency range 30-20,000 Hz. Has "Perspective" tweeter. Response 25-18,000 Hz; response 45-20,000 Hz. 20" x 18" x 12" D. Walnut. $139.00

**Servo-Statik I Speaker System**
Three-enclosure system. Three-way system with 15" rolled-edge woofer, 4'/2" mid-range, and piezoceramic horn tweeter; dual 9-way LC electronic crossover 1500 & 7500 Hz; response 45-20,000 Hz. 20" x 12" x 10'/2" D. $349.95

**INFINITY**
1001A Speaker System
Terminated-line, 2-way loudspeaker system with woofer and tweeter (one in rear of enclosure to provide "ambience"). Response 30-21,000 Hz. +5/-3 dB. 1300 Hz crossover. 6 ohms impedance. Requires 20 W rms power input. 26" x 18" x 12" D. Walnut. $139.00

**IMF**
Monitor Mk III Speaker System
Dual-transmission-line enclosure system. Four-way floor-standing design with large oval woofer, 5" dome mid-range, and dome-type tweeter. Has mid-range and tweeter controls. Impedance 8 ohms. Requires 30 W (dynamic) driving power. Walnut Formica. 43" H x 20" W x 17" D. $590.00

**Studio Mk IIIA Speaker System**
Dual-transmission-line enclosure system. Four-way floor-standing design with 8"woofer, 5" dome mid-range, and dome-type tweeter. Response 20-40,000 Hz ±1.5 dB; crossovers at 375, 3500 & 13,000 Hz, Has "Perspective" controls. Requires 25 W (dynamic) driving power. Teak or walnut. 35'/2" x 15" x 14" D. $440.00

**ALS-40A Speaker System**
Free-standing or bookshelf speaker system. Features unique "active-line" design. 8" bass driver with foam surround, 8" sub-bass driver with roll surround, 5" mid-range with impregnated cone in separate line, and dome-type tweeter. Response 28-20,000 Hz ±2 db; crossovers at 180, 375 & 3000 Hz. Requires 25 W (dynamic) driving power. Teak or walnut. 26'/2" x 13'/2" x 13'/2" D. $300.00

**JANSZEN**
130 High-Frequency Speaker System
Electrostatic array with four radiators for adding-on to existing woofer systems. Response 1800-20,000 Hz ±3 dB; 1800 Hz crossover; 4 ohms impedance; 50 W rms maximum input power. Walnut. $95.95

**Z-410 Speaker System**
Two-way acoustic-suspension design with 12"woofer & four electrostatic elements (64 sq. in). Response 35-20,000 Hz ±3 dB; 1800 Hz crossover. Capacity 75 W rms. 4 ohms impedance. Features vertical & horizontal dispersion. Walnut cabinet with foam grilles. 13'/2" x 24" x 11'/2" D. $179.95

**Z-412A Speaker System**
Two-way acoustic-suspension design with 12" woofer & four electrostatic elements (64 sq. in). Response 33-20,000 Hz ±3 dB; 1800 Hz crossover. Capacity 100 W rms, 4 ohms. Has vertical and horizontal dispersion. Oiled walnut cabinet with foam front. 27" x 14'/2" x 11'/2" D. $249.95

**Z-412HP**
High-power/high-performance version of Z-412A. Capacity 150 W rms. 900 Hz crossover. $299.95

**Z-824 Speaker System**
Two-way acoustic-suspension design with two 12" HP woofers & eight electrostatic elements (128 sq. in). Response 32-20,000 Hz ±3 dB; 2000AXT Speaker System
Three-way floor-standing system with 12" woofer, 4" mid-range, and wave-transmission line tweeter. Crossovers 500 & 3000 Hz. 27" x 20" W x 14" D. Walnut cabinet. $249.95

**W-T-L Column Speaker**
Dual-driver, staggered-resonance transmission line system; has two 8" woofers, two 2" midrange/tweeters, and wave-transmission-line tweeter. High efficiency; crossovers at 500 Hz mechanical, 2000 & 8000 Hz; response 35-26,000 Hz ±4 dB. $239.00
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Name ___________ Address ___________
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Stereo Review:
The magazine of good music...
Yours at a really good price.
When we introduced the Ohm F a few months ago, we called it the last loudspeaker.

We explained that this new invention (U.S. Patent 3,424,873) is the last loudspeaker in the same sense as the wheel was the last device for transmitting rotary or rolling motion.

Like the wheel, we said, our speaker is a mathematically perfect engineering concept, utterly simple and unimprovable. Only its physical construction can evolve further, not the design itself. When a single cone reproduces 30 to 20,000 Hz without crossovers and has a cylindrical output in perfect phase with the input signal at all frequencies ("coherent sound"), the design can be considered final.

Since then, our claims for the Ohm F have found support in the authoritative editorial pages of Stereo Review. In the November 1973 issue, the Equipment Test Reports by Hirsch-Houck Laboratories asserted:

"The Ohm F can do some things that no other speaker in our experience is capable of."

After acknowledging that "the cone has not been designed to function as a 'piston' (as virtually all other cones are), but should be viewed as a terminated acoustic transmission line," the review states that "the Ohm F produced one of the flattest extended curves we have ever seen ... it has a uniform energy output across the full audio-frequency range ..."

Square-wave tests of the Ohm F against "several other fine speakers we had on hand," in the words of the review, showed that "only the Ohm F was able to produce a reasonable facsimile of a square wave." This plus the toneburst response of the speaker "tended to confirm . . . that it has transient-response capabilities surpassing those of the best conventional (piston) speakers."

Further excerpts from the Ohm F test report:

"In our simulated live-vs.-recorded test it rated A to A+ . . . with one of the larger power amplifiers, able to deliver 100 watts or more, the sound began to warrant the use of such words as 'awesome' . . . achieves state-of-the-art performance."

The conclusion of the review requires some reading between the lines:

"As to whether or not the Ohm F is therefore the 'best' speaker available—we will leave that to the ears of audiophiles; we are prepared to say, however, without reservations, that it is easily one of the best."

Think about that. Wouldn't any responsible journal hesitate to declare categorically that a totally new and unfamiliar product is the best, period? Even if they thought so?

The Ohm F comes in a striking, tapered column cabinet, about 3½ feet high, and is priced at $400. If your local dealer doesn't carry it yet, write us and we'll help you.

We want your next loudspeaker to be the last loudspeaker.

Ohm Acoustics Corp.,
241 Taaffe Place,
Brooklyn, N.Y. 11205.
**10 Speaker Systems**

**L36 Decade 36 Speaker System**
Ducted-port, 3-way floor-standing system with 10" low-frequency and 1.4" high-frequency drivers; crossovers at 1500 & 6000 Hz with mid-range and h.f. level controls behind grille; power capacity 50 W continuous program; recommended amp power 10-100 W rms/ch; 8 ohms impedance. Natural oak finish; stretch fabric grille available in orange, blue, or brown. 14" H x 24" W x 14" D $198.00

**S109 Aquarius 4 Speaker System**
Ducted-port, 2-way floor-standing system with 8" horn-loaded speaker and 2" direct radiator; upward radiating bass driver and dispersed high-frequency unit on upper rear panel; 6000 Hz crossover with continuous high-frequency level control; 8 ohms impedance; power capacity 35 W continuous program; recommended amp power 10-75 W rms/ch. Oiled walnut finish or satin white finish. 40" H x 10" W x 10" D $210.00

**Century Speaker System**
Ducted-port, 2-way bookshelf system with 12" speaker, 5" mid-range, and 1.4" direct radiator; crossover at 1500 & 6000 Hz with mid-range and h.f. level controls behind grille; 8 ohms impedance; power capacity 75 W continuous program; recommended amp power 10-150 W rms/ch. Oiled walnut finish with foam grilles available in orange, blue, or brown. 14" H x 24" W x 14" D $297.00

**L65 Jubal Speaker System**
Ducted-port, 3-way floor-standing system with 12" bass, 5" mid-range, and 1.4" high-frequency components; crossovers 1000 & 6500 Hz with mid-range and h.f. level controls behind grille; power capacity 75 W continuous program; recommended amp power 10-150 W rms/ch. 8 ohms impedance. Oiled walnut finish with smoked glass top, stretch fabric grille available in blue, brown, or red. 24" H x 18" W x 13" D $396.00

**L45 Flair Speaker System**
Ducted-port, 3-way floor-standing system which may be mounted horizontally or vertically; has 15" speaker, 5" mid-range, and 1.4" direct radiator; crossovers 1200 & 7500 Hz with mid-range and h.f. level controls behind grille; 8 ohms; power capacity 75 W continuous program; recommended amp power 10-150 W rms/ch. Oiled walnut finish with foam grille in gray, black, blue, or red. 36" H x 24" W x 21" D $657.00

**S508 Sovereign. Same as S508 except golden oak or country oak finish. 27" H x 39" W x 20" D $1080.00**

**Paragon Speaker System**
Radial-piston, dual 3-way floor-standing system with two 15" speakers, two mid-range compression drivers; and two ultra-high-frequency ring radiators; 500 & 7000 Hz crossovers with dual mid-range and ultra-high-frequency level controls; features special dispersion surface to recreate stereo image; 8 ohms impedance; power capacity 125 W continuous program; recommended amp power 10-150 W rms/ch. Oiled walnut finish, 36" H x 104" W x 24" D $3000.00

**JENSEN**
Model 15 Speaker System
Four-way, five-speaker system with 15" woofer, an 8" mid-range driver, a 5" rear-damped tweeter, and two Sonodome ultra-tweeters. Response 25-30,000 Hz. Power capacity 100 W; recommended minimum amp. power 10 W. Horizontal & vertical dispersion 170 degrees. THD 2% at 50 Hz, 1.2% at 100 Hz at 10 watts. Sensitivity: 4 W input produces 90 SPL at 6 feet. Has front-mounted balance controls for mid- and high frequencies plus bottom-mounted binding posts for concealed wiring. Finished on all four sides for use in any location. Simulated black slate top. 31" (including base) x 23" x 17" D $426.00

**Model 1 Speaker System**
Full-range speaker system with 8", two-element driver. Response 40-18,000 Hz. Power capacity 30 W; recommended minimum amp. power 10 W, 8 ohms imp. 6000 Hz mechanical crossover. 120 degree dispersion. Walnut wood-grain vinyl cabinet, light-beige grille cloth. 14½" x 10" x 8½" D $42.00

**Model 2 Speaker System**
Two-way system with 8" woofer and 3½" direct-radiator tweeter. Response 38-20,000 Hz. Power rating 35 W; 10 W recommended minimum amp. power 8 ohms. 1200 Hz crossover. HF balance control. Removable sculptured dark brown grille cloth. 18½" x 11" x 8½" D $69.00

**Model 3 Speaker System**
Sealed two-way bookshelf system with 10" woofer & 3½" direct-radiator tweeter. Response 36-20,000 Hz. Power capacity 80 W; recommended minimum amp. power 10 W, 8 ohms imp. 800 Hz crossover. Has 150-degree dispersion; a tweeter control, 8 ohms impedance. 12½" H x 22½" W x 10½" D $99.00

**Model 4 Speaker System**
Sealed three-way bookshelf system with 10" woofer, 5" mid-range, and dome-type tweeter. Response 36-30,000 Hz; 500 & 4000 Hz crossovers. Has mid-range and tweeter controls, 170-degree dispersion, and 8 ohms impedance. 13" H x 24" W x 12" D. Oiled walnut. $129.00

**Model 5 Speaker System**
Sealed three-way floor-standing system with 12" woofer, two 5" mid-range, and dome-type tweeter. Response 32-30,000 Hz; 500 & 4000 Hz crossovers. Has mid-range and tweeter controls, 170-degree dispersion, 8 ohms impedance. 20" H x 15" W x 13" D $189.00

**STEREO DIRECTORY & BUYING GUIDE**
Model 6 Speaker System
Sealed four-way floor-standing system with 15" woofer, 8" mid-range, 5" tweeter, and dome-type super tweeter. Response 27-30,000 Hz; 300, 1000, and 4000 Hz crossovers. Has mid-range and tweeter controls, 170-degree dispersion, 8 ohms impedance. 27” H x 20” W x 15” D. $249.00

JVC

VS-5313 Speaker System
Omnidirectional, sealed spherical two-way floor-standing system with two 5" woofers and two 2" horn-type tweeters in each sphere. Response 60-20,000 Hz ± 3 dB; 5000 Hz crossover. 8 ohms impedance. 80 W peak maximum input power. 13 1/2" dia. Black metallic finish. $229.95

VS-5399 Two-Way Speaker System
Bass-reflex, 4-speaker slim column design. Has two 4½" woofers and two 2" cone tweeters. Capacity 10 W rms. 8 ohms. 6000 Hz crossover. Speakers are mounted on two adjacent sides (90 degree angle). 27½" H x 7½" W x 7¾" D. Walnut finish. $179.95 pr.

VS-5397 Two-Way Speaker System
Two-way acoustic-suspension system with 8½" woofer & 2½" cone tweeter; response 40-20,000 Hz; 8 W rms/ch min. input power, 20 W rms max.; crossover 4000 Hz; Imp. 8 ohms. Walnut enclosure. 18½" H x 10¾" W x 9½" D. $99.95 pr.

SX-3 Speaker System
Wide-directional two-way speaker system with 10" woofe & 2½" soft dome tweeter; response 35-20,000 Hz; 20 W rms/ch min. input power, 50 W rms max.; crossover 2000 Hz; 8 ohms. Walnut or spruce enclosure. 20½" H x 12¾" W x 11¾" D. $169.95

KIRKSAETER

Monitor 35 Two-Way System
Has 8" woofer plus 1" dome tweeter. Dispersion 180 degrees. Will handle 35 W music program. $69.95

KL-44 Two-Way System
Has two 10" woofers, two 1½" dome mid-range, and one 1" dome tweeter. Dispersion 180 degrees. Will handle 50 watts music program. $69.95

KL-55 Two-Way System
Has two 10" woofers, two 1½" dome mid-range, and two 1" dome tweeters. Dispersion 180 degrees. Will handle 100 watts music program. Recommended amp power 35-100 W rms. Response 18-22,000 Hz. Impedance 4-8 ohms. $300.00

KL-77 3-Way Speaker System
Has 12" woofer, 1½" dome mid-range, and one 1" dome tweeter. 180 degree dispersion. Will handle 70 watts music program. Response 20-22,000 Hz. Imp. 4-8 ohms. Recommended amp power 30-70 W rms. Crossovers at 1200 & 5500 Hz. $210.00

KLH

Five 3-Way Speaker System
Sealed, 3-way bookshelf system with 12" woof-

KENWOOD

KL-77 3-Way Speaker System
Air-suspension, 3-way speaker system with 12" 1.f. driver in air-tight enclosure, 3" mid-range driver, 2" tweeter; response 27-18,000 Hz; 8 ohms; crossovers 1000 & 6000 Hz; recommended amp power 20-60 watts; 60 W max. program; standard brown grille or optional red & blue grilles. 15" x 26" x 12" D . . . $129.95

KL-55 2-Way Speaker System
Has 10" low-frequency driver & 3½" tweeter; response 35-18,000 Hz; 8 ohms; 1500 Hz crossover; recommended amp power 20-60 watts; 60 W max. program; standard brown grille or optional red & blue grilles. 12½" x 23½" x 10¾" D . . . . . $89.95

KL-44, Same as KL-55 except response 40-18,000 Hz; 50 W max. program; 11½" x 20¼" x 9¼" . . . . . . . . . . . . . . . $69.95

In April, Stereo Review gave us our toughest test yet.

Here's how we did.

"Our initial impression of the Avid Model 103...utter smoothness...freedom from undue emphasis or coloration..."

"As easy sounding a speaker as we've heard in some time. All the tests completely confirmed our subjective response to the system."

"Outperforms many far larger and more expensive speaker systems we have heard."

"Clearly, the engineers at Avid not only know how to design a loudspeaker system, but also what a good speaker should sound like."

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131
Speaker Systems

Thirty-Three Speaker System
Sealed, 2-way bookshelf system with 12" woofer & 1¾" tweeter. Has tweeter control. 8 ohms impedance. 12¾" H x 23¾" W x 11¾" D. Walnut. $159.95

Nine Speaker System
Four 2-way speaker system. Three 11/2" tweeters. Radiates in three directions. $99.95 pr.

CB Column Speaker System
Three-way floor-standing system with 15" woofer, horn-loaded mid-range, and horn-type tweeter. Response 30-17,000 Hz ±5 dB; crossovers 600 & 6000 Hz. 8 ohms impedance. Recommended maximum amp: 150 W average sine wave power, 36" H x 15½" W x 15¼" D. Furniture finishes. $925.00

KLPISCH

Cornwall II Speaker System
Tuned ducted-port, 3-way floor-standing system with 15" woofer, horn-loaded mid-range, and horn-type tweeter. Response 38-17,000 Hz ±5 dB; crossovers 600 & 6000 Hz. 8 ohms impedance. Recommended maximum amp: 150 W average sine wave power, 36" H x 25½" W x 15¼" D. Furniture finishes. $925.00

Criterion 555 Three-Way Speaker
Acoustic-suspension bookshelf system with 10" woofer, 5" mid-range, and 3" tweeter. Has high-frequency brilliance control. Response 32-19,500 Hz; LC crossover 800 Hz. Will handle 50 W. Walnut-veneer cabinet finished all four sides; charcoal brown grille cloth. 21" H x 12" W x 10" D. $699.95

Criterion 666 Three-Way Speaker
Acoustic-suspension bookshelf system with 10" woofer, 6" mid-range, and 2" direct-radiator super tweeter. Response 28-20,000 Hz; crossovers 800 & 5000 Hz. Has mid-range and brilliance controls. Will handle 60 W. Oiled-walnut enclosure with charcoal brown grille cloth. 22" H x 14½" W x 11" D. $999.95

Criterion 777 Three-Way Speaker
Acoustic-suspension bookshelf system with 10" woofer, 6" sealed-back mid-range, and 2" direct-radiator super tweeter. Response 19-20,000 Hz; crossovers 400, 900 & 7000 Hz. Will handle 100 W. Has HF, upper mid-range, and lower mid-range controls. Finished all four sides. Oiled walnut cabinet with charcoal brown foam grille. 24" H x 15½" W x 12" D. $1,199.95

Criterion 888 Four-Way Speaker
Acoustic-suspension bookshelf or floor-standing system with 12" woofer, 6" lower mid-range, 5" upper mid-range, and 2" direct-radiator super tweeter. Response 18-22,000 Hz; crossovers 400, 900 & 7000 Hz. Has HF, upper mid-range, and lower mid-range controls. Finished all four sides. Oiled walnut cabinet with charcoal brown foam grille. 30" H x 20" x 16" D. Has 1½" wood base. $2,199.95

LEAK

Sandwich 600 Speaker System
Three-way system with 13" bass driver with Sandwich cone, 3½" mid-range with Sandwich cone, and 2" domed super tweeter. 8-element crossover. Response 40-20,000 Hz. 8 ohms impedance. 25 Hz free-air resonance of bass driver. 25½" x 14½" x 12½" deep. Walnut finished (all four sides) with satin silver trim and charcoal brown grille cloth. $2,950.00

Sandwich Mk III Speaker System
Sealed enclosure, 2-way floor-standing system with 13" woofer and 1" tweeter. Response 30-20,000 Hz; 900 Hz crossover. Has tweeter control. 8 ohms impedance, and will handle 70 watts (rms) maximum input power. 26½" H x 15" W x 12½" D. Removable oiled-walnut grille. $2,150.00

LESLIE

Plus 2 Model 450 Speaker System
Each cabinet includes a dome high-frequency tweeter. Response 28-20,000 Hz; crossovers 800 & 5000 Hz. Has mid-range and brilliance controls. Will handle 60 W. Oiled-walnut enclosure with charcoal brown grille cloth. 22" H x 14½" W x 11" D. $999.95

STEREO DIRECTORY & BUYING GUIDE
on music or speech; recommended minimum power 15-25 W (background), 50-100 W (other); medium to low efficiency, 1.5 W rms at 1000 Hz will produce 85 dB SPL at 3 ft; impedance purely resistive, 6 ohms at any frequency; 6 dB/octave LC crossover at 2400 Hz; Walnut finished hardwood frame with panel covered in light-colored rayon, flax, silk fabric front & back. 22" x 71" x 2" mounted on 22" x 14" black base. 40 lbs each speaker. Sold in pairs. $625.00

LAB 2400 Speaker System
Dynamic damping system; contain four 12" woofers, four 5" mid-range, eight cone tweeters, six dome tweeters, and two piezoelectric tweeters; response 20-45,000 Hz; crossovers 750, 3000 & 4000 Hz; impedance 4 or 8 ohms; continuously variable mid-range and tweeter control; power input 20 W rms min., 200 W rms max. overall size 32" H x 36" W x 18½" D. $1450.00

MARANTZ

Imperial 4G Speaker System
Sealed-enclosure, 2-three-way bookshelf system with 8" woofer & 2" tweeter. Response 60-18,000 Hz. 2000 Hz crossover. 8 ohms impedance. 30 W (peak) maximum input power. 10½" H x 18½" W x 7½" D. Walnut. $95.99

