

JANUARY 1966

TAPE

RECORDING MAGAZINE

24

IN THIS ISSUE

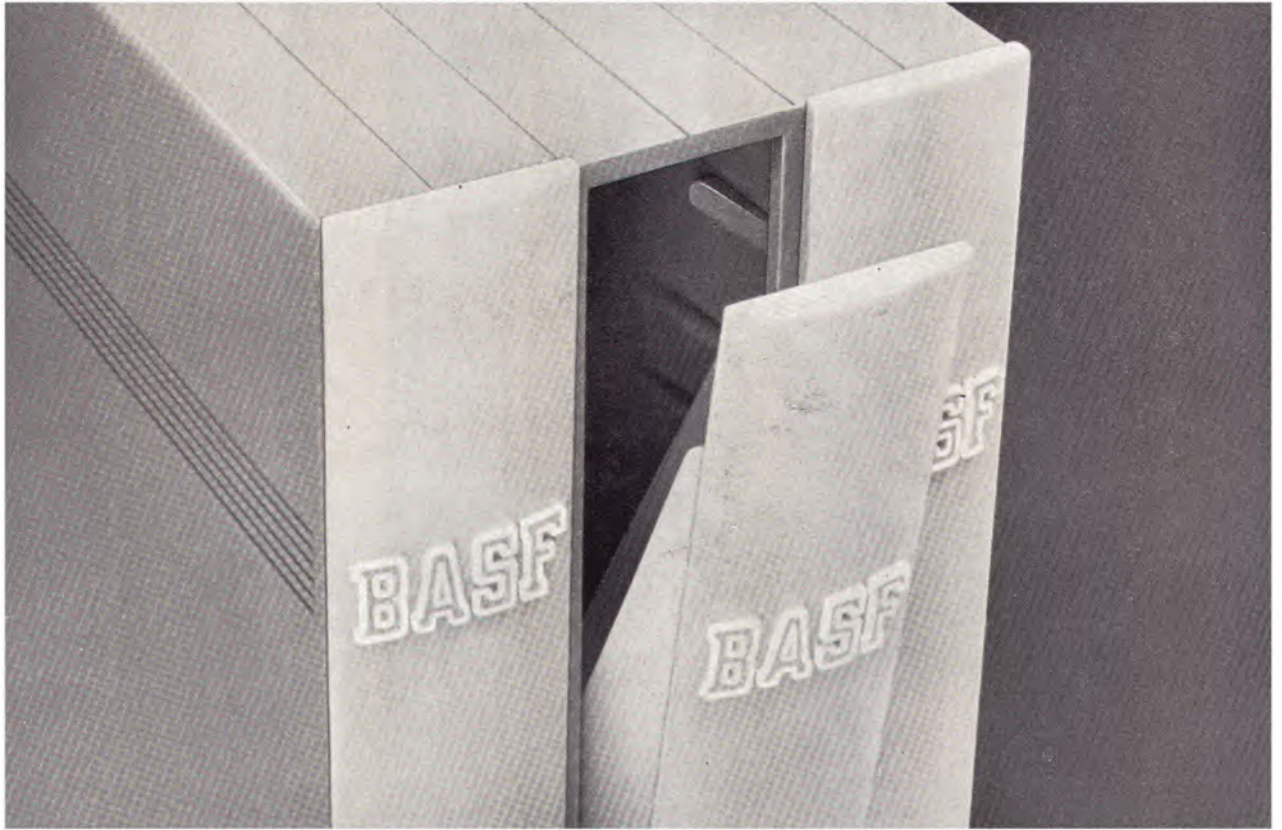
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NOW—TAKE A GUESS AT THE PRICE. 70 guineas? 59 guineas? 65 guineas? Well, by the sight and sound of it, the Truvox 'Series 40' should certainly be somewhere in this price range. But remember that this amazing new recorder is a real break-through in TR design and development the first professional recorder with an amateur price tag!

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HOWARD

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Brand 'A'	- 3.5	- 5.1	- 3.8	+ 5.5	75	52
Brand 'B'	- 0.3	- 5.0	- 2.3	+ 2.4	74	55
Brand 'C'	- 1.0	- 5.7	- 1.7	+ 2.4	74	54.5
Brand 'D'	- 2.8	- 10.9	- 3.5	- 1	72.5	55
Brand 'E'	- 1.9	- 4.7	- 5.0	+ 4.3	76	51.5
Brand 'F'	- 0.5	- 5.0	- 2.9	+ 2.6	78	54.5
Brand 'G'	- 2.3	- 4.8	- 3.0	+