Imperial 5 Speaker System
Tuned ducted-port, 2-three-way bookshelf system with 8" woofer & dome-type 3½" tweeter. Response 50-15,000 Hz ±3 dB; 2000 Hz crossover. Has tweeter control. 8 ohms impedance. 40 W (dynamic) maximum input power. 12" H x 23½" W x 9½" D. Oiled walnut. $79.95

Imperial 6G. Same as Imperial 5 but with acoustically transparent foam grille. $99.95

Imperial 6 Speaker System
Tuned ducted-port, 2-three-way floor-standing system with 10" woofer & 2½", dome-type tweeter. Response 40-18,000 Hz; crossover 3000 Hz. Has tweeter control. 8 ohms impedance. 190 W (dynamic) maximum input power. 25½" H x 14½" W x 11½" D. Oiled walnut. $119.95

Imperial 6G. Same as Imperial 6 but with acoustically transparent foam grille. $139.95

Imperial 7 Speaker System
Three-way bookshelf system with 12" woofer, 3½" mid-range, 1½" tweeter. Has 3-position HF level & 3-position mid-range level selector switches. Response 35-20,000 Hz ±5 db. 30 W continuous power input; 100 W integrated program material; 8 ohms imp. 25½" H x 14½" W x 11½" D. $199.95

Imperial 8 Speaker System
Three-way floor-standing system with 12" woofer, a rotatable air-coupled array consisting of three mid-range transducers & two tweeters. Response ±2 dB 40-18,000 Hz; ±5 dB 30-20,000 Hz. Will handle 75 W continuous power (125 W integrated); 8 ohms impedance. 27" H x 18½" W x 14½" D. $319.95

Imperial 9. Similar to Imperial 8 except has two 10" woofers, four mid-range, and two tweeters.
**Speaker Systems**

**2I/2” tweeter. Response 35-18,000 Hz; mid-range and tweeter level controls. 8 ohms impedance. Walnut formica finish. 12½” H x 21½” W x 10” D.** $499.95

**840 Sound Tower Column System**
3-way, column, sealed enclosure system with four 8” woofers, two 4½” mid-range, and two flat dome 2½” tweeters. Response 28-20,000 Hz; mid-range and tweeter level controls. 100 watts (dynamic) maximum input power. Walnut formica finish. 52” H x 16½” W x 7¾” D. $379.00

**MICRO/ACOUSTICS**

**MicroStat System**
One-way miniature closed system with four tweeters. Response 2500-18,000 Hz ±2 dB. Dispersion 180 degrees. Has range selector and level control. 4 to 8 ohms impedance. 60 W (max) rms input power. Walnut finish. 12½” H x 21½” W x 10” D. $199.00

**Laborey MK II Speaker System**
3-way, sealed infinite baffle system with 10” woofer, 3½” mid-range, and wide-dispersion 2½” tweeter. Response 35-18,000 Hz; mid-range and tweeter level controls. 8 ohms impedance. 50 watts (dynamic) maximum input power. Walnut finish. 12½” H x 21½” W x 10” D. **$139.00**

**Magnificat Speaker System**
3-way, floor-standing sealed infinite baffle system with two 12” woofers, 6½” mid-range, and two wide-dispersion 2½” tweeters. Response 28-20,000 Hz; mid-range and tweeter level controls. 4 ohms impedance; 80 watts (dynamic) maximum input power. Walnut formica finish. 37½” H x 18” W x 14½” D. **$439.00**

**MicroMax Speaker System**
2-way, sealed enclosure system with 8” woofer and wide dispersion 3” tweeter. Has tweeter balance control. 8 ohms impedance. Walnut formica finish. 10½” H x 18” W x 9½” D. **$319.00**

**Spectrum Slope Speaker System**
2-way, sealed infinite baffle system with two 8” woofers and two wide-dispersion 2½” tweeters. Response 35-18,000 Hz. 8 ohms impedance; 50 watts (dynamic) maximum input power. Walnut formica finish. 12½” H x 21½” W x 10” D. **$169.00**

**Super Spectrum Speaker System**
3-way, sealed infinite baffle system with two 8” woofers, 3½” mid-range, and wide-dispersion 2½” tweeter. Response 30-18,000 Hz; mid-range and tweeter level controls. 4 ohms imped.

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**MICROTOWER**

**MT1 Speaker System**
Spherical-sound design; suitable for front, rear, or four-channel use; has organ pipe low-frequency driver & two 4½” cone mid-range speakers; crossover 200 Hz; 8 ohms; 5 W min.; 50 W max. power handling capacity; response 50-12,000 Hz ±3 dB. White or walnut finish. 32” H x 8½” x 8½”. **$69.95**

**MT2 Speaker System**
Drivers are mounted on all sides for uniform suspension woofer, two 1½” tweeters in duo-cone array; mounted in trihedron array; power required 10 W rms min./50 W rms max. Oiled walnut veneer cabinet; removable foam grille. 29” H x 20½” x 14½”. **$499.95** pr. **$280.00**

**MT3 Speaker System**
Features organ-pipe low-frequency driver; four 4½” mid-range & two linear air-spring tweeters; response 35-18,000 Hz ±3 dB; will handle 30-80 W rms. **$209.95**

**MODULAR SOUND**

**"T" Omni Speaker Cube**
Five-driver system featuring four 3” tweeters in 360-degree array, one 8” woofier/mid-range in infinite baffle enclosure; can be used as bookshelf speaker or combined with 88 omnidirectional bass cube to form a three-way system with 40-20,000 Hz ±3 dB response; crossover 500 & 3000 Hz. 12½” x 12½” x 12½”. **$79.95**

**88 Slot-Loaded Bass Cube**
Contains one 8” floor-loaded woofer with two mechanical crossovers; can be used as bass booster for any bookshelf speaker system; terminal strip connections for both amplifier input and speaker system output; used in conjunction with the "T" Omni it becomes three-way floor-standing system. Same dimensions & enclosure as the "T". **$69.95**

**"F" Two-Way Speaker System**
Tuned-port, two-way system with one 3” tweeter and 8” woofer; high efficiency; 23½” x 12½” x 11”. **$89.95**

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**STereo DIRECTORY & BUYING GUIDE**

**ALWAYS \ldots take this Directory along when you shop for new equipment. It provides complete specifications, prices, and details on special features, enabling you to “comparison shop” knowledgeably. It can save you both time and money \ldots so keep it handy and use it often.**
and 2 1/2" tweeter. Response 40-20,000 Hz; 8 ohms imp. Max. power input 80 W. 20" H x 10" W x 9 1/2" D.

$69.95

Pair of kits

$119.95

**CK50-4 Speaker System Kit**

Four-way system with 10" woofer, 5" x 7" mid-range, and two 2 1/2" tweeters. Response 30-18,000 Hz. 8 ohms imp. Max. power input 80 W. 26 1/2" H x 15" W x 10 1/2" D.

$199.95

Pair of kits

$399.95

**PHILIPS**

**RHS32 Motional Feedback System**

Three-way system with 8" motional-feedback woofer, 5" mid-range, 1" dome tweeter, two integrated power amplifiers (bass, 40 W sine wave, 0.1% dist. at 30 W; power bandwidth 10-3000 Hz; frequency range 5-2000 Hz; intermediate & treble, 20 W sine wave, 0.1% dist. at 15 W; power bandwidth 100-5000 Hz; frequency range 500-6000 Hz); crossover 500 Hz (active) & 4000 Hz (passive); inputs-switchable, preamp 1 V at 3000 ohms, power amp 7.5 V at 25 ohms, low-power amp 3 V at 35 ohms, power. 15" H x 11" W x 8" D.

$365.00

**ONKYO**

**15 Speaker System**

Three-way linear-suspension bookshelf design with 10" woofer, 1 1/2" hemispheric dome mid-range, and 1" hemispheric dome tweeter. Capacity 40 W. Response 30-20,000 Hz; crossovers at 1000 & 7000 Hz. 5-position mid-range & tweeter level control. 10 Wch rms minimum driving power. 8 ohms. 22 1/2" H x 17 1/2" W x 17 1/4" D.

Oiled walnut or rosewood.

$400.00 to $550.00

**CS-66G Speaker System**

Sealed, 3-way bookshelf enclosure with 10" woofer, 6" mid-range, and cone-type tweeter. Response 35-20,000 Hz. Has tweeter control. 8 ohms impedance. 40 W (dynamic) maximum input power. 12" x 14" W x 22 1/2" D.

$199.95

**CS-99A Speaker System**

Sealed, 5-way floor-standing enclosure with 15" woofer, 5" mid-range, horn-type tweeter, cone tweeter, and dome super-tweeter. Response 25-22,000 Hz. Has mid-range and tweeter controls. 8 ohms impedance. 80 W (dynamic) maximum input power. 25" H x 16" W x 11 1/2" D.

$239.95

**CS-A500 Speaker System**

Sealed, 3-way bookshelf enclosure with 10" woofer, 4" mid-range, and 3" tweeter. Response 40-20,000 Hz; 800 & 6000 Hz crossovers. Has tweeter control. 8 ohms impedance. 50 W (dynamic) maximum input power. 13" H x 22 1/2" W x 12 1/4" D.

$119.95

**CS-A700 Speaker System**

Sealed, 3-way floor-standing enclosure with 12" woofer, 4" mid-range, and horn-type tweeter. Response 35-20,000 Hz; 500 & 4500 Hz crossovers. Has mid-range and tweeter controls on front panel. 8 ohms impedance. 60 W (dynamic) maximum input power. Individual speaker connections to the firm's multi-amp system. 26" H x 12 1/2" W x 15 1/2" D.

$189.95

**R300 Speaker System**

Bass-reflex, 2-way design with 10" woofer and horn-type tweeter. 8 ohms. Response 45-20,000 Hz; 6300 Hz crossover; 40 W max. input. Has removable grille. Saran cloth color combination black/orange-red. 13" x 22 1/2" x 11 1/4" D.

$119.95

**R500 Speaker System**

Bass-reflex, 3-way design with 10" woofer, 5" mid-range, and horn-type tweeter. Response 30-20,000 Hz; 500 & 4500 Hz crossovers. Has mid-range and tweeter controls on front panel. 8 ohms impedance. 60 W (dynamic) maximum input power. 26" H x 12" W x 11 1/2" D.

$169.95

**R700 Speaker System**

Bass-reflex, design with 12" woofer, horn mid-range, and multichannel horn-super-tweeter crossovers at 750 & 14,000 Hz. 8 ohms. Response 35-20,000 Hz. Max. input 60 W. Has removable grille and Saran cloth color combination black and brown. 15" x 26" x 13 1/4" D.

$249.95

**POLK AUDIO**

**Nine Controlled Dispersion Array**

Three-way free-standing tower design with four 4 1/2" extended-range drivers, an 8" bass radiator cone, and piezoelectric h.f. unit in controlled dispersion array, arranged on front & rear baffles to provide dipolar radiation of bass & mid-range, and radiation of highs; acoustic crossover 12 dB/octave at 180 Hz.
**10 Speaker Systems**

response 48-27,000 Hz = 2 dB, 41-35,000 Hz = 4 dB, max. output level 108 dB at 1 meter (any frequency above 100 Hz); power required 5 W rms/ch min., 100 W rms/ch max.; imp. nominal 8 ohms, min. 9.5 ohms at 70.3 Hz. 33'/2" (any frequency above 100 Hz); power required -4 dB; max. output level 108 dB at response 48-27,000 Hz ±2 dB, 41-35,000 Hz ±4 dB, nominal imp. 8 ohms; contemporary styling; hardwoods & veneers; finished on all six sides; press-fit grille. 14'/2" H x 13'/4" W x 9'/2" D.

**Optimus 1B Speaker System**
Sealed, 2-way bookshelf system. Response 20-25,000 Hz; 1000 Hz crossover. Has tweeter control; 8 ohms impedance. 12" H x 23" W x 11'/2" D. Oiled walnut finish. $219.50 pr.

**Optimus 5 Speaker System**
Sealed, 2-way floor-standing system with 12" woofer, two mid-range, and a 3" tweeter. Response 20-20,000 Hz. Has mid-range and tweeter controls; 8 ohms impedance. 25'/2" H x 14'/2" W x 11'/2" D. Oiled walnut finish. $114.50

**RADIO SHACK**

**Novas 7B Speaker System**
Sealed, 2-way bookshelf system with 10" woofer and two 3'/2" tweeters. Response 20-20,000 Hz; 8 ohms impedance. 60 W rms maximum input power. 12'/2" H x 22'/2" W x 11" D. Oiled walnut finish. $119.95

**RECTILINEAR**

**Model Xla 2-Way Speaker System**
Bass-reflex, 2-way bookshelf system with 10" woofer and 3" tweeter. Response 45-17,000 Hz = 3 dB; 350 and 4000 Hz crossovers. Has mid-range and tweeter level controls; 8 ohms impedance. Requires 10 watts (rms) driving power; 50 watts (rms) maximum power. 25'/2" H x 14'/2" W x 10'/2" D. Oiled walnut finish. $89.00

**Model Xlb 3-Way Speaker System**
Bass-reflex, 3-way bookshelf system with 10" woofer, 5" mid-range, and 3" tweeter. Response 45-17,000 Hz = ±3 dB; 350 and 4000 Hz crossovers. Has mid-range and tweeter level controls; 8 ohms impedance. Requires 10 watts (rms) driving power; 40 W rms maximum power. 25'/2" H x 14'/2" W x 10'/2" D. Oiled walnut finish. $149.00

**Mini III 3-Way Speaker System**
Sealed acoustic-suspension, 3-way bookshelf system with 8" woofer, 5" mid-range, and 2" tweeter. Response 50-15,000 Hz ±4 dB; 400 and 8000 Hz crossovers. Has mid-range and tweeter level controls; 4 ohms impedance. 100 watts (IHF) maximum input power. 12" H x 19" W x 9'/2" D. Oiled walnut finish. $109.00

**5 Contemporary Lab Series**
Sealed acoustic-suspension, 4-way bookshelf system with optional "Dispersion Base." "$114.50

**PRECISION ACOUSTICS**

**208 Two-Way Speaker System**
Has two 8" woofers and one 2" tweeter. Response 25-20,000 Hz. Will handle 40 W continuous rms power. Impedance 8 ohms. Hand-rubbed oiled-walnut finish. 20'/2" W x 13" H x 10'/2" D. System consists of two speakers and Model 102 equalizer. $475.00

**112 Three-Way Speaker System**
Has 12" woofer, 6" mid-range, and 2" tweeter. Response 25-20,000 Hz. Will handle 50 W continuous rms power. Impedance 8 ohms. Hand-rubbed oiled-walnut finish. 22'/2" W x 15" H x 11'/2" D. System consists of two speakers and Model 102 equalizer. $575.00

**210 Three-Way Speaker System**
Has two 10" woofers, one 6" mid-range, and one 2" tweeter. Response 20-20,000 Hz. Will handle 70 W continuous rms power. Impedance 8 ohms. Hand-rubbed oiled walnut finish. Right and left speakers are mirror images. 17" W x 25" H x 11'/2" D. System consists of two speakers and Model 102 equalizer. $675.00

**212 Three-Way Speaker System**
Has two 12" woofers, two 6" mid-range, and one 2" tweeter. Response 20-22,000 Hz. Will handle 100 W continuous rms power. 8 ohms impedance. Hand-rubbed oiled-walnut finish. 21" W x 29" x 15'/2" D. Right and left speakers are mirror images. System consists of two speakers and Model 102 equalizer. $975.00

**215 Three-Way Speaker System**
Has two 15" woofers, two 6" mid-range, and two horn tweeters. Response 20-22,000 Hz. Will handle 200 W continuous rms power. 8 ohms impedance. Hand-rubbed oiled-walnut finish. 24" W x 34" H x 16'/2" D. Right and left speakers are mirror images. System consists of two speakers and Model 102 equalizer. $1300.00

**RV-11 Two-Way Speaker System**
High-efficiency tuned-port reflex design; 8" woofer & 4" tweeter; half-frequency divider network 12 dB/octave; constant resistance, zero phase shift at crossovers 875 & 7000 Hz; two 3-pos. room acoustics compensating controls; tweeter level controls; will handle 25 W; response 40-22,000 Hz; power handling 60 W continuous rms power. Walnut cabinet with black grille cloth. 20'/2" x 20'/2" x 23'/2". $279.00

**ESR-6 Electrostatic Tweeter System**
Electrostatic add-on tweeter with built-in crossover and level controls for both tweeter & woofer. Response 1500-30,000 Hz ±3 dB; crossover 1500 Hz; will handle 60 W continuous rms power (24 V max.); 8 ohms. Walnut cabinet with black grille cloth. 14'/2" x 13" x 36". $199.00

**RTR**

**HPR-12 Three-Way Speaker System**
Rear-loaded three-way system with 12" woofer, 5" cone mid-range, 2" cone tweeter. Response 35-18,500 Hz ±4 dB; crossover 1500 & 10,000 Hz; imp. 8 ohms. Will handle 60 W continuous rms power. Walnut cabinet with black grille cloth. 14'/2" x 13" x 36". $199.00

**280DR Three-Way Speaker System**
Features four 10" woofers, five 2'/2" mid-range/tweeters, one piezoelectric super tweeter, response 22-25,000 Hz; crossovers 2500 & 7500 Hz; impedance 8 ohms nominal; recommended amp power 25 to 100 W rms/channel; has mid...
range & tweeter level controls, speaker protection circuit breaker with push-button reset, dual 5-way input jack. Hand-rubbed walnut veneer cabinet. 16½" x 39" x 16½" D. .................................. $329.00

180D Two-Way Speaker System
Features two 10" woofers and four 2½" tweeters; response 28-18,500 Hz, crossover 3000 Hz; impedance 8 ohms nominal; recommended amplifier power 25 to 60 W rms; has tweeter level control, tweeter protection circuit breaker, bass knob, bass switch, dual 5-way input jacks. Hand-rubbed walnut veneer cabinet. 14" x 33½" x 14" D. .... $219.00

HPR-12 Magnum Speaker System
Designed for use with low-power amps; has one 12" passive radiator, one 12" woofer, one 5" mid-range, and one 3" solid-state tweeter; response 3½ to 25,000 Hz, 8 ohms nominal impedance; 8 ohms impedance; recommended amplifier power 15 to 100 W continuous input into 8 ohms; mid-range and tweeter (continuously variable) controls, speaker protection circuit breaker, dual 5-way binding post. Hand-rubbed walnut veneer cabinet. 14½" x 36" x 13½" D. .......... $249.00

400E Three-Way Speaker System
Features one 12" woofer, four 5¼" x 5¾" electrostatic mid-range panels, one 3½ piezoelectric super tweeter; response 30-25,000 Hz, crossover 470 & 7800 Hz; impedance 7 ohms minimum; recommended amplifier power 20 to 100 W rms; has mid-range and tweeter level control, speaker protection circuit breaker, dual 5-way binding post. Hand-rubbed walnut veneer cabinet. 18" x 27½" x 12 D. ................................ $279.00

88D Two-Way Speaker System
Features 8" woofer & three 2½" tweeters; response 40-18,500 Hz; crossover 2500 Hz; 8 ohms nominal impedance; recommended amplifier power 20 to 60 W rms; has tweeter level control, circuit breaker, dual 5-way binding post. Hand-rubbed walnut veneer cabinet. 11" x 26½" x 11½" D. ................... $139.00

Mark XII Electrostatic Transducer
Solid-state design; 8 ohms impedance. Power requirement 60 W rms. Has 12" dynamic-type woofer, 5" dynamic-type mid-range, and three electrostatic elements-two to provide mid-range and high-frequency coverage of unusually high dispersion. Crossover of low-freq. driver adjustable to 120, 240, or 480 Hz at 6 dB/octave; mid-frequency crossover with continuously variable output; electrostatic units 1440 Hz at 12 dB/octave with level adjust from -3 to +3 dB. 120 V a.c. operation. 27" x 17½" x 12½" D. Oiled walnut - ........................................ $1550.00

Mark XIV Electrostatic Transducer
Has 12¾" low-frequency transducer, 5" mid-frequency transducer and constant-charge, bipolar-radiating electrostatic elements. Crossovers: low-freq. driver adjustable to 120 Hz; 240 Hz; 480 Hz; 6 dB/octave; mid-freq. drivers 240 Hz at 6 dB/octave continuously variable calibrated adjustment from -16 dB through +4 dB; electrostatics 1440 Hz at 12 dB/octave; efficiency level adjustable from -4 dB through +10 dB, continuously variable adjustment. Solid-state electronic protection. Minimum power input 100 W/ch; maximum power input no limit; 8 ohms impedance. Available in oiled walnut or rosewood with ebony fabric grille cloth. 42½" H x 24½" W x 18" D at base (6½ D at top). Oiled walnut - .......................... Pair $1650.00 Rosewood - Pair $1850.00

Mark X Dynamic Transducer
12" low frequency driver; 5½" mid-frequency driver in an air-tight enclosure, and two 2½" tweeters (one radiating toward the rear). Crossovers at 1440 Hz, 240 Hz, 480 Hz all at 6 dB/octave. Has continuously adjustable high-frequency level control (-7 dB to +5 dB) and mid-frequency level control (-16 dB to +4 dB). Minimum power input 20 W rms. Hand-rubbed oiled walnut cabinet. 25½" H x 14½" W x 12" D. ...... $200.00

Mark XI Dynamic Transducer
Three-way system with 12" driver; two 5 mid-range; three 2½" forward-radiating tweeters, and one 2½" rear-radiating tweeter. Crossovers at 1440 Hz (high) and 240 Hz (mid-frequency) both at 6 dB/octave. Adjustable low-frequency crossovers at 120, 240, and 480 Hz at 6 dB/octave. Has continuously adjustable high-frequency (-7 dB to +5 dB) and mid-frequency (-16 dB to +4 dB) level controls. 8 ohms impedance. Minimum power input 30 W rms. Hand-rubbed walnut enclosure. 27½" H x 17½" W x 12½" D. .............. $275.00

SANSUI
SP-3500 4-Way, 6-Speaker System
Multi-directional bass-reflex design with one 14" cone woofer, two 4" cone mid-range, one 4¾" x 2½" horn mid-range, and two 2" horn tweeters. Response 25-20,000 Hz; crossovers at 700, 2000 & 6500 Hz. Power capacity 100 W. 8 ohms imp. 24½" H x 19½" W x 11¼" D. Walnut open-pore finish. ........................................ $269.95

SP-2500 3-Way, 5-Speaker System
Multi-directional bass-reflex design with one 12" cone woofer, two 5" cone mid-range, two 2" horn tweeters. Response 30-20,000 Hz; crossovers at 700 & 6500 Hz. Power capacity 80 W. 8 ohms imp. 23½" H x 15½" W x 10¾" D. ...... $229.95

SP-1700 3-Way, 5-Speaker System
Multi-directional bass-reflex design with one 12" cone woofer, two 4" cone mid-range, and two 2" cone tweeters. Response 30-20,000 Hz; crossovers at 700 & 6500 Hz. Power capacity 70 W. 8 ohms imp. 23¾" H x 16½" W x 10¾" D. Walnut open-pore finish. .. $199.95

SP-1200 3-Way, 5-Speaker System
Multi-directional bass-reflex design with one 10" cone woofer, two 4" mid-range, and two 2" cone tweeters. Response 35-20,000 Hz; crossovers at 700 & 6500 Hz. Power capacity 60 W. 8 ohms imp. 23½" H x 15½" W x 10¾" D. ....................... $129.95

SF-2 Omni-Radial Speaker System
Frequency response 50-20,000 Hz; two 8" woofers & one 2½" cone tweeter; crossover 2000 Hz; 8 ohms imp.; max. power input 65 W peak; full 360-degree sound dispersion; porous foam acoustic diffuser; suitable as stereo or center channel. Requires 50 W program material. 23½" H x 11¼" W x 9½" D. ...................................... $179.95

SHERRON
DKSP4-4 Deco speaker
Response 65-17,500 Hz; 5" speaker; 10 oz. ceramic magnet; impedance 8 ohms; power handling 18 watts. Features 360-degree swivel tube for directing sound. Requires 5" depth for mounting; 6½ o. d. .... $90.00 pr.

RS6-C Out-of-Sight
Completely recessed 5" speaker; response 65-17,500 Hz; 10 oz. ceramic magnet; impedance 8 ohms; power handling 18 watts. Can be used in pairs for stereo; or matched pairs for quadraphonic. Requires 6½" depth for mounting; 9¾ o. d. ........ $80.00 pr.

SCOTT, H.H.
S-71 Speaker System
Sealed, 3-way floor-standing system with 12" woofer, 4½" mid-range, and 1" dome tweeter. Response 30-20,000 Hz; 1000 & 5000 Hz crossovers. Has 3-position mid-range/tweeter level switch. 8 ohms impedance. Requires 18 W dynamic input; handles 25 W program material. 25½" H x 14½" W x 11¼" D. ... $169.95

S-52 Speaker System
Sealed, 2-way floor-standing system with 10" woofer and 1½" dome tweeter. Response 30-17,000 Hz; 1200 Hz crossover. Has tweeter control. 8 ohms impedance. Requires 18 W (HI)F driving power; 60 W (HI)F maximum input. 24½" H x 14½" W x 10½" D. Walnut. ........ $114.95

S-42 Speaker System
Sealed, 2-way bookshelf system with 8" woofer and 1" dome tweeter. Response 35-20,000 Hz; 2200 Hz crossover. Has tweeter control. 8 ohms impedance. Requires 10 W (HI)F driving power; 35 W (HI)F maximum input. 15½" H x 8½" W x 11½" D. $79.95

S-110 Speaker System
Sealed, 3-way floor-standing system with 10" woofer, 3½" mid-range, and 3" tweeter. Response 35-20,000 Hz; 900 & 3500 Hz crossovers. Has mid-range and tweeter controls. 8 ohms impedance. Requires 10 W (HI)F driving power; 50 W (HI)F maximum input. 24½" H x 14½" W x 11¼" D. Walnut. ........ $149.95

S-15 Speaker System
Sealed, 3-way bookshelf system with 10" woofer, 4" mid-range, and 3" tweeter. Response 35-20,000 Hz; 800 & 4000 Hz crossovers. Has 3-position tweeter/mid-range level switch. 8 ohms impedance. Requires 10 W driving power; will handle 50 W program material. 23½" H x 11¼" W x 9½" D. .......... $134.95.

SOUNDCRAFTSMEN
Lascor 9534-X Speaker System
Tuned ducted-port 2-way bookshelf system. Response 40-18,000 Hz; 3000 Hz crossover. 8 ohms impedance. Requires 5 W dynamic driving power; 30 W max. dynamic input. Oiled walnut finish. 11¾" H x 23½" W x 11¼" D. $69.50
Lancer 9535-2 Speaker System
Tuned ducted-port 2-way bookshelf system with 12" woofer & separate tweeter. Response 30-20,000 Hz, 3000 Hz crossover, 8 ohms impedance. Requires 5 W dynamic driving power; 35 W maximum dynamic input. Oiled walnut finish. 14"x25"x11 3/4" D. $99.50

SC-12ES Electrostatic Speaker System
Acoustic-suspension design with 12" woofer (15 Hz free-air resonance), a 5" dual-cone mid-range, and 144 sq. in. finish. 201/4" x 12 1/2" x 10". Available in same finishes as BC-1. $750.00

Alpha 3-Way Speaker System
High-efficiency bookshelf system with 10" woofer, 4 1/2" mid-range, two piezoelectric tweeters; full-range tweeter controls; 4 ohms impedance; response 35-20,000 Hz ±5 dB; min. input power 5 W rms, max. 50 W rms; fast-blown fuse. Vinyl-covered walnut with black grille cloth. 12 1/4"x14 1/4"x23 1/4". $129.00

P10 3-Way Speaker System
Floor-standing, 3-way tube vented bass-reflex system with 10" woofer, 4" mid-range, two piezoelectric tweeters; full-range tweeter controls; 4 ohms impedance; response 35-20,000 Hz ±5 dB; min. input power 10 W rms, max. 50 W rms; fast-blown fuse. Satin walnut with black grille cloth. 13 1/4"x15 1/4"x25 1/4". $179.00

Tower 1 Speaker System
Pedestal-design speaker, 37" tall x 10" deep. Has two 8-inch high-compliance bass speakers and a 2-inch cone driver for handling 50 watts continuous program material. Response 34-20,000 Hz; impedance 8 ohms. $119.95

BC-3 Studio Monitor Speaker
Four-way system using same drivers as in BC-1 plus 12" woofer. 80 W power handling capacity. 14"x14"x32". Available in same finishes as BC-1. $750.00

BC-1 Monitor Speaker
Three-way system using 8" plastic cone of special design as bass driver, a Celestion Type 1300 mid-range, and an STC Type 4001G tweeter with LC network and matching transformer. 8 ohms. Response 40-20,000 Hz ±4 dB. Available in teak, walnut, rosewood, and white. 25"x12"x12". $99.50

BC-2. Same as BC-1 except will handle 50 W $395.00

Trolleys (recommended for best performance with all three systems) available in black, satin chrome, or white. $60.00 pr.

Lancer SC-4 Speaker System
Acoustic-suspension design with 12" heavy-duty woofer, sealed-back 5" mid-range, and 2 1/4" direct radiator; three-way crossover uses air-core inductors & electrolytic capacitors; mid-range & high-frequency level controls; 8 ohms; response 20-20,000 Hz; 10 W rms minimum, 50 W rms max. power input; features acoustic foam grille and oiled walnut finish. 23 1/2"x15"x12 3/4". $169.50

Lancer SC-10A Speaker System
Acoustic-suspension design with 10" heavy-duty woofer, & 2 1/2" direct radiator; two-way LC crossover; 8 ohms; 20-20,000 Hz; 1 W rms minimum, 50 W rms maximum power input; features acoustic foam grille and oiled walnut finish. 20 3/4"x12 3/4"x10". $119.50

SC-7 Speaker System
Acoustic-suspension, three-way design using a 1 1/2" heavy cast-frame woofer, 5" isolated mid-range, and dome radiator; three-way LC crossover uses four air-core inductors plus electrolytic capacitors; mid-range and high-frequency level controls; 8 ohms; response 20-20,000 Hz; 10 W rms minimum, 60 W rms maximum input power; features acoustic foam grille and oiled walnut finish. 25 1/4"x15"x11 3/4". $229.50

Tower 1 Speaker System
Pedestal-design speaker, 37" tall x 10" deep. Has two 8-inch high-compliance bass speakers and a 2-inch cone driver for handling 50 watts continuous program material. Response 34-20,000 Hz; impedance 8 ohms. $119.95

STARK DESIGNS

SR-1 Bookshelf System
3-way acoustic-suspension system with 10" woofer, 5" cone mid-range, and 1" dome tweeter. High-frequency dispersion is adjustable to control room acoustics by means of rotatable directivity-pattern module; crossovers at 650 & 5600 Hz; front-mounted tweeter and mid-range controls; impedance 8 ohms; 40 W continuous program; recommended amplifier power 10-80 watts rms/ch. Hand-rubbed oiled walnut finish. Foam grille available in red, orange, blue, brown, black. 24" H x 15" W x 10" D. $135.00

SR-2, Same as SR-1 except has 12" long-throw woofer; 50 W continuous program; recommended amplifier power 12-100 watts rms/ch. 24" H x 15" W x 13" D. $180.00 SR-3. Same as SR-2 with additional 5" mid-range and 1" dome tweeter on rear for 50% rearward dispersion above 650 Hz; 60 W continuous program; recommended amplifier power 15-120 watts rms/ch. 24" H x 16 1/2" W x 13" D. $225.00

Floor Bases. Available for all three models (FB-1, FB-2, FB-3) in hand-rubbed walnut finish with felt top. $15.00 pr.

STRENGTHENING MATERIALS

EUROPEAN INNOVATIONS

ALPHA

Alpha 3-Way Speaker System
High-efficiency bookshelf system with 10" woofer, 4 1/2" mid-range, two piezoelectric tweeters; full-range tweeter controls; 4 ohms impedance; response 35-20,000 Hz ±5 dB; min. input power 5 W rms, max. 50 W rms; fast-blown fuse. Vinyl-covered walnut with black grille cloth. 12 1/4"x14 1/4"x23 1/4". $129.00

P10 3-Way Speaker System
Floor-standing, 3-way tube vented bass-reflex system with 10" woofer, 4" mid-range, two piezoelectric tweeters; full-range tweeter controls; 4 ohms impedance; response 35-20,000 Hz ±5 dB; min. input power 10 W rms, max. 50 W rms; fast-blown fuse. Satin walnut with black grille cloth. 13 1/4"x15 1/4"x25 1/4". $179.00

Omega 1 Speaker System
Three-way, floor-standing acoustic-suspension system with 12" woofer, 4 1/2" mid-range, three piezoelectric tweeters; full-range mid-range & tweeter controls; 8 ohms impedance; response 23-20,000 Hz ±5 dB; min. input power 15 W rms, max. 200 W rms; fast-blown fuse. Satin walnut with black grille cloth. 15 1/4"x15 1/4"x31 3/4". $299.00

Theta 1 Add-On Tweeter
Features five piezoelectric transducers coupled together through phase-aligning network; linear frequency response 2000-30,000 Hz; controlled dispersion 270° horizontal, 120° vertical; 200 W rms power handling capacity at 8 ohms; 31% energy conversion. 12 1/2" W x 9 1/2" D x 5 1/4" H. $75.00

P3 Add-On Tweeter
Features three piezoelectric transducers mounted in half-hexagonal, wide-dispersion case; response 2500-20,000 Hz ±3 dB; power handling 100 V peak-to-peak or 192.8 W rms at 8 ohms; 31% energy conversion; dispersion 180 degrees. Walnut enclosure with a acoustically transparent black grille. 12" W x 6" D x 6" H. $99.00 pr.

SYLVANIA

A35712W Speaker System
Sealed air-suspension design with 12" woofer, 4" mid-range, and 1" dome tweeter. Response 25-20,000 Hz, crossovers at 1500 & 6000 Hz; 8 ohms. Capacity 50 W continuous, 25Wx16Wx16W STEREO DIRECTORY & BUYING GUIDE
**AS3710W Speaker System**
Sealed air-suspension design with 10" woofer, 3" mid-range, and 2½" tweeter. Response 30-18,000 Hz, 8 ohms. Capacity 50 W continuous. 22½" x 14½" x 11½" D. Walnut-grained vinyl. ............................... $229.95 pr.

**AS225A Speaker System**
Sealed air-suspension design with 12" woofer, 4½" lower mid-range, 1½" dome upper mid-range, and 1" dome tweeter. Response 20-20,000 Hz; crossovers at 3500, 6000, 8000 Hz; 8 ohms. Will handle up to 150 W continuous power per channel. Has tweeter, upper mid-range, and lower mid-range level switches. Cabinet in hardwoods, genuine veneers, and decorative non-wood material. Removable lattice-work grille cloth assembly. 28½" (plus 2½" base) x 17½" W x 12½" D. ............... $209.95

**AS125B Speaker System**
Sealed air-suspension design with 12" woofer, 1½" dome mid-range, and 1" dome tweeter. Response 40-16,000 Hz; crossover at 5000 Hz. 8 ohms will handle up to 35 W continuous power per channel. Walnut-grained vinyl. 18½" H x 12½" W x 9" D. $129.95 pr.

**AS3708W Speaker System**
Sealed air-suspension design with 8" woofer and 3" tweeter. Response 40-16,000 Hz; crossover at 5000 Hz; 8 ohms. Will handle up to 35 W continuous power per channel. Walnut-grained vinyl. 18½" H x 12½" W x 9" D. ............... $129.95 pr.

**AS210A Speaker System**
Sealed air-suspension design with 10" woofer, 1½" dome mid-range/tweeter, and 3½" tweeter. Response 33-15,000 Hz ±3 dB; two position level control for frequencies above 8000 Hz; response 33-15,000 Hz ±3 dB; two-position level control for frequencies above 8000 Hz; 8 ohms impedance. Oiled walnut. 33½" H x 15½" W x 12½" D. ............... $179.95

**TANNOY**

**Nova Speaker System**
Tuned ducted-port bookshelf system with 12" woofer, 4" mid-range, and 2.5" tweeter; crossover at 1200 Hz has variable controls; 8 ohms impedance. Oiled walnut. 23½" x 14½" x 11½" D. .............................. $141.00

**Lancaster Speaker System**
Bass-reflex, ducted-port floor-standing system with 15" dual-concentric speaker. Response 35-20,000 Hz; 1000 Hz crossover. Has balance and tweeter controls; 8 ohms impedance. 50 watts (dynamic) maximum input power. Oiled walnut. 29½" H x 26½" W x 19½" D. .............................. $414.00

**MalloRcian Speaker System**
Tuned, ducted-port bookshelf system with 12" dual-concentric speaker. Response 35-20,000 Hz; 1800 Hz crossover. Has balance and tweeter controls; 8 ohms impedance. 50 watts (dynamic) maximum input power. Oiled walnut. 14½" H x 23½" W x 11½" D. .............................. $255.00

**Belvedere Speaker System**
Bass-reflex, ducted-port floor-standing system with 15" dual-concentric speaker. Response 35-20,000 Hz; 1000 Hz crossover. Has balance and tweeter controls; 8 ohms impedance. 50 watts (dynamic) maximum input power. Oiled walnut. 33½" H x 23½" W x 16½" D. .............................. $363.00

**GRF Speaker System**
Horn-loaded design with 15" dual-concentric speaker which is rear loaded below 350 Hz with an acoustic crossover takes place and front radiation is obtained up to 1000 Hz. Above this the non-directional horn-loaded high-frequency unit, which is part of the dual-concentric, takes over. Response 50-20,000 Hz ±2 dB. Capacity 30 W. 42" x 17" D x 23½". Oiled walnut, modern styling cabinet. ......................... $480.00

**Orbitus-I Speaker System**
Omnidirectional, tuned floor-standing system with 12" dual-concentric speaker. Response 35-20,000 Hz. Has balance and tweeter controls, 8 ohms impedance. 30 watts maximum input power. Oiled walnut. 29½" H x 17½" W x 17 D. .............................. $315.00

**T-200 Two-Way Bookshelf System**
Response 44-18,000 Hz ±3 dB (down 10 dB at 35 Hz, free field); dispersion 120 degrees at 10,000 Hz; power rating 10 W min. amp. input, 100 W max. speech/music input without fusing; will withstand sine-wave input of 40 W (400 Hz) for 5 min., peak power pulses beyond 450 W; 8 ohms imp. Has 10" woofer & 1½" tweeter; 1800 Hz crossover; tweeter level control. Sculpured removable grille available in blue or brown. 21½" H x 12½" W x 10½" D. ............... $99.55

**T-300 Three-Way Bookshelf System**
Response 40-20,000 Hz ±3 dB; 10" woofer, 3" mid-range & 2" super tweeter; crossovers 1500 & 7500 Hz; has tweeter, mid-range level controls; 10 W min. amp. power, 100 W max. speech/music input without fusing; 8 ohms imp. Sculpured removable grille available in blue or brown. 24½" H x 13½" W x 12½" D. .............................. $179.95

**T-400 Four-Way Floor System**
Response 38-20,000 Hz ±3 dB; 12" woofer, 5" mid-range, 3½" tweeter, and two 2" super tweeters; crossovers 700, 3000 & 7500 Hz; 10 W min. amp power, 100 W max. speecho music input without fusing; 8 ohms imp. Sculpured removable grille available in blue or brown; removable base. 27½ H x 15½" W x 13½" D (inc. base). .............................. $279.95

**T-500 Four-Way Floor System**
Response 35-20,000 Hz ±3 dB; two 10" woo- fers, 5" mid-range, two 1½" tweeters, two 2" super tweeters; crossovers 600, 2000 & 8000 Hz; has tweeter, mid-range level controls-10 W min. amp power, 100 W max. speech/music input without fusing; 8 ohms imp. Sculpured removable grille available in blue or brown; removable base. 29½" H x 18½" W x 14½" D (inc. base). .............................. $429.95

**TECHNISOUND**

**Varo Reflecting Speaker System**
Features one-knob adjustment of ambiance; bass system is 9-ft air column; resonance 32 Hz
1000 Two-Way Speaker System
Features 10" acoustical-suspension woofer equipped with "inertial equalizer disc" for control of acoustic behavior of cone & "dual-mode array" incorporating two 3½" cone tweeters; response 35-22,000 Hz; crossover 2500 Hz through RLC network with h.f. level control; power requirements 25 W rms min., 60 W rms max. Walnut-finished enclosure, sculptured black acoustical foam grille. 27" x 14½" x 12". Base included. $199.95

ULTRALINEAR
50 Two-Way Speaker System
Two-way bookshelf system with 10" woofer & 3" tweeter; "blow-out-proof" circuit breaker with reset push-button; response 40-17,000 Hz; crossover 2500 Hz; impedance 8 ohms; power requirement 3 W rms min., 30 W rms max., high-density particle board enclosure, reversible foam grille, 23¾" x 11¾" x 9¾" D. $79.95

100A Three-Way Speaker System
Three-way system featuring 12" woofer, 4½" mid-range, and 3" tweeter; resettable circuit breaker; response 32-17,500 Hz; crossovers 1500 & 4000 Hz; impedance 8 ohms; power requirement 5 W rms min., 40 W rms max., high-density particle board enclosure; double-knit foam grille (available in choice of four colors). 24½" x 14½" x 12". $99.95

150A Two-Way Speaker System
Air-suspension design with 12" woofer & 3" tweeter; crossover 1500 Hz; variable tweeter-level adjust.; impedance 8 ohms; power requirement 8 W rms min., 40 W rms max.; resettable circuit breaker. Walnut finished particle board, sculptured acoustical foam grille. 24¾" x 14½" x 12". $129.95

200 Three-Way Speaker System
Air-suspension design with 12" woofer, 5" sealed mid-range, 2" super-tweeter; response 28-20,000 Hz; crossovers at 400 Hz & 1500 Hz with mid-range control; imp. 8 ohms; power requirement 10 W rms min., 50 W rms max. Walnut finished particle board, three-dimensional grille front (available in choice of four colors). 24½" x 14½" x 12" D. $159.95

110 5-Way Speaker System
Tuned-port, bass-reflex design with 10" woofer, 5" acoustically isolated mid-range, and horn-loaded phenolic dome tweeter. Has level control and sculptured foam grille. Response 30-20,000 Hz; crossover at 1500 Hz. Capacity 80 W peak. 8 ohms impedance. 14" x 23" x 10" D. Oiled walnut. $119.95

JR-200M 3-Way Speaker System
Tuned-port bass-reflex design with 12" woofer, 5" acoustically isolated mid-range, and a horn-loaded dome tweeter; crossovers at 2500 & 7000 Hz. Response 20-20,000 Hz. Capacity 100 W peak. Has mid-range & tweeter level controls. 8 ohms impedance. 24 1/8" x 11 3/4" x 9 1/4" D. Oiled walnut. $149.95

UTAH
MP-2000 Three-Way Speaker System
Three-way acoustical-suspension system with 12" woofer, 5" mid-range, 1" dome tweeter; response 30-20,000 Hz; will handle 30 W program (60 W peak); crossovers 2500 & 5000 Hz; variable mid & high-frequency control. Walnut veneer with acoustical foam grille available in blue, brown, or burnt orange. 15½" x 24" x 12" D. $139.95

MP 3000 Three-Way Speaker System
Floor-standing design with 15" woofer, 5" acoustically isolated mid-range, and two horn-loaded dome-radiator tweeters. Response 20-20,000 Hz; crossovers at 2500 & 7000 Hz (12 dB/octave LC types). Capacity 100 W peak. 8 ohms impedance. Has separate tweeter & mid-range controls and sculptured foam grille. Supplied with base. 27" x 20½" x 14" D (without base) $199.95

HS4-8 3-Way Speaker System
Tuned-port design with 12" woofer, compression horn mid-range, and horn-loaded phenolic foam front, and oiled walnut cabinet. Response 25-19,500 Hz; LC crossovers at 2500 & 5000 Hz. Capacity 50 W peak. 8 ohms impedance. 15" x 25½" x 14½" D. $159.95

AS-5 Three-Way Speaker System
Three-way acoustical-suspension system with 10" woofer, 6" mid-range, 3½" tweeter; electrical crossovers at 2500 & 5000 Hz; response 40-18,000 Hz; will handle 25 W program, 50 W peak; 8 ohms impedance; sealed enclosure with fiberglass damping. Deep walnut finish, dark tweed grille cloth. 12½" x 22" x 9" D. $69.95

As-7 Three-Way Speaker System
Three-way tuned-port system with 12" woofer, 3½" x 8" elliptical mid-range, 3½" tweeter; capacitive crossover at 2500 & 5000 Hz; response 35-18,000 Hz; will handle 30 W program, 60 W peak; 8 ohms impedance. Deep walnut finish dark tweed grille cloth. 14" x 23" x 10" D. $89.95

WOLLENSAK
A-1050 Speaker System
Sealed-enclosure system. Response 8-12,000 Hz. 8 ohms impedance. Requires 6 W rms driving power. 7½" cube on pedestal base. $79.95

YAMAHA
NS-670 Three-Way Speaker System
Three-way system with 10" woofer, 2½" mid-range, and 1½" tweeter; crossovers at 800 & 6000 Hz; fundamental resonance frequency 45 Hz; frequency response 40-20,000 Hz; will handle 50 W; 8 ohms; separate mid-range & tweeter controls. Walnut. 22¾" H x 12½" W x 10½" D. $460.00 pr.

NS-690 Three-Way Speaker System
Three-way system with 12" woofer, 3" mid-range, and 1½" tweeter; crossovers at 800 & 6000 Hz; fundamental resonance frequency 40 Hz; frequency response 35-20,000 Hz; will handle 60 W; 8 ohms; separate mid-range & tweeter controls; separate input terminals for woofer, mid-range & tweeter to permit use of multi-amp system. Walnut. 24¾" H x 13¼" W x 11¼" D. $560.00 pr.

ZENITH
E9012 Allegro 1000 System
Two-way system with 6½" woofer & treble horn; LC crossover at 450 Hz. Response 10-15,000 Hz; imp. 8 ohms. Grained walnut-colored cabinet with formed grille cover. 16½" H x 10½" W x 7½" D. $49.95 E9014 Allegro 2000. Similar to 1000 except 8" woofer; frequency response 50-15,000 Hz; imp. 16 ohms. Also available in white with blue grille. 18½" H x 12½" W x 7¼" D. $59.95 E9018 Allegro 3000. Similar to 1000 except 10" woofer; frequency response 40-15,000 Hz; imp. 16 ohms. 22½" H x 14½" W x 8¼" D. $74.95

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    - Response 30-15,000 Hz. 8 ohms. Comes with 10-ft coiled cord and stereo plug. 30-5200. $17.95

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- **K-180 Dynamic Headphones**
  - Has adjustable drivers for subjectively controllable sound. Response characteristics vary due to change in volume. Response 16-20,000 Hz. Efficiency: 1 mW for 112 dB SPL. Distortion less than 1% at 125 dB SPL. Impedance: 600 ohms each driver for minimum impedance matching 4 to 1000 ohms. $69.00

### Audiotechnica
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  - Uses a 47-mm dynamic driver; non-resonant, thermo-formed polymer diaphragm; copper-plated aluminum wire voice coil for minimum mass; response 30-20,000 Hz; impedance 4 to 16 ohms; sensitivity 97 dB ±2 dB/mW at 1000 Hz. Comes with coiled cord. Ear pads may be removed for replacement. 6.3 ounces. $39.95
- **AT-702**
  - Same as AT-701 except response 25-20,000 Hz; sensitivity 97 dB/mW at 1000 Hz. $49.95
- **AT-703**
  - Same as AT-701 except response 20-20,000 Hz; sensitivity 94 dB/mW at 1000 Hz. $69.95
- **AT-706 Electret Condenser Phones**
  - Condenser-type drivers with permanently charged diaphragm in push-pull configuration; diaphragm 58 mm dia. x 3 microns thick; accessory adapter matches high impedance of condenser element to any standard amplifier output and includes headphone/speaker switch; response 10-22,000 Hz; THD 0.1% at 120 dB SPL at 1000 Hz. 10.3 ounces. $129.95

### Audio-Technica
- **Marquis Stereo Headphones**
  - Open-air, lightweight design. Response 20-20,000 Hz; 8 ohms imped. matches all amplifier 4-16 ohm outputs. 6-ft cord and plug. Cushioned earpieces and adjustable padded headband. 30-5205. $39.95
- **Mark IV Stereo Headphones**
  - Wide-range dynamic type. Frequency range to above audibility at 1% distortion between 10-18,000 Hz. Removable, soft cushions; padded headband. 10-ft coiled cord with stereo plug. Imp. 8 ohms. Matches all 4.16 ohm outputs. 30-5206. $59.95

### Beyerdynamic
- **DT-48 Dynamic Headphones**
  - Moving-coil type. Originally designed as an audiometry instrument for measuring human hearing in lab research. Range 16-20,000 Hz; ±2 dB. Response virtually flat. Comes with 10-ft cord. DT-48. $120.00
  - DT48-K. Same as DT-48 except with plug-in coiled cable. $125.00
  - DT900 Dynamic Headphones
    - Moving coil type. Response 30-18,000 Hz. 5-2000 ohms impedance, 200 mW maximum input per phone. 6-ft. cord. $29.95
  - DT96A Dynamic Headphones
    - Moving coil type. Response 30-17,000 Hz. Sensitivity 1.0 mW at 400 Hz produces 110 dB (re 2 x 10^4 µbar). 50-200 ohms impedance, 100 mW maximum input per phone. 5-ft. cord. 8 ounces. $47.50
  - DT100 Dynamic Headphones
    - Moving coil type. Response 30-18,000 Hz. Sensitivity 1 mW at 400 Hz produces 115 dB (re 2 x 10^4 µbar). 5-100-400-2000 ohms impedance. 1 W maximum input per phone. $64.00
  - DT480 Dynamic Headphones
    - Moving coil type. Response 20-18,000 Hz. Sensitivity 1 mW at 400 Hz produces 115 dB (re 2 x 10^4 µbar). 25-200 ohms impedance. 1 W maximum input per phone. $90.00

### FisheR
- **HP-70 Dynamic Headphones**
  - Response 30-18,000 Hz. Sensitivity 2.5 mW for average listening. Max. power 0.5 W. 16 ohms. 10-ft. coiled cord. 12 ounces. $29.95
- **HP-100 Dynamic Headphones**
  - Response 18-22,000 Hz. Sensitivity 2 mW for average listening. Max. power 0.7 W. 50 ohms. 10 ounces. 8 ft. coiled cord. $49.95

### Hear-Muffs
- **HM-1A Headphones**
  - Stereo headphones; washable cotton velour cover; 10-ft coiled cord; 3/4" dynamic drivers; compatible with 4-16 ohm output impedance; response 20-18,000 Hz; THD 1% at 115 dB SPL; 1.5 W/ch max. power handling capability; 20 ounces. $29.95
- **HM-4000 “Supermuffs”**
  - Stereo headphones; washable high-pile acrylic cover; 10-ft coiled cord; 4" dynamic drivers; compatible with 4-16 ohm output impedance; response 20-20,000 Hz; THD unmeasurable at 95 dB SPL; 1.5 W/channel continuous power handling capability; 21 ounces. $37.95

### KOss
- **ESP-9 Electrostat Headphones**
  - Frequency response 15-15,000 Hz ±2 dB. Sensitivity 80 dB SPL (reference 0.0002 dyne/cm²). Distortion less than 0.2% at 110 dB SPL. 4 to 16 ohms impedance. 6-ft. coiled cord. 19 ounces. Black, fluid-filled earcups for ambient noise isolation. Designed for critical studio monitoring. $117.00
- **ESP-6 Electrostat Headphones**
  - Frequency response 30-19,000 Hz ±5 dB. Sensitivity 80 dB SPL (reference 0.0002 dyne/cm²). Distortion less than 0.2% at 110 dB SPL. 4 to 16 ohms impedance. 10-ft. coiled cord. 27 ounces. Black, fluid-filled earcups for ambient noise isolation. Self-contained polarizer. $130.00
11 Headphones

PRO-4AA Dynamic Headphones
Frequency response 10-20,000 Hz. Distortion is negligible at 95 dB SPL. 3.2 to 600 ohms impedance. 10-ft. coiled cord. 19 ounces. Fluid-filled earcups for ambient noise isolation. $65.00

PRO-600AA Dynamic Headphones
Same as PRO-4AA except nominally 600 ohms voice-coil impedance for matching audio transmission lines. 600 ohms characteristic impedance. Available on special order. $70.00

KO-727B Dynamic Headphones
Frequency response 10-15,000 Hz. Distortion unmeasurable at 95 dB SPL. 3.2 to 600 ohms impedance. 10-ft. coiled cord. 19 ounces. Dark green finish. $34.95

K-6LC Dynamic Headphones
Frequency response 10-16,000 Hz. Distortion unmeasurable at 95 dB SPL. 3.2 to 600 ohms impedance. 10-ft. coiled cord. Individual earphone volume controls. Brown/Beige. $29.95

Model K-6. Same except without volume controls. $19.95

SP-3XC Headphones
Frequency response 10-14,000 Hz. 3.2 to 600 ohms impedance. 10-ft. coiled cord. Brown. $15.95

HV-1 Dynamic Headphones
Has 2" dia. driver & will operate from 3.2 to 600 ohm outputs. Response 20-20,000 Hz; capacity 5 V continuous with provision for 14 db-SPL transient peaks. 9.3 ounces. 10-ft coiled cord. $44.95

HV-1/1C Dynamic Headphones
Has 2" velocity operated driver; designed to operate from 3.2 to 600 ohm outputs. Response 20-20,000 Hz. Is equipped with 7-ft coiled cord; sensitivity 100 dB SPL; max. input 0.5 W rms; will handle 100 dB SPL at 1.5% distortion. $24.95

HV-1a Stereophones
Features low-mass "Delicate" driver elements for coverage 15-20,000 Hz; will operate from outputs of 3.2 to 600 ohms; distortion 0.5% at 109 dB SPL; will handle 5 V rms continuous with provision for 14 db-SPL transient peaks; acoustical sponge ear cushions; extendable headband with self-adjusting, pivoting yokes and soft padded vinyl cover; 3-conductor coiled cord (10-ft extended); 9.3 ounces. $49.95

HV/1DL. Same except response 20-20,000 Hz; miniature volume/balance control per earcup. 9.9 ounces. $54.95

"Phase/2" Stereophones
Frequency response 10-20,000 Hz, will operate from outputs of 3.2 to 600 ohms; distortion 1% at 100 db SPL; 100 db SPL/2.5 V rms; will handle 5 V rms continuous with provision for 14 db-SPL transient peaks; fluid-filled ear cushions for high-ambient noise isolation; two rotary panaromic source controls on each earcup; slide-type ambience expander on right earcup; comparator switch on left earcup; extendable stainless steel headband with self-adjusting pivoting yokes and sponge cushion cover. 24 ounces. $75.00

15-20,000 Hz; capacity 5 V rms continuous with provision for 14 db-SPL transient peaks. miniature rotary-type volume/balance control per earcup, 9.3 ounces, less cord; 3-conductor, 10-ft coiled cord; acoustical sponge earcushions, self-adjusting headband with pivoting yokes and padded vinyl cover. $54.95

T-4A Connector Box
Accepts up to five sets of stereophones, 14-ft. cord with 3-conductor phone plug fits standard headphone jack. Private listening for five persons at one time. Unit measures 6" diameter and has walnut-like base combined with black trim and aluminum plug-in panel. $12.95

T-10A Chairside Listening Station
Features separate volume controls for each stereophone and a speaker "on-off" switch. Wires directly to amplifier or receiver. Unit measures 6" diameter and has a walnut-like base. $19.95

T-5A Remote Control Station
Similar to T-10A. Has jacks for two sets of stereophones. Left- and right-channel volume controls and speaker "on-off" switch. Has walnut-like base combined with black trim. $9.95

T-3 Speaker/Headphone Transfer Switch
Provides a "on-off" switch and headphone jack. Connects to speaker terminals of amplifier or receiver. Adds low-impedance jack to system for wide-range performance of stereophones. $7.95

T-1 Monitoring Adapter
For use with dynamic phones in monitoring tapes from high-impedance sources such as tape recorders with preamps only. Adapter contains matching transformers to match 600 to 10,000 ohm outputs down to 4 ohms. Equipped with two output jacks for stereo-phones. Has steerable type control inputs. $7.95.

T-1a Stereophones
Features low-mass "Delicate" driver elements for coverage 15-20,000 Hz; will operate from outputs of 3.2 to 600 ohms; distortion 0.5% at 109 dB SPL; will handle 5 V rms continuous with provision for 14 db-SPL transient peaks; acoustical sponge ear cushions; extendable headband with self-adjusting, pivoting yokes and soft padded vinyl cover; 3-conductor coiled cord (10-ft extended); 9.3 ounces. $49.95

HV-1DL. Same except response 20-20,000 Hz; miniature volume/balance control per earcup. 9.9 ounces. $54.95

LAFAYETTE

F-600 Open-Acoustic Headphones
Open-austic stereo design. Response 20-20,000 Hz. Lightweight open-air foam ear cushions with adjustable headband. Imp. 200 ohms. Comes with 5-ft cord and plug. $24.95

F-990 Stereo Headphones
Response 20-20,000 Hz. Has two 3/4" wide-range transducers, air-tight earphone cushions; fully adjustable cushioned headband. Imp. 8 ohms. Comes with 6-1/2ft cable and standard stereo phone plug. $29.95

MARANTZ

SE-15 Electrostatic Headphones
Response 20-20,000 Hz ±3 db; dist. 0.5% 4G-20,000 Hz at 100 dB SPL, 1.5% at 20 Hz; impedance 30 ohms; energizer has built-in headphone/speaker switching; facilities for additional set of phones; protective circuit for regulating extremely loud passages; overload protection; 14 ounces. $129.95

4955 Headphones
Dynamic type. 8 ohms impedance; response 40-11,000 Hz ±3 db; 30-18,000 Hz ±6 dB; sensitivity 100 dB SPL; max. input 0.5 W rms; distortion 1% at 115 dB SPL; 10-ft coiled cord. 28 ounces. $59.95

MURA

SP-100 Stereo Headset
Lightweight headset. Frequency response 30-15,000 Hz. Comes equipped with 8-ft cord. $9.95

SP-202 Stereo Headset
Features volume controls for each earpiece. Response 30-15,000 Hz. Imp. 8 ohms. Comes with 10-ft coiled cord. $11.50

SP-402 Stereo Headset
Features fully padded headband and oversized ear cushions. Individual volume and tone controls and stereo/mono switch included. Response 30-18,000 Hz. 8 ohms imp. 10-ft coiled cord. $16.95

SP-600 Stereo Headset
Open-air design to accommodate surrounding sounds while listening. Mylar speakers for improved response. Response 20-20,000 Hz, 1 mw power required. 8 ohms impedance. Comes with 10-ft coiled cord. $18.95

SP-103A Stereo Headset
Features tone and volume controls on each earcup. Response 20-20,000 Hz. Has stereo/mono switch. 8 ohms impedance. 10-ft coiled cord. $24.95

SP-205 Stereo Headset
Features slide-type volume and tone controls; Mylar speakers; stereo/mono switch. Impedance 8 ohms. Response 30-20,000 Hz ±5 dB. Includes 16-ft coiled cord and zippered storage case. $37.50

SP-206 Stereo Headset
Features Mylar speakers and vented housing with bass-reflex-type enclosure. Has individual volume and tone controls. Response 20-20,000 Hz ±4 dB. Impedance 8 ohms. Stereo/mono switch. Comes with 25-ft coiled cord and zippered storage case. $37.50

PICKERING

OA-1 Headphones
Lightweight, open-air design. 8 ohms. Max. input 300 mW. Sensitivity: 100 dB at 600 Hz. Response 30-19,000 Hz. Is equipped with 7-ft cord. $19.95

OA-2 Headphones
Lightweight, open-air design with special adapter for use with portable radios, tape recorders, and TV sets. 8 ohms. Max. input power 300 mW; sensitivity 100 dB at 600 Hz; response 30-19,000 Hz; distortion 1% (100 dB SPL). 7-ft cord. 10.9 ounces. $22.95

OA-3 Headphones
Lightweight, open-air design. 15 ohms ±10% at 1000 Hz; max. power input 0.2 Wrms/ch. response 20-20,000 Hz; dist. 1% at 100 dB SPL; sensitivity 100 dB SPL at 0.1 V input at 1000 Hz each channel. 11/2" Mylar diaphragm transducer. Extend-adjust. headband with full pivot yoke and padded vinyl cover; soft vinyl foam ear cushions; 10-3, cond. coiled cord. Weighs 7.5 ounces (without cord). $39.95

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Stereo Review is proud to announce an important new set of recordings created to help you expand your understanding of music.

FOUR LONG-PLAY STEREO RECORDS:

This unique four-disc album is interesting, easy to comprehend, and instructive. It is the first project of its kind to approach the understanding of music through its basic elements: rhythm, melody, harmony, texture.

Written and narrated exclusively for Stereo Review by David Randolph, Music Director of the Masterwork Music and Art Foundation, this fascinating set of stereo records will help you become a more sophisticated, more knowledgeable listener—and a more completely satisfied one as well. It will give you an "ear for music" you never thought you had.

In the GUIDE TO UNDERSTANDING MUSIC, David Randolph first discusses, by means of recorded narration, how the composer uses and unifies all the basic musical elements. After each musical point is made in the narration, a musical demonstration is provided. Thus you become a part of the creative musical process by listening, understanding, by seeing how music's "raw materials" are employed by composers and performers to attain their highest level of expressivity and communication through musical form.

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FREE BOOKLET INCLUDED. The accompanying booklet is a valuable complement to the album. It presents David Randolph's straightforward approach to music, and shares the insights and understanding of his many years of experience in bringing music to listeners...as well as advice on how you can make the best use of the album.

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MAIL ALL ORDERS TO: RECORDS, ZIFF-DAVIS SERVICE DIVISION, 595 BROADWAY, NEW YORK, N.Y. 10012
SE-205 Stereo Headphones
Dynamic type covering a frequency range of 20-20,000 Hz. Cone-type speaker in each earpiece. Matching imp. 4 to 16 ohms. Max. input power 500 mW each channel. Comes with 8.2-ft cable. 16 ounces $24.95

SE-305 Stereo Headphones
Dynamic type covering a frequency range of 20-20,000 Hz. 8 ohms imp. each channel. Matching imp. 4 to 16 ohms. Max. input power 500 mW each channel. Comes with 16-ft. 5-in coiled cord. 15 ounces $34.95

SE-405 Stereo Headphones
Dynamic type covering a frequency range of 20-20,000 Hz. 8 ohms imp.; input power 500 mW each channel. Unit features polyester-film diaphragm; special ear pads with sliding-type adjusting headband and click-stops for easy listening; volume controls for both left and right channels. 16½-ft coiled cord $44.95

SE-505 Headphones
Two-way stereo dynamic design with a woofer & tweeter in each phone; 8 ohms each channel. Response 20-20,000 Hz. Sensitivity 108 dB/0.3 V; Features both tone & volume controls on each phone. Maximum input 500 mW each phone. With 16-ft coiled cord $59.95

SE-700 Stereo Headphones
Features high-polymer driver elements; frequency range 20-20,000 Hz; matching imped. 20-16 ohms; sensitivity 100 dB/3 V. $79.95

SE-L401 Stereo Headphones
Lightweight, open-air stereo headphones; polyester film driver elements; frequency range 20-20,000 Hz; matching impedance 4 to 16 ohms; sensitivity 111 dB/0.3 V; max. input power 500 mW/ch. 10 ounces SE-L201. Same as SE-L401 except 9 oz. $29.95

SE-205X Stereo Headphones
Dynamic type covering a frequency range of 20-20,000 Hz. Cone-type speaker in each earpiece. Matching imp. 4 to 16 ohms; sensitivity 100 dB/3 V. $79.95

SE-L401X Stereo Headphones
Lightweight, open-air stereo headphones; polyester film driver elements; frequency range 20-20,000 Hz; matching impedance 4 to 16 ohms; sensitivity 111 dB/0.3 V; max. input power 500 mW/ch. 10 ounces SE-L201X. Same as SE-L401 except 9 oz. $29.95

SCINTREX

Mark IV Stereophones
Features flat response 15-20,000 Hz; response 20-15,000 Hz ±3 dB. Sensitivity (100 dB SPL) 10 mW. Maximum input 2 W; max. output 120 dB. HD 0.3% at 1000 Hz at max. dB. Ambient noise isolation 40 dB at 1000 Hz. 4-8 ohms impedance. ABS ear cups and fluid-filled ear cushions. Features patented dual-driver cavity assembly. Comes with 14-ft coiled cord with special strain-relief feature. Black with chrome-plated headband. 18 oz $45.00

PRO-500 Stereophones
Response 15-20,000 Hz; 20-18,000 Hz ±3 dB. HD 0.9% at 1000 Hz at max. dB. Sensitivity (100 dB SPL) 6.3 mW; max. input 1 W; max. output 110 dB. 4-300 ohms impedance. Ambiant noise isolation 40 dB at 1000 Hz. Equipped with patented dual-driver cavity assembly. Liquid-filled ear cushions. Individual volume controls in each earcup. 14-ft coiled cord with strain-relief feature. 18 oz $60.00

"Supra" Lightweight Stereophones
Open-air design with "Supraform" acoustics and high velocity drivers. Weighs only 6.5 oz, including cord. Response 20-20,000 Hz; 20-12,000 Hz ± 5 dB. Impedance 4-200 ohms. HD at max. dB less than 1%. Sensitivity 0.5 mW at 100 dB SPL. Max. input 4 mW; max. output 110 dB. Foam plastic ear cushions, 10-ft coiled cord with strain-relief feature. Chrome-plated headband. $29.95

88 Stereophones
Lightweight (9 oz) circumaural design which will withstand rugged use. Impedance 4-300 ohms. HD at max. dB less than 1%. Sensitivity 0.5 mW at 100 dB SPL. Max. input 4 mW; max. output 110 dB. Foam plastic ear cushions, 10-ft coiled cord with strain-relief feature. Chrome-plated headband. $29.95

SX-4 Stereo Headphones
Incorporates four separate drivers for spacial and dimensional effect of 4-ch sound in stereo mode; response 15-20,000 Hz (20-15,000 Hz ±4 dB); HD at 110 dB SPL, 1000 Hz: 0.8% stereo; 0.6% "Experiential"; impedance 4-100 ohms; max. power (loaded) 43 mW; max. acoustic output (loaded) 110 db; ambient attenuation 40 dB; liquid earseals; padded head cushion; 14-ft coiled cord; 19 ounces. $49.95

HD-414 Headphone
Patented dynamic "open-ear" design. 2000 ohms/ch. Response 20-20,000 Hz. Sensitivity 17.7 uV/μV. Normal power 1 mW/ch (1.41 V) for sound pressure of 102 dB. HD 1% at 22 V & 1000 Hz. Can be connected to any preamp output. 5 ounces without cord. 10-ft. cable $45.95

HD-424 Headphone
Deluxe dynamic headphone with patented "open-ear" design. 2000 ohms/ch. Response 15-20,000 Hz. Sensitivity 17.7 uV/μV. Normal power 1 mW/ch (1.41 V) for sound pressure of 102 dB; HD less than 1% at 22 V and 1000 Hz. Can be connected to any preamp output. 6.5 ounces without cord. Removable headband and ear cushions, 10-ft. cable. $74.95

HD-444 Headphone
Lightweight stereo headphone (1.2 ounces without cable). Patented dynamic "open-ear" system with under-the-ear cushioning. 600 ohms/ch. Response 52-10,000 Hz. Normal power 1 mW/ch (1.41 V) for average listening level. Comes equipped with a 10-foot cable. $26.95

STANTON

Dynaphase Sixty Headphones
Dynamic design; two-way system - woofer & tweeter with individual LC crossover. Response 40-11,000 Hz ±3 dB. Sensitivity 95 dB for 1 mW at 1000 Hz (100 dB sound pressure level). Distortion 1% at 115 dB SPL. Impedance 8 ohms. Power input 0.5 W rms max. per phone. 10-ft. coiled cord. 28 ounces. Blue and black $39.95

Dynaphase Forty Headphones
Dynamic design. Response 60-10,000 Hz ±3 dB. Distortion 1% at 115 dB SPL. 8 ohms impedance at 1000 Hz; Power input 0.5 W rms max. per phone. 10-ft. cord. 21 ounces. Blue-black/chrome. $39.95

Model 5748. Same as Dynaphase Forty except 600 ohms imp. $47.95

Dynaphase Fifty Headphones
Same as Dynaphase Forty except has volume control on each earpiece. $49.95

Dynaphase Seventy-Five Headphones
Dynamic design with remote control for volume & tone, 13-ft coiled cord. Response 40-11,000 Hz ±3 dB. Sensitivity 100 dB SPL at (0.1 V at 1000 Hz; Max. input: 0.5 W rms; dist. 1.0% with 115 dB SPL. Input 12 ohms imp. Features two-way design with separate woofer & tweeter with LC crossover network. 28 ounces. $74.95

Model 5741. Same as used on Dynaphase Seventy-Five. Separate volume & tone controls for each channel, stereo/mono switch & 17-ft. extension coiled cord. $19.95

Model 5742. Accessory 25-ft. extension coiled cord. $7.95

STAX

SR-3 Headphones
Electrostatic push-pull type; response 30-25,000 Hz ±1 dB; SPL 95 dB at 100 V rms in; maximum level 115 dB, weight 432 g including cord. Comes with SRD-6 energizer, a polarizing supply and signal source; response 20-20,000 Hz ±1 dB; dist. 0.1% at 1 W, 1000 Hz. Overall size 21⅛"W x 2¼"H x 6½"D. $125.00

SR-X Superphones
Electrostatic push-pull type; response 20-
27,000 Hz ±1 dB; SPL 95 dB at 100 V rms input; maximum level 115 dB; weight 370 g including cord. Comes with SRD-7 energizer, a polarized supply and signal source; response 10-30,000 Hz ±2 dB; distortion 0.02% at 1 W, 1 kHz, 1 V. Wood-grained vinyl finish cabinet. $90.00

**PRO-VII Headphones**

Features Mylar woofer/tweeter combination; response 15-23,000 Hz; fully adjustable padded headband; 15-ft coiled cord with molded plugs & strain relief. 18 ounces. $65.00

**Unii Headphones**

Features wide-range Mylar element; response 15-20,000 Hz; fully adjustable headband, soft replaceable cushions; 15-ft coiled cord. $50.00

**SPL-3 Linear-Headphones**

Features trans-air principle; response 25-20,000 Hz; fully adjustable steel & aluminum headband; snap-on soft-foam replaceable cushions; coiled cord with molded plug and strain relief. $40.00

**SPL-770 Stereo Phones**

Full-frequency phones with foam-filled earcups to reduce room noise and increase comfort. Lightweight construction and with adjustable headband. Has 14-ft coiled cord. Black vinyl finish. $19.95

**SP40 Stereo Phones**

Response 20-20,000 Hz. Distortion less than 1% at 120 dB. Features foam-filled earcups for good coupling to ear for extended bass response. Lightweight construction and with adjustable headband. 8-ft coiled cord. Black and white vinyl finish with chrome trim. $39.95

**TELEPHONICS**

**TELEX**

Studio 1 Headphones Dynamic design. Response 20-20,000 Hz. Sensitivity 105 dB SPL/mW. Distortion 1.0% at 122 dB SPL. 3 to 16 ohms impedance. 1.0 W maximum input per phone. Has volume controls on each earphone. 15-ft. coiled cord. 24 ounces. $73.45 Studio 2. Same but without volume controls. $62.95

**300 Stereo Headphones**

Dynamic design. Has 15-ft coiled cord. 8 ohms. $90.00

Gold with cinnamon brown trim. $36.70 400. Designed for additional convenience. Has volume control on each earpiece; audio metric driver. $47.20

**TECHNICS BY PANASONIC**

**EAH-80A Electret Headphones**

Electret element supplies advantages of electrostatic without its drawbacks. Distortion-canceling design, Adapter/control box included for direct connection to speaker output and control of speaker and headphone output. Lightweight headset (2.5 oz) with self-adjusting assembly. 6-ft, 7-in cord to control box plus 6-ft, 7-in-coiled cord to headphone. Max. input (to adapter) 5 V; input imp. to adapter 4 to 16 ohms. Sensitivity (1 V, 500 Hz) 99 dB. Max. sound pressure level output 115 dB. Distortion (101 db, 500 Hz) 0.8%. Response 20-20,000 Hz $79.95

**TELEPHONICS**

**TELEX**

**HR-80 Dynamic Headphones**

Dynamic headphones; response 20-20,000 Hz; rated input power 15 mW/ohm. Imp. 4-50 ohms. Comes with 6.6-ft cord. $17.95

**HR-50 Stereo Headphones**

Two-way dynamic headphones with stereo effect changeover switch (stereo/binaural); rated power 1 mW/ch; response 20,000 Hz; crossover 400 Hz. Imp. 4-16 ohms. Comes with 6.6-ft cord. $29.95

**STEREO DIRECTORY & BUYING GUIDE**
**Microphones**

**ADVENT**

**MDC-1 Microphones**


50-16,000 Hz. Balanced output. Has 20-ft cables and stands. Pair $90.00

**AKG**

**D-109 Dynamic Microphone**


Use for music and tape recording. Has 15-ft. cable, XLR connector, matte gray finish. $79.00

Model D-190TS. Same as D-190E except high impedance operation with "on-off" switch. $49.00

**D-200E Dynamic Microphone**


Use for music and tape recording. Comes with 15-ft. cable, XLR connector, matte gray finish. $79.00

Model D-200TS. Same as D-200E except for high impedance operation with "on-off" switch. $99.00

**D-707E Dynamic Microphone**

Sensitivity = -52 dB ASA. Response 50-15,000 Hz ±3.5 dB. 200 ohms impedance. Cardioid pattern.

Use for tape recording. Comes with slip in stand attachment, pop or blast filter, chrome finish, 15-ft. cable, and XLR connector. $79.00

Model D-707TS. Same as D-707E but for high impedance operation with "on-off" switch. $99.00

**D-1000E Dynamic Microphone**


Use for music and tape recording. Comes with slip in stand attachment, pop or blast filter, chrome finish, 15-ft. cable, and XLR connector. $69.00

Model D-1000TS. Same as D-1000E but for high impedance operation with "on-off" switch. $89.00

**D-140E Dynamic Microphone**

Sensitivity = -51 dB; 0.23 mV/p.bar; response 30-17,000 Hz ±2.5 dB; cardioid pattern; 200 ohms impedance, use for on-stage requirements; will handle up to 128 dB with less than 1% distortion. System internally suspended and encapsulated with wire mesh screening, lined with polyurethane foam. Has -10 dB bass attenuation switch, XLR-3 connector, SA-11 stand adapter. 6" long x 1 1/4" dia. 6.2 oz. $150.00

**Electret Condenser Mike System**

Modular system consisting of one basic powering module, four interchangeable capsules, and accessories. Powering module has battery compartment for 5.6 volt battery, "on-off", switch for shifting battery to clean contact points, 550-hour continuous operation, and adaptability for phantom powering off d.c supply. Interchangeable capsules include: CE-1 cardioid capsule plus condenser mike preamp; CE-2 omnidirectional capsule plus preamp; CE-5/1 cardioid capsule with integral suspension and wire mesh screen plus preamp; CE-10 miniaturized lavalier attachment with integrated FET preamp. SE-5E. Powering module $60.00

CE-1 $45.00

CE-2 $55.00

CE-5 $80.00

CE-5/1 $110.00

CE-501. For cardioid operation; consists of CE-1 capsule, SE-5E powering module, SA-11/1 stand adapter, W-3 windscreen $119.00

CE-505. For cardioid operation; consists of integral suspension and windscreen, CE-5/1 capsule, SE-5E powering module, and SA-11/1 stand adapter $129.00

CE-510. For lavalier operation; consists of CE-10 lavalier element and SE-5E powering module $145.00

**ASTATIC**

850 "Ball Head" Microphone

Ultra-cardioid type for indoor, outdoor, and close-miking applications; features positive anti-feedback characteristics; an exclusive "Sibrophase" acoustical phase system for 25 dB front-to-back rejection ratio; chromed-plated steel "ball head" screen encloses acoustical filters, foam filter, and magnetic screen; conversion from high to low impedance by means of sinterless connection. Response 40-15,000 Hz; impedance/output level: Hi-Z = -50 dB, Lo-Z = -54 dB. Chrome-plated satin chrome finish, 2" dia. x 6 1/2" long $95.00

850S. Same as Model 850 except has integral "on-off" switch, swivel allows easy positioning from vertical to more than 50 degrees. 18-ft two-conductor, shielded, hum-free cable included; broadcast-type connector interchangeable with Cannon XLR-4 $149.00

860 "Ball Head" Microphone

Omnidirectional type for close-talking or musical group applications; features integral "ball head" filter; response 40-18,000 Hz; impedance/output level: Hi-Z = -61 dB, Lo-Z = -60 dB; wired for high impedance but can be converted to low impedance by means of sinterless connection. Has swivel adapter and permanently attached cable; easily changed from stand mount to hand held operation by 11x, 10" long. Brushed chrome finish $99.50

860S. Same as Model 860 except features positive "on-off" switch, integral "on-off" switch; broadcast-type connector is fitted with 18-ft cable $95.00

810 Ultra-Dynamic Microphone

Features sintered bronze acoustic filter; front-to-back rejection ratio of 25 dB; response 40-15,000 Hz; output -58 dB (on high impedance). Rugged construction, built-in windscreen. 20-ft cable with standard phone plug and adapter for floor or desk stand. Built-in volume control with on-off switch. Dual (hi/lo) impedance. $39.95

810S. Same as Model 810 but finished in black satin chrome $39.95

840 Lavaliier Microphone

Low-impedance, lightweight lavaliier unit with 50-12,000 Hz response especially engineered to prevent chest-cavity resonance problems; output -59 dB; finished in brushed satin chrome; can be converted to hand-held mike (50-16,000 Hz response). Comes with a 30-ft shielded cable, neck cord, and spring clip $89.00

840S. Same as Model 840 except has recessed "on-off" switch $90.00

**AUDIOTEX**

**Low-impedance Microphone**

Designed as a replacement unit for many tape recorders built prior to 1969 as well as some later models. Cord terminated in miniature and subminiature plugs to fit most tape recorders; adapter for recorders using concentric jack included. 200 ohms. 30-2300 $8.95

30-2302. Same except 50,000 ohms impedance $9.75

30-2304. Same except equipped with 5-pin and 3-pin DIN plugs found on all European and some American and Japanese recorders $9.75

**Dynamic Microphone**

For recording groups and soloists; cardioid pattern. Wide, flat frequency response. 50-13,000 Hz; output -58 dB (on high impedance). Rugged construction, built-in windscreen. 20-ft cable with standard phone plug and adapter for floor or desk stand. Built-in volume control with on-off switch. Dual (hi/lo) impedance. 30-2314 $39.95

**Omnidirectional Microphone**

Response 55-13,000 Hz; output -62 dB (on high impedance). Rugged construction. Comes with 15-ft. cable, standard phone plug, swivel holder, on-off slide switch, and windscreen for outdoor use. Dual (hi/lo) impedance. 30-2312 $34.95

**Omnidirectional Microphone**

Response 80-13,000 Hz. High impedance. Comes with 10-ft cable with standard phone plug, on-off slide switch, desk stand. Sensitivity = -58 dB. 30-2310 $32.95

**Microphone Mixer**

Allows combination of up to four microphones to each stereo channel; separate control for each microphone. On-off switch; stereo/mono selector switch; battery operated. Standard 1/4" phone jack inputs, phone pin jack outputs. 30-2320 $26.95

**Microphone Boom**

Fits all standard mike floor stands. Has adjustable counterweight; movable clamp and hinge design for any desired position. Stan-
BEYER/DYNAMIC

A-500 Dynamic Ribbon Microphone
Super-cardioid; response 40-18,000 Hz ±2.5 dB. Sensitivity: -152 dBm (EIA); 200 ohms imp. Has four-stage integral blast filter and Cannon XLR termination. Especially designed for rock vocals; low pop and breath noise even when singer’s lips touch microphone. $140.00

M-160 Double-Ribbon Microphone
Super-cardioid dynamic type. Response 40-15000 Hz ±2.5 dB. Sensitivity: -152 dBm (EIA); 200 ohms impedance. Low sensitivity at 120 degrees to axis. Suitable for stereo recording. Cannon XLR termination. $230.00

M-260 Dynamic Ribbon Microphone
Super-cardioid design. Response 50,000 Hz ±2.5 dB. Sensitivity: -153 dBm (EIA). High-energy ribbon. 200 ohms impedance. Suitable for speech, music, or vocals 1½” mesh head x 6” long. Cannon XLR termination. $110.00

M-260SM. Same as M-260 except with “on-off” and bass-cut switch. $125.00

M-550S Moving-Coil Microphone
Omnidirectional dynamic type. Response 70-18,000 Hz. For tape recording and general applications. Sensitivity: -152 dBm (EIA); will work with all impedances. Suitable for use indoors and outdoors. Comes with clamp, stand, cable with jack plug, “on-off” switch, and presentation case. $37.50

M-810-N Moving-Coil Microphone
Dynamic cardioid design. Response 50,000 Hz. Sensitivity: -148 dBm. Suits all impedances. Designed for tape recording applications. Comes with windshield, clamp, and detachable 16-ft cable with jack, all housed in lined case. $65.00

“Soundstar” X1N Dynamic Microphone
Dynamic cardioid design. Response 30,000 Hz ±2.3 dB. Sensitivity: -146 dBm (EIA); 200 ohms impedance. “Soundstar” X1M. Same as X1N except with high/low imp. switch. $90.00

M-69 Moving-Coil Microphone
Dynamic cardioid design. Response 50,000 Hz. Sensitivity: -144 dBm (EIA); 200 ohms impedance. For indoor/outdoor applications; unaffected by temperature or humidity. $95.00

M-69SM. Same as M-69 but with “on-off” and bass-cut switch. $110.00

M-67 Moving-Coil Microphone
For tape recording, interviewing, and general outdoor/indoor work. Cardioid type. Response 40-18,000 Hz ±2.5 dB. Sensitivity: -148 dBm (EIA); 200 ohms imp. Special transducer mounting minimizes handling noise. Has built-in “on-off” bass-cut switch. 7½” x 1½”. Cannon XLR termination. $120.00

M-101 Moving-Coil Microphone
Omnidirectional type. Response 40-20,000 Hz. Sensitivity: -150 dBm (EIA); 200 ohms impedance. Withstands pressures associated with modern music (modulated voltages up to 2V). Low handling noise. 4½” x ¼”. Cannon XLR termination. $115.00

M-201 Moving-Coil Microphone
Super-cardioid dynamic type. Response 30-18,000 Hz. Sensitivity: -149 dBm (EIA); 200 ohms impedance. Has built-in pop filter. Comes with clamp and presentation case. $165.00

M-88 Moving-Coil Microphone
Super-cardioid dynamic type. Response 30-20,000 Hz ±2.5 dB. Sensitivity: -144 dBm (EIA). Special transducer mounting eliminates body noise. Will withstand rough handling, humidity and temperature changes. For studio work, recording artists, and instrumentalists. $218.00

ELECTRO-VOICE

635A Dynamic Microphone
Sensitivity: -149 dBm (EIA). Response 80-13,000 Hz.± 3 dB. 150 ohms impedance. Omnidirectional pattern. Hand-held with slip-in stand attachment. For use for speech, vocals, music, and tape recording. Sensitivity: -152 dBm (EIA); will work with all impedances. Super-cardioid pattern. Response 50-18,000 Hz. $140.00

670 Dynamic Microphone

670V Dynamic Microphone

RE10 Dynamic Microphone
Response 90-13,000 Hz. Super-cardioid polar pattern. 150 ohms impedance. Output: -56 dB (0 dB = 1mW/10 dynes/cm²). Sensitivity: -150 dBm. Has 18-ft. cable. 6½” x 1½” with carrying case. $110.10

RE55 Dynamic Microphone
Response 40-20,000 Hz. Omnidirectional pattern. 150 ohms impedance. Output: -55 dB (0 dB = 1mW/10 dynes/cm²). Sensitivity: -149 dBm. 18-ft. cable. 10½” x 1½” with carrying case. $177.20

671 Dynamic Microphone
Sensitivity: -154 dBm (EIA) low-Z; -156 dBm (EIA) hi-Z. Response 60-14,000 Hz. User selects high or low imp. Cardioid pattern. Features hand-held design with slip-in stand clamp, integral Acoustifoam pop or blast filter, “on-off” switch, 15-ft. cable, and A3F connector. Directional single-D emphasizes low-frequencies when used close-up. Satin chrome finish. $60.00

680 Dynamic Microphone
Sensitivity: -150 dBm (EIA) low-Z; -150.5 dBm (EIA) hi-Z. Response 30000 Hz. User selects high or low imp. Super-cardioid pattern. Can be used hand-held or in stand clamp. Variable-D for smooth response on or off-axis with no proximity effect. Professional-style 15-ft cable and mike-end connector. Satin chrome finish. $69.50

681. Same as Model 660 except with “on-off” switch. $71.30

631A Dynamic Microphone
Sensitivity: -149 dBm (EIA). Response 80-13,000 Hz. May be ordered hi or lo impedance. Omnidirectional pattern. Hand-held with slip-in stand attachment. Use for speech, vocals, music, and tape recording. Has silent, magnetic “on-off” switch with removable actuator button; 15-ft cable; Switchcraft A3F connector. Satin chrome finish. $45.55

All of the above prices are “Net.”

GROUP 128

SD-140 Electret Condenser Mike
Response 40-16,000 Hz ±3 dB 0.3% dist. at 100 dB; SPL 140 dB; usable dynamic range 113 dB; omnidirectional polar pattern; 1000 ohm output impedance; output level: -49 dB; output connector standard phone jack in battery level control module at end of 6-ft cable; uses standard 9-V transistor radio battery; microphone element enclosed in foam blast screen at end of 10-in aluminum shaft with 15-in cable. $34.50

SD-140Z. Same except professional model with balanced line output and XLR-3 connector. $54.90

P700. Universal instrument pickup with same element as above but designed for direct attachment to bell of instrument or drum. $55.00

P700Z. Same as P700 except professional model with balanced line output and XLR-3 connector. $114.50

P7002. Same as P700 except professional model with balanced line output and XLR-3 connector. $169.00

HITACHI

NDM-32 Dynamic Microphone
Sensitivity: -76 dB. Response 70-12,000 Hz ±4 dB. Impedance 600 ohms. Omnidirectional with desk stand. Use for speech and recording applications. Supplied with plug connector and windscreens. 16-ft. cable. Black. $39.95

LAFAYETTE

Deluxe Ball Dynamic Microphone
General-purpose, omnidirectional, dual-impedance (50,000 & 250 ohms), selectable at cable end. Output at high impedance -59 dB. Frequency response 100-10,000 Hz. Has “on-off” switch. Includes ball of 1½”, detachable cable with mike plug at one end, black metal desk stand, and floor-stand adapter. Die-cast case finished in satin aluminum. Case is 6½” long x 2½” max. dia. of ball. $19.50

Electro-Carson Microphone
Unidirectional cardioid pattern with high front-to-back rejection ratio and flat frequency response from 30-16,000 Hz. Impedance 600 ohms but can be used with inputs up to 20,000 ohms. FET circuitry ensures low noise and distortion. 1/4” low-noise miniature “X” cell. Foam windscreens, 15-ft shielded cable, standard 1/4” phone plug, metal tripod-type desk stand, floor-stand adapter, and battery are included. $29.95

STEREO DIRECTORY & BUYING GUIDE
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
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<tr>
<td>FP-92K</td>
<td>Electret Microphone</td>
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<td>FP-92K+</td>
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<tr>
<td>DC-96</td>
<td>Condenser Microphone</td>
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</tbody>
</table>

**Power Supplies**

- Battery supply for DC-20, DC-21, DC-73, DC-96: $16.95
- Battery supply for EC-71 and EK-71: $10.95

**Radio Shack**

- Pro-100 Microphone Kit: $474.00
- Other FET-80 models: from $283.80

**Neumann**

- FET-80 Condenser Microphones: $474.00
- Other FET-80 models: from $283.80

**PML**

- DC-20 Condenser Microphone: $61.00
- DC-21 Condenser Microphone: $122.95
- DC-73 Condenser Microphone: $222.95
- DC-96 Condenser Microphone: $160.95

**Sennheiser**

- MD-211U Dynamic Microphone: $185.00
- MD21N Dynamic Microphone: $195.00

**Sennheiser**

- MD-211U Dynamic Microphone: $195.00
- MD21N Dynamic Microphone: $195.00

**SHURE**

- 300 Ribbon Microphone: $34.95

**SHURE**

- 300 Ribbon Microphone: $34.95
Microphones

SONY FROM SUPERSCOPE

ECM-16 Tie Clasp/Lapel Mike
Sensitivity -57.8 dB (0 dB = 1 V/10 µbar). Response 50-13,000 Hz. Low impedance, omnidirectional pattern. Lavalier-type for speech and tape recording. Supplied with mini connector. Internal battery operation. 6-ft. cable. 9 x 1 V/10 µbar. Silver. $34.95

ECM-18 Condenser Microphone
Sensitivity -56.8 dB (0 dB = 1 V/10 µbar). Response 50-12,000 Hz. Low impedance, cardioid pattern. Hand-held type for speech and tape recording. Supplied with mini connector, dust filter or windscreen. 6.5-ft. cable. Internal battery operation. Silver gray and black. $27.95

ECM-33P Condenser Microphone
Sensitivity -54.8 dB (0 dB = 1 V/10 µbar). Response 40-15,000 Hz; Low impedance, balanced. Comes with two-conductor shielded cable, connector windscreen, and microphone holder. $149.95

TEAC

MC-201 Microphone
Electret. Response 50-15,000 Hz. Balanced 600 ohms. Has slip-in stand attachment, windscreen, and 10-ft. cable. $80.00

TECHNICS BY PANASONIC

RP-3850 Electret Condenser Mike
Cardioid pattern; FET head amplifier; tone-adjust switch; PAD 10-dB sensitivity switch; detachable windscreen; response 20-16,000 Hz; sensitivity -72 dB at 1000 Hz; 0 dB = 1 Wµa bar; output 2 600 ohms balanced; S/N 46 dB; max. input = 128 dB SPL. Operates 5000 hrs on single A2 cell. Comes with Cannon connector. $149.95

RP-3830E. Similar to RP-3850 except response 50-15,000 Hz; sensitivity -75 dB; Swivel microphone connector. $99.95

R-3550E. Similar to RP-3830E except fixed microphone connector. $79.95

TURNER

500 Microphone
Dynamic type. Sensitivity -151 dB (EIA), response 20-12,000 Hz. Low impedance, omnidirectional pattern. Use for recording live performances. $79.95

Model S-500. Same except with rotary "on-off" switch. 

$110.00

1975 EDITION

35 Microphone

$75.00

20 Microphone

$110.00

2300 Microphone

$95.00

S-2850 Microphone
Dynamic type. Sensitivity -161 dB (EIA), response 70-12,000 Hz. User selects high or low impedance. Cardioid pattern. Hand-held with "slip-in" stand attachment. For speech and tape recording. Use for speech and tape recording. Does not include connector but does have "on-off" switch and 12-ft. cable. Black. 

$55.00

45 Cardioid Microphone

$45.00

Model 45A. Same except low-impedance version. 

$45.00

603H Microphone

$95.00

Model 603L. Same except low-impedance version. 

$95.00

UNIVERSITY

1555 Omnidirectional Microphone
Dynamic design; 200 ohms balanced. Response 60-15,000 Hz. Output -56 dBm (re: 10 dynes/cm²); SPL 0.5% at 126 dB (400 µbar at 1000 Hz); integral pop and breath-blast filter; extra rugged swedge steel case for applications involving rough handling; supplied with 18-ft, 2-cond. shielded cable with standard 3-pin female connector; standard 3-pin male audio receptacle on base; matte nickel finish. 

1 ½ dia. tapering to ¾ x ½ overall length. 8 ounces. 

$104.00

16556. Same as 16556 but without switch; has threaded handle for flexible gooseneck stands or special boom adapters; 8-ft cable, 2-cond. shielded cable lead. 

$89.00

Directory Of Manufacturers
(Continued from page 7)

SANYO ELECTRIC, INC. 57, 82, 100, 106
1200 W. Artesia Blvd., Compton, Calif. 90220

SCINTREX, INC. 109, 147
400 Creekside Dr., Tonawanda, N.Y. 14150

SCOTCH, 3M Co., Magnetic Products Div. 157
3M Center, St. Paul, Minn. 55101

SCOTT, H.H., INC. 31, 36, 47, 137
111 Powder Mill Rd., Maynard, Mass. 01754

SCOTT INSTRUMENT LABORATORIES 151
Dynamic 30 Cross St., Cambridge, Mass. 02139

SENHEISER ELECTRONIC CORP. 147, 151
10 W. 37th St., New York, N.Y. 10018

SEQUERRA CO., INC., THE 36
20 Woodside Ave., Woodside, N.Y. 11377

SHERRON AUDIO SYSTEMS 137
72 Yale St., Roslyn Heights, N.Y. 11777

SHERWOOD ELECTRONIC LABORATORIES, INC. 31, 36, 47, 101
4300 N. California Ave., Chicago, Ill. 60618

SHURE BROTHERS, INC. 63, 151, 161
222 Hartrey Ave., Evanston, Ill. 60204

SIGNAL SCIENCE, INC. 161
140 Lowland St., Holliston, Mass. 01746

SONY CORP. OF AMERICA 31, 37, 48, 57, 111
9 W. 57th St., New York, N.Y. 10019

SONY from SUPERSCOPE, 57, 82, 88, 89, 106, 152, 157, 161
7815 Vineland Ave., Sun Valley, Calif. 91352

SOUNDCAST, Columbia Magnetics, CBS, Inc. 157
51 W. 52nd St., New York, N.Y. 10019

SOUNDCAST LEISURE, INC. 137, 182
P. O. Box 2361, Santa Ana, Calif. 92705

SOUND WEST, INC. 138
13035 Raymer St., North Hollywood, Calif. 91605

SPENDOR, Audiophile Imports 138
53 E. Erie St., Chicago, Ill. 60611

STANTON MAGNETICS, INC. 63, 103, 109
Terminal Dr., Plainview, N.Y. 11803

STARK DESIGNS COMPANY 138
4351 Fair Ave., North Hollywood, Calif. 91605

STAX, ESS Special Products 147
9613 Oates Dr., Sacramento, Calif. 95827

STR, Sound Technology Research 138
2515 N. Gramercy Dr., Los Angeles, Calif. 90028

SUPEREX ELECTRONICS CORP. 109, 148
151 Ludlow St., Yonkers, N.Y. 10705

SUPERSCOPE, INC. 31, 37, 48, 83, 88, 94, 107
8150 Vineland Ave., Sun Valley, Calif. 91352

S-2850 Microphone
Dynamic type. Sensitivity -161 dB (EIA), response 70-12,000 Hz. User selects high or low impedance. Cardioid pattern. Hand-held with "slip-in" stand attachment. For speech and tape recording. Use for speech and tape recording. Does not include connector but does have "on-off" switch and 12-ft. cable. Black. 

$55.00

S-2850 Microphone
Dynamic type. Sensitivity -161 dB (EIA), response 70-12,000 Hz. User selects high or low impedance. Cardioid pattern. Hand-held with "slip-in" stand attachment. For speech and tape recording. Use for speech and tape recording. Does not include connector but does have "on-off" switch and 12-ft. cable. Black. 

$55.00

S-2850 Microphone
Dynamic type. Sensitivity -161 dB (EIA), response 70-12,000 Hz. User selects high or low impedance. Cardioid pattern. Hand-held with "slip-in" stand attachment. For speech and tape recording. Use for speech and tape recording. Does not include connector but does have "on-off" switch and 12-ft. cable. Black. 

$55.00

45 Cardioid Microphone

$45.00

Model 45A. Same except low-impedance version. 

$45.00

603H Microphone

$95.00

Model 603L. Same except low-impedance version. 

$95.00

UNIVERSITY

1555 Omnidirectional Microphone
Dynamic design; 200 ohms balanced. Response 60-15,000 Hz. Output -56 dBm (re: 10 dynes/cm²); SPL 0.5% at 126 dB (400 µbar at 1000 Hz); integral pop and breath-blast filter; extra rugged swedge steel case for applications involving rough handling; supplied with 18-ft, 2-cond. shielded cable with standard 3-pin female connector; standard 3-pin male audio receptacle on base; matte nickel finish. 

1 ½ dia. tapering to ¾ x ½ overall length. 8 ounces. 

$104.00

16556. Same as 16556 but without switch; has threaded handle for flexible gooseneck stands or special boom adapters; 8-ft cable, 2-cond. shielded cable lead. 

$89.00
Introducing the premium blank tape especially attuned to music

Introducing the music tape BY CAPITOL It's a new premium blank tape with an extra high output/low noise formula for full dimensional sound. Simply the best blank tape you can buy for recording music.

What's the most demanding sound for a tape to reproduce? It's music. Particularly the variety of pitch and sound levels found in symphonic music.

Ordinary tapes lose this range of sound. They round off an instrument's unique characteristics, its "color." They distort when the pitch (frequency) is high. Or create interference noise when the sound level (amplitude) is low.

When you record ordinary things, use an ordinary tape. But when you record music, record on the music tape BY CAPITOL

Engineers can plot these performance limits on a SNR (signal-to-noise ratio) graph like the one below. The greater the distance between the top and bottom lines, the better the tape's SNR. The wider the area covered, the better the frequency response.

This SNR graph shows the superiority of the music tape BY CAPITOL over conventional tape. It's another reason we think the music tape BY CAPITOL—cassette, cartridge and open reel—is best for recording music.

You might say the music tape BY CAPITOL is the blank tape with an ear for music.
### BLANK TAPE & ACCESSORIES

**ADVENT**

**Chromium-Dioxide Cassettes**
Comes in screw-type housing with special lead-tape that cleans heads. In lots of six, comes with free optional storage album.

- **C-60**
  - 45 minutes: $2.25
  - 64 minutes: $2.75
  - 90 minutes: $3.25

- **C-90**
  - 45 minutes: $3.10
  - 64 minutes: $3.50
  - 90 minutes: $3.85

- **C-120**
  - 45 minutes: $4.10
  - 64 minutes: $4.60
  - 90 minutes: $5.10

### BASF

**LP-35 Recording Tape**
Polyester base, tensilized 1-mil., long play.

- 900 ft., 5" reel: $3.85
- 1800 ft., 7" reel: $7.00
- 1800 ft., 7" reel (3 pack): $19.85

**DP-26 Recording Tape**
Polyester base, tensilized ½-mil., double play.

- 1200 ft., 5" reel: $5.60
- 2400 ft., 7" reel: $9.60
- 2400 ft., 7" reel (3 pack): $27.35

**TP-18 Recording Tape**
Polyester base, tensilized, ½-mil., triple play.

- 1800 ft., 5" reel: $7.00
- 3600 ft., 7" reel: $12.50

**LP-35LH Long-Play Tape**
1-mil polyester base. Low-noise, high-output.

- 900 ft., 5" reel: $4.60
- 1800 ft., 7" reel: $8.10

**DP-26LH Double-Play Tape**
½-mil polyester base. Low noise, high-output.

- 1200 ft., 5" reel: $6.60
- 2400 ft., 7" reel: $10.50

**TP-18LH Triple-Play Tape**
½-mil polyester base. Low-noise, high-output.

- 1800 ft., 5" reel: $9.60
- 3600 ft., 7" reel: $14.35

**"Chromdioxid" SM Cassettes**

- Plastic box:
  - 30 min/side C-60: $3.35
  - 45 min/side C-90: $5.00
  - 60 min/side C-120: $6.35

- **LHSM Cassettes**
  - Plastic box:
    - C-60: $3.10
    - C-90: $4.60
    - C-120: $6.10

- **SKLH Cassettes**
  - 1975 EDITION

### CAPITOL

**Capitol 1 Cassettes**
- C-30, 15 min/side: $0.89
- C-60, 30 min/side: $1.09
- C-90, 45 min/side: $1.79
- C-120, 60 min/side: $2.49
- C-30, Three pack: $2.52
- C-60, Three pack: $3.09
- Cassette head cleaner: $1.09
- Cassette saver: $2.19

**Capitol 1 8-Track Cartridges**
Standard play, 1.5-mil polyester

- 32 min/150 ft: $1.69
- 40 min/190 ft: $1.99
- 64 min/300 ft: $2.19
- 80 min/380 ft: $2.29
- 100 min/470 ft: $2.49
- 4 pk of 40 min: $5.79
- 4 pk of 80 min: $6.98
- Cartridge head cleaner: $1.19

**Capitol 1 Open-Reel Tape**
- Standard play, 1.5-mil polyester: $3.39
- 1200 ft., 7" reel: $2.79
- Extra play, 1.0-mil polyester: $2.79
- 900 ft., 5" reel: $2.79
- 1800 ft., 7" reel: $3.79
- 0.5-mil polyester, tensilized: $4.29
- 1800 ft., 5" reel: $4.29
- 2400 ft., 7" reel: $4.79

### COLUMBIA

**Cassette Tapes**
Each side color-coded for easy identification. High-output/low-noise, gamma-ferric oxide. Response 20-20,000 Hz. Tensiilized polyester base. Delrin rollers; constant-tension pressure pad for consistent tape-to-head contact; mounted in three-sided Mumetal shield to prevent pickup of hum and noise.

- **C-120. 60 min/side**
  - C-120, 60 min: $8.98
  - C-120, 60 min (2 packs): $16.68

- **C-90. 90 min**
  - C-90, 45 min: $3.85
  - C-90, 90 min: $5.98

- **C-60. 60 min**
  - C-60, 30 min: $2.25
  - C-60, 60 min: $3.10

- **C-45. 45 min**
  - C-45, 45 min: $1.79

- **C-30. 30 min**
  - C-30, 15 min: $0.89

- **C-25. 25 min**
  - C-25, 12 ½ min: $1.19

- **C-15. 15 min**
  - C-15, 7 ½ min: $0.69

- **C-10. 10 min**
  - C-10, 5 min: $0.39

- **C-5. 5 min**
  - C-5, 2 ½ min: $0.29

### 8-Track Tapes
*Back-lubricated high-output/low-noise gamma-ferric oxide tape. Response 20-20,000 Hz. Three-point Delrin tape suspension; silicone/rubber pinch roller; foam pressure pad; one-piece hub; features "ConvertaQuad" plastic plug for activating sensing device on 4-ch tape deck.*

- **81-100. 100 min**
  - 81-100, 100 min: $3.79

- **81-90. 90 min**
  - 81-90, 90 min: $3.99

- **81-80. 80 min**
  - 81-80, 80 min: $3.29

- **81-45. 45 min**
  - 81-45, 45 min: $3.25

- **81-30. 30 min**
  - 81-30, 30 min: $2.52

- **81-20. 20 min**
  - 81-20, 20 min: $2.49

- **81-12. 12 min**
  - 81-12, 12 min: $2.39

- **81-10. 10 min**
  - 81-10, 10 min: $2.29

- **81-8. 8 min**
  - 81-8, 8 min: $2.19

- **81-6. 6 min**
  - 81-6, 6 min: $2.09

- **81-4. 4 min**
  - 81-4, 4 min: $1.99

- **81-3. 3 min**
  - 81-3, 3 min: $1.89

- **81-2. 2 min**
  - 81-2, 2 min: $1.79

- **81-1. 1 min**
  - 81-1, 1 min: $1.69

### "the music tape" Cassettes
High-output/low noise with "cushion-air" backing.

- **C-45, 45 min**
  - C-45, 45 min: $2.69

- **C-60, 60 min**
  - C-60, 60 min: $2.98

- **C-90, 90 min**
  - C-90, 90 min: $4.49

### HITACHI

**"Ultra-Dynamic" Cassettes**
UDC-60, 60 min

- UDC-60, 60 min: $3.70
### LAFAYETTE

#### Tensiled Reel-to-Reel Tapes

- Tensiled Mylar, 0.5-mil.  
  - 300 ft, 3" reel, double-play $0.79
  - 600 ft, 3 1/4" reel, double-play $1.09
  - 3600 ft, 7" reel, triple-play $5.29

- Mylar-Base Reel-to-Reel Tapes
  - On clear plastic reels.
    - 1200 ft, 5" reel, 0.5-mil. $1.89
    - 1800 ft, 7" reel, 1.0-mil. $2.49
    - 2400 ft, 7" reel, 0.5-mil. $3.49

#### Chromium-Dioxide Cassettes

Chromium-coated tape to provide low distortion, increased high-frequency levels, and reduced inherent tape noise. For recorders with chromium dioxide bias switches.

- 60 min $2.29
- 90 min $2.99

#### Criterion Dynamic-Range Cassettes

Low-noise, high-output. Wide dynamic range with high-frequency response of 30-20,000 Hz. Head cleaner section at one end, sensing foils at each end to activate machines having reversing mechanism, but may be used on all cassette recorders. Hard, clear plastic storage box.

- C-60, 60 min $2.40
- C-90, 90 min $3.60
- C-120, 120 min $4.75

#### Criterion Deluxe Cassettes

Criteria cassettes. Mylar-based coating to provide low distortion, increased high-frequency levels, and reduced inherent tape noise.

- C-45 45 min $1.15
- C-60 60 min $1.29
- C-90 90 min $1.99
- C-120 120 min $2.99

#### Voice-Garde Cassettes

- C-45, 45 min $0.89
- C-60, 60 min $0.99
- C-90, 90 min $1.49
- C-120, 120 min $2.19

#### 8-Track Mylar Cartridges

- 40 min $1.69
- 70 min $1.95
- 80 min $2.25

### LONGINES SYMPHONETTE

#### Music-Grade Cassettes

- M40, C-40, 40 min $1.99
- M60, C-60, 60 min $2.29
- M90, C-90, 90 min $2.99
- M120, C-120, 120 min $3.49

#### All-Purpose Cassettes

- AP600, C-60, 60 min $1.29
- AP900, C-90, 90 min $1.79
- APS60, C-60 three-pack $3.87
- APS90, C-90 three-pack $5.37

#### 8-Track Cartridges

- 8M40, 40 min, single in sleeve $2.49
- 8M80, 80 min, single in sleeve $2.99

#### Cassette Tote Box

- 2PA60C (2-C60's) $2.19
- 2PA90C (2-C90's) $2.99

#### Head Cleaner

- CMS-2 Cassette Maintenance Kit $2.99
- 8HCS-4 8-track (4-way head cleaner kit & demagnetizer) $4.99

### MALLORY

#### Duratape Cassettes

Includes special head-cleaning leader. Packaged in Philips box.

- LNF60, 60 min $1.95
- LNF90, 90 min $2.95
- LNF120, 120 min $3.45

#### Professional Duratape Cassettes

Cobalt-energized, extended frequency. Packaged in Philips box.

- EFR30, 30 min $1.95
- EFR60, 60 min $2.95
- EFR90, 90 min $3.95

#### Fliptape Cassettes

Low-noise cassettes designed specifically for youth market. Packaged in poly box.

- FL40P, 40 min $1.45
- FL60P, 60 min $1.55
- FL90P, 90 min $2.25

#### Voicecassette

- VO30P $1.65
- VO60P $1.75
- VO90P $2.45

#### Duratape 8-Track Cartridges

- 8T40, 40 min $2.50
- 8T80, 80 min $2.95
- 8T120, 120 min $4.15
- 8T-1/2, Head cleaner $1.85

#### Duratape Open-Reel Tape

- 3 x 150, 1/2-mil, 150 ft, 3" reel, polyester (4 pak) $2.05
- 5 x 600, 1/2-mil, 600 ft, 5" reel, tensilized polyester $1.95
- 5 x 1200, 1/2-mil, 1200 ft, 5" reel, tensilized polyester $3.05
- 5 x 1800, 1/2-mil, 1800 ft, 5" reel $4.90
- 7 x 1200, 1/2-mil, 1200 ft, 7" reel, polyester $2.65
- 7 x 1800, 1/2-mil, 1800 ft, 7" reel, polyester $3.45
- 7 x 2400, 1/2-mil, 2400 ft, 7" reel, polyester $4.30
- 7 x 3600, 1/2-mil, 3600 ft, 7" reel, polyester $6.50

### MAXELL

#### Ultra-Dynamic Cassettes (High Bias)

- UDC-46, 23 min/side $3.00
- UDC-60, 30 min/side $3.35
- UDC-90, 45 min/side $4.90
- UDC-120, 60 min/side $6.55

#### Low-Noise Cassettes (Normal Bias)

- LNC30, 15 min/side $1.93
- LNC60, 30 min/side $2.20
- LNC90, 45 min/side $3.35
- LNC120, 60 min/side $4.45

#### Low-Noise Tape (Normal Bias)

- 1.5-mil polyester LNE120, 1200 ft, 7" reel $6.00
- LNE50-10R, 2500 ft, 10" reel $15.00
- 1-mil polyester LNE35-120, 1800 ft, 7" reel $7.70
- LNE50-10R, 2500 ft, 10" reel $19.50
- 0.5-mil polyester LNE35-2400, 2400 ft, 7" reel $10.50
- LNE50-10R, 2500 ft, 10" reel $12.40

#### Extended-Range Tape (High Bias)

- Ultra-dynamic, high-energy type.
  - LND150, 1500 ft, 7" reel $7.70
  - LND90, 900 ft, 7" reel $8.50

#### 8-Track Cartridges (Normal Bias)

- 8T40, 40 min $2.95
- 8T80, 80 min $3.35
- 8T120, 120 min $3.60

### MEMOREX

#### Low-Noise, High-Output Tape

STEREO DIRECTORY & BUYING GUIDE
### Standard Play, 1.5-mil Polyester, 1/4"

<table>
<thead>
<tr>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 ft, 5&quot; reel</td>
<td>$2.39</td>
</tr>
<tr>
<td>1200 ft, 7&quot; reel</td>
<td>$4.59</td>
</tr>
<tr>
<td>2500 ft, 10½&quot; reel</td>
<td>$10.99</td>
</tr>
</tbody>
</table>

### Long-play, 1-mil Polyester, 1/4"

<table>
<thead>
<tr>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>900 ft, 5&quot; reel</td>
<td>$3.39</td>
</tr>
<tr>
<td>1800 ft, 7&quot; reel</td>
<td>$5.69</td>
</tr>
<tr>
<td>3600 ft, 10½&quot; reel</td>
<td>$15.49</td>
</tr>
</tbody>
</table>

### Double-play, Tensilized Polyester, 1/4"

<table>
<thead>
<tr>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200 ft, 5&quot; reel</td>
<td>$4.59</td>
</tr>
<tr>
<td>2400 ft, 7&quot; reel</td>
<td>$7.79</td>
</tr>
</tbody>
</table>

### Highlander/Low-Noise

Features "Posi-Trak" back treatment. Album package.

- 8-Track cartridges: $2.49
- 8-Track head cleaner: $1.69
- Cassette head cleaner: $1.89
- Empty 7" album: $1.59

### Chromium-Dioxide Cassettes

<table>
<thead>
<tr>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-60 30 min/side</td>
<td>$2.19</td>
</tr>
<tr>
<td>C-90 45 min/side</td>
<td>$2.19</td>
</tr>
<tr>
<td>C-120 60 min/side</td>
<td>$4.19</td>
</tr>
</tbody>
</table>

### 8-Track Cartridges

<table>
<thead>
<tr>
<th>Length</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 min</td>
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</tr>
<tr>
<td>60 min</td>
<td>$2.69</td>
</tr>
<tr>
<td>90 min</td>
<td>$2.89</td>
</tr>
</tbody>
</table>

### Accessories

- Library (6 empty cassette albums): $3.29
- 8-track head cleaner: $1.99
- Cassette head cleaner: $1.99
- Empty 7" album: $1.59

### Open-Reel Tapes

#### High-Output/Low-Noise

Provides 50% increase in signal output and additional 3 dB in dynamic range over conventional low-noise tapes.

- No. 206: Polyester base, "Posi-Trak" backing, leader, and trailer. 1.5-mil. 60 min at 7½ ips; 7" reel: $6.85
- No. 207: Polyester base, "Posi-Trak" backing, leader, and trailer. 1.5-mil. 90 min at 7½ ips; 7" reel: $8.75

#### Low-Noise/Dynarange

Provides high-fidelity recording even at 3% ips. Multi-purpose tape providing full dynamic range throughout audible spectrum. S/N is 4 to 6 dB better than standard tapes.

- No. 211: Polyester backing, white yellow trailer. 1.5-mil. 30 min at 7½ ips (5 reel); 60 min (7" reel): $3.25
- No. 212: 1.0-mil. 45 min at 7½ ips (5 reel); 90 min (7" reel): $4.35
- No. 213: 0.5-mil tensilized. 120 min at 7½ ips (1 reel): $7.50
- No. 214: 0.5-mil tensilized. 90 min at 7½ ips (5 reel); 180 min (7" reel): $7.50
- Highlander/Low-Noise: All-purpose economy tape for vocals as well as speech. No. 228: 1.5 mil. 60 min at 7½ ips (7" reel): $3.75

### 8-Track Cartridges

Features low-noise ferric-oxide coating on heavy-duty lubricated polyester backing.

- High-Output/Low-Noise: Full 2-dB increase in output over premium tapes. Captures full balanced sound.
  - 8TR-45 HO/LN. 45 min: $3.25
  - 8TR-90 HO/LN. 90 min: $3.85
- Low-Noise/Dynarange: All-purpose cartridge.
  - 8TR-45. 45 min: $2.60
  - 8TR-90. 90 min: $3.25

### "Classic" Open-Reel Tapes

High-frequency performance 3 dB higher than No. 206-207; S/N 8 dB higher than standard cartridges; fully compatible with all cassette recorders; "Posi-Trak" back treatment. Album package.

- No. 229: Polyester base, "Posi-Trak" backing, leader, and trailer. 1.5-mil. 90 min at 7½ ips (7" reel): $3.75

### B-Track Cartridges

Features special low-noise ferric-oxide coating for high-frequency sensitivity of 7 dB higher; S/N at low frequencies 6 dB higher than standard cartridges; fully compatible with oxide coating heavy-duty lubricated polyester backing.

- 8TR-45. 45 min: $3.75
- 8TR-90. 90 min: $5.00

### "Classic" Cassettes

Features layers of chromium-dioxide and low-noise ferric-oxide to produce high-frequency performance equal to "chrome," but an additional 5 dB above base over CrO₂ in low-frequency range; fully compatible with all recorders; "Posi-Trak" back treatment. Album package.

- 45 min: $3.75
- 60 min: $4.35
- 90 min: $6.25

### Chrome Cassettes

Features chromium-dioxide tape for extended high-frequency range; designed specifically for tape decks equipped to handle CrO₂; "Posi-Trak" back treatment. Album package.

- 45 min: $3.00
- 60 min: $3.35
- 90 min: $5.00
- 120 min: $6.75

### SONY from SUPERSCOPE

#### Professional Recording Tape

Extra-heavy-formula Oxido-coated homogenized oxide coating; polyester back, "lubri-cushion" impregnated lubricant.

- PR-150-3. 300 ft, 3½" reel, 1 mil: $1.99
- PR-150-9. 900 ft, 5" reel, 1 mil: $3.49
- PR-200-12. 1250 ft, 5" reel, 0.5 mil: $4.49
- PR-150-18. 1800 ft, 7" reel, 1 mil: $4.99

#### Low-Noise, High-Output Tape

On 1-mil polyester base.

- SLH-180-18. 1800 ft, 7" reel: $6.49

#### Auto-Sensor Cassette Tape

- C-45 Plus 2. 23 min/side: $1.59
- C-60 Plus 2. 31 min/side: $1.69
- C-90 Plus 2. 46 min/side: $2.49
- C-120 Plus 2.61 min/side: $3.69

#### Ultra-High-Fidelity Cassette Tape

With Auto-Sensor.

- UHF-60 Plus 2. 31 min/side: $2.69
- UHF-90 Plus 2. 46 min/side: $3.79
- UHF-120 Plus 2. 61 min/side: $4.99

#### Chromium-Dioxide Cassettes

- C-30-60. 30 min/side: $3.29
- C-90-90. 90 min: $4.29

### Ferri-Chrome Cassettes

- FeC-60 Plus 2. 31 min/side: $3.99

### 8-Track Cartridges

- 8T-40 Plus 2. 21 min/side: $3.49
- 8T-60 Plus 2. 31 min/side: $3.99
- 8T-80 Plus 2. 41 min/side: $4.49

### Empty Tape Reels

Computer-styled tape reels, with box.

- MFRB-7. 7" reeler: $1.29
- MFRB-5. 5" reeler: $0.99
- MFRB-3. 3½" reeler: $0.69

### SOUNDCRAFT

#### Cassette Tapes

- 2SR-801-30. 30 min: $0.79
- 2SR-80140. 40 min: $0.89
- 2SR-80160. 60 min: $1.39
- 2SR-80190. 90 min: $1.69
- 2SR-80130. 30 min: $1.99
- 2SR-801HC. Head cleaner: $1.39

#### 8-Track Tapes

- 8SR-80340. 40 min: $1.69
- 8SR-80380. 80 min: $1.99
- 8SR-803HC. Head cleaner: $1.29

#### Open-Reel Tapes

- 4SR-80536. 7" x 3600 ft: $6.64
- 4SR-80524. 7" x 2400 ft: $4.79
- 4SR-80518. 7" x 1800 ft: $4.35

#### TDK

"Extra Dynamic" Cassettes

Exclusive "stagnetite" coating for highest MOL (maximum output level), wide dynamic range.

- SON-80512. 7" x 1200 ft: $2.79
- SON-80518. 7" x 1800 ft: $3.58
- SON-80524. 7" x 2400 ft: $4.79
- SON-80536. 7" x 3600 ft: $6.64

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1975 EDITION
12 Blank Tape

ED-C45, 45 min .................................................. $3.35
ED-C60, 60 min .................................................. $3.75
ED-C90, 90 min .................................................. $5.60

"Super Dynamic" Cassettes
High-performance gamma ferric oxide for wide dynamic range, low-noise, and distortion-free output. Response 30-20,000 Hz. Polyester base.
SD-C45, 45 min .................................................. $2.75
SD-C60, 60 min .................................................. $3.00
SD-C90, 90 min .................................................. $4.50
SD-C120, 120 min ............................................... $6.00

"Dynamic" Cassettes
Features company's new M-400 gamma ferric oxide coating. Includes new 3-hour "4-record-album-length" cassette plus new single-album length cassette. Polyester back.
D-C45, 45 min .................................................. $2.25
D-C60, 60 min .................................................. $2.50
D-C90, 90 min .................................................. $3.75
D-C120, 120 min ............................................... $5.00
D-C180, 180 min ............................................... $6.85

"Krom" Chromium-Dioxide Cassettes
Outstanding linearity at very high frequencies. Use with 6-band machines with CrO, bias. Polyester back. Packaged in plastic boxes.
KR-C60, 60 min .................................................. $3.75
KR-C90, 90 min .................................................. $5.60

"Endless" Cassettes
EC-20S, 20 sec .................................................. $5.00
EC-30S, 30 sec .................................................. $5.00
EC-1, 1 min ...................................................... $5.00
EC-3, 3 min ...................................................... $5.25
EC-6, 6 min ...................................................... $5.75
EC-12, 12 min ................................................... $6.85

Head Cleaner Cassette
Chromium trioxide removes deposits, laps and polishes pitted heads. Unique check-off chart on box keeps record of cleaner life.
HC-1 ................................................................. $1.50

"Super Dynamic" 8-Track Cartridges
Full-fidelity 8-track cartridges with gamma ferric oxide. Response 20-23,000 Hz. High saturation and output level (MOL). Has narrow-pass-band adjusting filters, each covering 1/3 octave. Stereo design with 24 filters for each channel covering center frequencies between 53 and 12,500 Hz. Loss/octave adjustable from 0 to 12 dB. 17 dB gain each channel to compensate for equalization losses. $875.00

ASCOT 100"Acousa-Voicette"
Used to modify combined response of room and speaker as required for optimum flatness of frequency response in specific listening area. Has narrow-pass-band adjusting filters, each covering 1/3 octave. Stereo design with 24 filters for each channel covering center frequencies between 53 and 12,500 Hz. Loss/octave adjustable from 0 to 12 dB. 17 dB gain each channel to compensate for equalization losses. $125.00

Additional Accessories

12 Accessories

ADVENT

MPR-1 Microphone Preamplifier
For use with low-impedance balanced or unbalanced microphones. Switchable gain for either 40 or 60 dB. Operated by power supply of Ad- vent 201 cassette deck. 5V x 2.4V x 1 D ... $25.00

100A Dolby System

Noise-reduction unit with Dolby system for home tape recording/playback. Also plays Dolby-encoded pre-recorded commercial tapes and FM broadcasts. Provides four-input mixing (two on each channel), headphone monitoring, and sound-on-sound recording. Harmonic and IM distortion 0.1%. 5 x 12 1/2 x 8 1/4. D. Cabinet extra... $250.00

101 Dolby System
Similar in principle to Model 100A, but can only be used in record or playback mode (uses same circuitry), but not simultaneously for two opera- tional modes ................................................. $125.00

ALTEC

729A "Acousa-Voicette"
Similar in principle to Model 100A, but can only be used in record or playback mode (uses same circuitry), but not simultaneously for two opera- tional modes ................................................. $125.00

ATLAS SOUND

MS-50 Floor Stand
Triangular-based general-purpose microphone stand; grip-action clutch;uchi resistant steel base with protective pads; upper chrome plated, lower tube and base in black; height 35" to 63" base 14 1/2; weight 61 lbs. .................................................. $14.95

MS-10C. Popular version with charcoal wrink- le 10" dia. base; weight 10 lbs. ..................... $17.10

MS-11C Floor Stand
General-purpose stand; grip-/action clutch; low- profile chrome base with added weight for extra stability; 34" to 62" 10" dia. chrome base; weight 13 lbs. .................................. $22.10

MS-12C. Economy version with charcoal wrink- le-finish base. ............................................. $18.05

MS-11S Floor Stand
Automatic clutch stand; instantaneous changes in height by grasping control sleeve and raising or lowering microphone; removing hand automatically locks stand height; low silhouette chrome base; 39" to 62" 10" dia. chrome base; weight 13 lbs. .................................. $42.50

FED-3 Frequency Equalizer
Stereo frequency equalizer provides 12 zones of control for each channel. Has two VU meters, defeat switch, and switch back control for both playback and recording. Distortion 0.007%. ........................................ $199.95

FED-2 Frequency Equalizer
Two-channel, five-zone per channel, frequency equalizer. Response: flat setting 5-10,000 Hz ±1 dB; fundamental range 12 Hz to 2400 Hz. Glass domes which will house three cartridge -glass domes which will house three cartridge -heads
HE -125. Economy version for use with open-reel, cassette, and 8-track equipment.
30-2150. Cleaning pen for tape heads ................ $1.95
30-126. Kleen tape for open-reel recorder heads ........................................ $2.25
30-026. Tape cleaning cloth ......................... $0.90
30-129. Tape Care Kit, Jr. contains head cleaner, cotton swabs, and cleaning cloth ........................................ $1.60
30-630. "Blast-off" tape head cleaner, 3-oz. aerosol can ........................................ $1.95
30-128. Same except in 6-oz aerosol can ........................................ $2.50
30-124-1. Recording head cleaner, 2-oz bot- tle ........................................ $1.00
30-124-2. Recording head lubricant, 2-oz bot- tle. ........................................ $1.00
30-636. Tape player care kit contains cleaner and head lubricant, two 6" brushes, 10 plas- tic pouches to protect tape reels, cassettes, or cartridges ........................................ $2.95

BSR-ELECTRONICS

FEW-3 Frequency Equalizer
Stereo frequency equalizer provides 12 zones of control for each channel. Has two VU meters, defeat switch, and switch back control for both playback and recording. Distortion 0.007%. ........................................ $199.95

BNR WEN

DNF 1200 Dynamic Noise Filter
Will work on any 2-channel or matrix encoded source; provides 14 dB noise reduction; does not require pre-encoding. Pushbutton controls to select proper mode of noise reduction: Phono position for any 33 or 45 record played directly or recorded on FM; Phono 78 is for 78 rpm discs; Tape/FM is for cassette, open-reel, cartridge, or FM broadcasts. Includes sensi- tivity control. Frequency response (minimum bandwidth) -1 dB at 500 Hz, -10 dB at 10,000 Hz, -20 dB at 2500 Hz; maximum bandwidth ±0.5 dB max. 10-20,000 Hz. HD 0.2% max. 20-10,000 Hz at 3 V input, sensitivity max.; 0.0 dB gain at 1 kHz, adjustable via rear-panel controls; internal noise 100 µV rms 20-20,000
CROWN INTERNATIONAL

OC-150 Stereo Output Control Center
Designed to increase system flexibility in sophisticated audio installations. Provides output monitoring capabilities supplied by two 3V/2 meters; speaker switching for three sets of speakers; two variable-pad headphone jacks. Meters can be used in either of two measuring modes in any of five full-scale ranges; full-scale voltage sensitivity of meter is variable from 1.4 volts to 140 volts. Will monitor three separate amplifier outputs, including main system amplifier output. Two front-panel jacks are available with three levels of attenuation; one position feeds jack directly from amplifier output; other two positions provide different degrees of attenuation for more sensitive headphones. 5 1/2 x 17 x 8 1/2 D. $299.00

150 Series Noise Reduction Systems
Allows recordists to make noise-reduced tapes to studio standards on better-grade audiophile recorders. Fully compatible with company’s studio professional models but with single-end inputs/outputs and RCA-type phono connectors to facilitate connections to audiofile recorders, amplifiers, etc. Provides 30 db noise reduction with 10 db more headroom. Extruded aluminum and solid walnut cabinet. 3 1/2 x 9 x 10 1/2 D.

Model 157. Two-channel simultaneous record and play. .......................................................... $567.00

Model 152. Two-channel switchable record or play (may also be used as two-channel simultaneous record and play) .......................................................... $410.00

Model 154. Four-channel switchable record or play .......................................................... $646.00

dbx

117 Dynamic Range Enhancer
A compressor/expander that permits listener to restore up to 20 db of the dynamic range missing from records, tapes, or FM broadcasts. As a classical compressor/expander, allows the recordist to make full dynamic range tapes on moderately priced recorders and obtain 20 db or more improvement (S/N) ...................................................... $159.00

It was probably intentionally sacrificed by the record or tape manufacturer (for reasons we explain in our literature). The dbx 117 Dynamic Range Enhancer Noise Reduction Unit restores up to 20 db of the dynamics missing from records, tapes, and FM broadcasts and puts life back into the music. The Model 117 also lets you make professionally noise-free, full dynamic range recordings even on a modestly priced tape recorder.

The stereo dbx 117 is available from better audio dealers at $159. dbx, Incorporated, 296 Newton Street, Waltham, Massachusetts 02154
## Accessories

- Cultured marble base with critically engineered damping feet to reduce bass feedback from high-quality speakers; has two apertures which puts a marble barrier between preamp cords and power line connections to eliminate 60-Hz hum; reduces skipping from floor vibration.

### EDITALL

#### KP-2 Editing Kit
- Complete kit includes splicing block, 30 splicing tapes, demagnetized razor blade, and grease pencil for 1/8" audio tape.
- $4.50

#### KS-2 Editing Kit
- For 1/8" tape, includes a 4" x 3" x 1/4" block, marking pencil, roll of splicing tape, and cutting blade.
- $1.50

#### KS-3 Editing Kit
- Same as KS-2 except includes larger block (5" x 1" x 1")
- $13.50

### FERROGRAPH

#### RTS-2 Recorder Test Set
- Will test wow & flutter, frequency response, (S + N)/N ratio, gain, distortion, crosstalk, era-
- sure, input sensitivity, output power, and drift.
- Input required 35 mV to 5 V. Has output for osciloscope. 17" x 22".
- $40.00

### FINCO

#### FM-5 Antenna
- Ten-element, deluxe gold Corodized antenna.
- Has twin drive elements and maximum gain over full FM band.
- $44.55

#### FM-3 Antenna
- Four-element broadband FM yagi. Features narrow directivity pattern, Aluminum construct-
- tion, gold Corodized.
- $16.70

#### FM-4G Antenna
- $30.45

#### FMT-1 Antenna
- All-directional FM antenna kit with two folded dipoles at right angles with quarter-wave phasing stub for 360-degree pickup pattern without rotor. Supplied with 50 ft, 300-ohm twin lead, 5-
- ft mast, mounting hardware, Gold Corodized.
- $16.40

### JFD

#### FM Stereo Antennas
- Log periodic antennas designed specifically for FM/FM stereo; features full-wavelength cap-electronic dipole design; high gain and S/N; extra-high front-to-back ratio; pinpoint directivity (20-50 degrees narrower than yagi); low VSWR; 1.5-ohm impedance match.
- $149.95

### MAGNESONICS

#### Eras-Sure Tape Eraser
- Will erase a cassette or B-track cartridge to -65 dB from 0 reference. Battery operated (four "A" cells). 4" x 3 1/2" x 2 1/2".
- $17.50

### MURA

#### A-10 Stereo Volume Control
- Stereo mono switch enables headset to be used with radio, TV, electronic organ, or other mono program sources. Features electronic slide controls and 15-ft extension cord.
- $7.50

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### 75-Ohm FM Antennas

- 75-ohm versions of the Models FM-5 and FM-4G. To be used with coax-cable transmission lines in distant, high-interference areas. Furnished with indoor matching balun trans-
- former to balance 75-ohm coax to 300-ohm input of set.
- **CK-FM-5**  
  $55.10
- **CK-FM-4G**  
  $41.05

### HEATH

#### AD-1013 An-i-Scope
- Audio oscilloscope capable of monitoring such parameters as channel separation, phasing, 
- relative signal strengths, multi-path reception, and center tuning on all 2- and 4-channel stereo systems. Inputs for left-front, left-back, right-front, right-back, and multi-path, inde-
- pendently switchable or in any combination; front-panel input provided for observing any 
- external source (permitting use as conventional scope); lighted function indicators; built-in 
- 20-20,000 Hz audio oscillator; front-panel controls for selecting frequency of audio oscillator and controlling amplitude of generated signals. 5 1/4" H x 18 1/2" W x 13 1/2" D.
- Kit, less cabinet  
  $199.95
- Walnut cabinet  
  $24.95

### LAFAYETTE

#### Tape Head Demagnetizer
- Pencil-shaped with one extending probe which allows for reaching all heads in all positions. With "on-off" switch.
- $4.50

### TELEPHONE Pickup Coil
- Designed to feed into the microphone input of tape recorder of any high-gain amplifier. Easily fastened to the telephone by rubber suction-type attachment. Has 41/2-ft shielded cable with 1/8" miniature plug.
- $1.39

### DNR-50 Noise-Reduction Unit
- Can be used with any tape deck or self-con-
- tained tape recorder having audio inputs and 
- outputs. Increases S/N 15 dB at 10,000 Hz; 5 
- dB at 1 kHz. Has built-in Dolby reference meter 
- with three-position function switch; separate slide lever recycle level controls, playback/pa-
- use button switch. Response 20-15,000 Hz 
- $149.95

#### Dolby cassette calibration tape
- $79.95

#### Typical.cx-FM-5 Antenna
- **62" L x 4.5 lbs**
- **Gain:** 8.3 dB
- **Half-power beamwidth:** 46 degrees
- **S/N ratio median:** 18 dB
- **Turning radius:** 72"
- **Cost:** $44.55

#### FM Stereo Antennas
- Log periodic antennas designed specifically for FM/FM stereo; features full-wavelength cap-electronic dipole design; high gain and S/N; extra-high front-to-back ratio; pinpoint directivity (20-50 degrees narrower than yagi); low VSWR; 1.5-ohm impedance match.
- **Gain:** 9.9 dB ±0.6 dB/half wavelength
- **Front-to-back ratio:** median 16.6 dB; turning radius 63°
- **Cost:** $24.85
**NAKAMICHI**

Head Demagnetizer
Slim-line, easy-to-use recorder head demagnetizer, specially designed for the company's Models 1000 and 700 cassette decks...

$15.80

**NUCLEAR**

3C500 Staticmaster
Soft-hair retractable brush with extra-strength potassium element. Designed to neutralize static and remove dust from records...

$12.95

Replacement cartridge...

$7.95

**NORTRONICS**

5600 Quadrasonic Record/Play Heads
Four-track, four-channel, laminated core heads with all-metal hyperbolic face construction. #5601. Special record-only head, low imp., 50 mV, 500 μm gap spacer. For use with vacuum-tube or transistor circuits. No-mount type...

$99.00

#5602. Low imp., 90 mV, 100 μm gap spacer. For use with vacuum-tube or transistor circuits...

$99.00

#5603. Medium imp., 370 mV, 100 μm gap spacer. For use with vacuum-tube or transistor circuits. No-mount type...

$99.00

The company has prepared a 31-page "Recorder Care Manual" which is available with- out charge from local Nortronics distributors.

**PAGEANT**

8-Track Accessories
PTA-801. Head cleaner with bee tone...

$2.50

PTA-802. 8-track maintenance kit...

$2.98

PTA-803. Maintenance cart. & demagnetizer...

$4.50

Cassette Accessories
PTA-502. Cassette maintenance kit...

$2.98

PTB-501. Cassette head cleaner...

$2.50

PTA-503. Maintenance cassette & demagnetizer...

$5.95

**PANASONIC**

RP-966 Outboard Dolby Unit
Has built-in oscillator for proper recording level meter. Dolby level meter for proper Dolby level adjustment, recording level control for matching program source levels to tape deck levels, and Dolby for FM broadcasts in both playback and record...

$69.95

**PICKERING**

PST-1 Stylus Timer
Measures actual stylus wear-time from 0 to 1000 hours in increments of 100 hours. Features mercury contactor powered by standard mercury battery, as indicator; easily re-settable after 1000 hours. Mounts on turntable under tonearm. 2½" long x 1" W x 1" H. Comes with mercury battery...

$13.95

**PIONEER**

SR-202W Reverberation Amp
Double-scatter system blends direct signals from source with reverb effect. Reverb time 0.25 seconds at 1 kHz. HD less than 0.2%. at 1 kHz reverb time. Minimum output level 330 mV. Response 20-35,000 Hz +2 dB (min. reverb time) and 20-50,000 Hz +10 dB (max. reverb time). (5 + N)/N 65 dB at 330 mV output. Universal power supply...

$139.95

SD-1100 Stereo Display
Designed for measurement and scopina of all audio components and stereo characteristics. Will show any waveform and measure voltage level and phase shift. Has built-in audio oscillator 20-20,000 Hz with automatic or manual sweep. Can also be used for 4-channel analysis. With universal power supply...

$599.95

MA-62 6-Channel Mixing Amp
Has input facilities for up to six mikes; each channel has alternative terminal for line or phono inputs; two channels equipped with pan pots; four with location switches; mike attenuators for each channel; low-cut filters for mike input; portable design; has two stereo output terminals; pointer-index markers for each of the six long-throw faders (plus master volume faders). 15½" W x 5½" H x 10½" D...

$249.95

**ROBINS**

Cassette Storage Album
Library-designed album holds 12 cassettes. Built-in stops prevent tape from unwinding and becoming slack. Walnut wood-grained cover...

$4.15

Cassette Tape Mailers
15 cardboard mailer boxes for addressing. Has stops to protect tape from unwinding...

$1.85

Cassette Head Demagnetizer
Removes excessive magnetic build-up. Designed to be used every 15-20 hours of player/recorder use...

$9.95

**ROUSSELL**

TMS-1W Tape Recorder Selector
Allows up to three tape recorders or other signal sources to be interfaced through the tape input/output pairs of the unit or amplifier. Record or play any or all at the same time, in any combination. Use for tape duplicating, editing, mixing, program production. Also interconnects graphic equalizers, Dolby and dbx devices, sound-effects generators, echo chambers, delay lines, and synthesizers. Walnut cabinet...

$32.95

TMS-1. Same but in utility steel cabinet...

$22.95

**SIGNAL SCIENCE**

WS-10 Ultrasonic Control
Wireless, remote control for switching TV and audio equipment on or off, receiver plugs into 110-V outlet and controlled equipment plugs into receiver outlet; remote control is a soft rubber bulb which activates receiver. 2½" W x 4½" H x 2½" D (plug-in unit); 1½" dia. x 4 long (transmitter)...

$17.95

WS-2B. Same as WS-10 but transmitter is handled, push-button to select audio or video outputs. 105-130 V, 50//60 Hz...

$19.95

**SONY from SUPERSCOPE**

MX-14 Stereo/Mono Mixer
Active six-channel mixer; mixing down six channels of input into two of output. Operates on 8 "C" cells. Straight-line volume controls for each input. Has reference tabs and two VU meters...

$229.95

SAE

Mark XXVII Octave Equalizer
Dual-control active equalizer for altering frequency response, octave-by-octave, of a stereo sound system. Has 22 frequency level controls; 22 toroidal bandpass filters; level control range of ±16 or ±8 dB; zero dB center detent position; EQ defeat switch; tape monitor switch; frequency response 20-20,000 Hz ±0.25%, 3 dB down to 600,000 Hz; HD 0.05% at rated output 2.5 V rms (20-20,000 Hz); IM 60 & 7000 Hz 4/1; 60 & 12,000 Hz 4/1; 60 & 20,000 Hz 4/1 less than 0.05%; S/N 90 db; max. output 7 V into high imp.; input imp. 10,000 ohms; equalizer control range 40, 80, 160, 320, 640, 1280, 2560, 5000, 10,000, 15,000 & 20,000 Hz. 17" W x 7" D x 8½" H...

$556.00

Walnut cabinet available optional extra. Rack panel (19") version with 600 ohm output impedance available at extra cost.

**SCOTT INSTRUMENT**

451C Sound-Level Meter
Features "C" weighting for flat response; measures sound levels from 45 dB (below background noise level for most rooms) up to 130 dB; useful for balancing output of stereo or 4-channel systems, setting on microphone speakers; reads out directly in dB, momentary "on" switch conserves battery life; uses 9-V transistor radio-type battery. Meets or exceeds ANSI standards...

$96.00

**SHURE**

SA-1 "Solo-Phone"
Stereo amplifier for headphones. Permits two sets of phones to be used simultaneously. Has balance control; direct input jack for tape, tuner or phone. Inputs: phono 47,000 ohms equalized for magnetic cartridge, tuner 250,000 ohms. Output 8 ohms, 100 mV. 10½" x 3½" x 3½" D...

$33.33

Model SA-1F. Same as SA-1 except panel-mounting version...

$39.33

M68 Microphone Mixer
Five channels. A transistorized portable mixer for p.a. and tape recorders. Has four mike inputs for high- or low-impedance microphones, one high-level auxiliary input for tape, tuner & accessories, individual volume control to balance each of five inputs, and a master volume control to simultaneously control level of all inputs. Has high-impedance balanced outputs. 105-130 V, 50/60 Hz...

$93.60

M67 Microphone Mixer
Four low-impedance balanced mike inputs & one line input. Has built-in tone oscillator for calibration. Response 20-20,000 Hz ±2 dB. Has automatic switchover to battery if power fails. Gain 90 db max. (150-ohm mike into 600-ohm line). Battery power supply $25.00 extra. 11½" x 7½" x 2½"...

$181.20

**SOUND FROM SUPERSCOPE**

**NR-115 Dolby Adapter**
Designed to be used with any two- or three-head open reel, cassette, or 8-track tape recorder, tape monitor switch. Has line input facility; built-in 400-Hz oscillator for input/output balancing; record/playback mode switch; illuminates meter for right/left channel switching; two playback semi-fixed controls; and two input level controls...

$119.95

**NR-335 Dual-Process Dolby Adapter**
Specifically designed for three-head machines. Permits simultaneous operation in both record and playback modes. Features built-in head switch, two mike input jacks, three-channel output; two-position AES level and phase shift. Has built-in 19-kHz filter switch; two playback vol-
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### Accessories

**RP2212 Record/Playback Equalizer**
Stereo audio frequency equalizer using four LED's to provide front-panel display for balancing input-to-output signal ratios; plugs into any receiver or preamp with tape monitor inputs and outputs; includes tape monitor inputs and outputs with push-button selection for tape monitor, equalized or unequalized output for speakers/room equalization, or equalized tape recording separate outputs for tape recorder and amplifier hookup; features two separate ten-octave equalization panels with plus or minus 12 dB boost & cut; separate equalized signal zero-gain controls. Walnut vinyl case...

**PE2217 Preamp-Equalizer**
Provides continuous visual monitoring of input-to-output balance as well as overload warning using LED's; discrete ten-octave equalizers for each channel; push-button patching for control flexibility with interlocked push-buttons to prevent inadvertent program destruction; has 39 separate front-panel control functions permitting simultaneous tape-dubbing into two recorders with output equalized or unequalized while monitoring either input or output; full-spectrum gain controls for each channel; automatic equalizer-defeat when line or tape equalization is not in use; six a.c. outlets; dual outputs for scope, bi-amp, 4-ch hook-up, or other special applications; response 5-10,000 Hz ±0.25 dB; THD & IM 0.01%

**SWITCHCRAFT**

**Mini-Mix** Mike Mixer
Has two high-impedance inputs each with own level control; single output available with variety of connectors.

**306 Stereo Mike Mixer**
Stereo/mono mixer; will handle four sound sources (mikes, electric instruments, etc.); through one amplifier; accepts up to two high-impedance inputs in stereo mode, four high-impedance inputs in mono mode. $306TR. Same as 306 except two built-in transistorized amplifiers...

**308TR Mixer/Preamp**
Individual controls for four inputs; master output gain control; mono/stereo and phone equalization switches on back panel; a.c. powered...

**676 Listening Station**
Compact audio junction box that provides four auxiliary outputs for multiple headphone use; has four 2-conductor phone jacks wired in parallel, two side-panel grrommets for multiple wiring...

**AN-180 Outboard Dolby System**
Record/playback control center with Dolby playback line premiers & Dolby playback circuitry. Can be used with any good tape deck. Has separate input level controls for mike and line inputs for each stereo channel, two VU meters, internal test-tone oscillator, Dolby level standard tapes, source/tape monitor switch. A multiplexer filter prevents recording interference from pilot tone frequencies or unpressed multiplexer carrier by the FM tuner...

**AN-80 Outboard Dolby System**
Less elaborate version of AN-180. Input mixing feature omitted and only one Dolby circuit per channel. Circuit operates for recording, then playback, but not together. Provides 10 dB noise reduction...

**Stereo Mix 500 Mixing Console**
Will handle up to five sound sources simultaneously in mono mode (five mikes or radio, tuner, record player, tape recorder, mikes) or two stereo sound sources and one mono. Each input has separate all-transistor amplifier channel. Has five studio-type slider controls calibrated for accurate cross-fading; built-in level tone generator. Frequency range 20-20,000 Hz; dynamic range 60 dB; output voltage 2 x 30 mV + 2 x 500 mV. Powered by 9-volt battery...

**Dust Bug Record Cleaner**
An easy-mounting record cleaner which tracks over the grooves. Supplied with anti-static agent...

**WATTs, C. E.**

**SC-650 FM Antenna**
Has 11 elements for deep-fringe reception; boom length 131 inches; turning radius 76 inches; 75 or 300 ohm output impedance; weather-proof carriage housing accepts solid-state FM preamp (AC-695B for 75-ohm coax); gold acrylic aluminum finish...

**SC-600 FM Antenna**
Has 7 elements; boom length 61 inches; turning radius 44 inches; 75 or 300 ohm output impedance; carriage housing for AC-695B solid-state FM preamp; gold acrylic aluminum finish...
KENWOOD SOUNDS BEST

No matter what you put together.

7 great stereo receivers, 2 exceptional 4-channel receivers, 4 matching tuner/amplifier pairs, 3 stereo speaker systems, 2 professional turntables, 2 state-of-the-art cassette decks.

For complete information on all fine KENWOOD products, visit your nearest KENWOOD Dealer, or write...
KOSS INTRODUCES PHASE 2

The world's first stereophone with panoramic source controls.

Koss engineers have developed a second phase to stereophone listening. A new concept so exciting and so different from other stereophones, we called it Phase 2™. You'll hear a Sound of Koss never before achieved. And you'll be able to do things to your favorite recordings that, until now, only a recording engineer could do at the original recording session.

Slip on the new Koss Phase 2 Stereophone and flip the Ambience Expander switch to the N position. As you rotate the Panoramic Source Controls on each ear cup, you'll be drawn closer and closer, like a zoom lens on a camera, to the center of the performing musicians. At the fully advanced position of both controls, you'll feel as though you're brushing shoulders with the performers. Indeed, the delicate, intimate sounds of breathing, fingers against strings, even brushes trailing over cymbals, become so clearly defined that you'll feel you're actually one of the performers. And by adjusting one control separately from the other, you'll be able to move from one side of the performing group to the other.

Now flip the Ambience Expander switch to the E position. As you advance the Panoramic Source Controls, you'll hear a dramatic expansion of the center channel on your recordings. You'll feel totally surrounded by the performing musicians. And as you rotate one Panoramic Source Control separately from the other, you'll feel yourself move from the piano bench one minute to the middle of the violin section the next.

All in all, Phase 2 will make listening to your favorite recordings a whole new experience. Koss has even added a Comparator Switch to allow the listener a brief return to regular stereophone listening in the +1 position. Release the switch to the +2 position and you'll automatically return to Phase 2: a breathtaking panorama of musical perspectives that creates an exciting new intimacy and depth in your listening experience.

Ask your Audio Specialist to let you hear the new Koss Phase 2 Stereophones. And write for our free, full-color catalog, c/o Virginia Lamm. You'll find Phase 2 a whole new phase in personal listening.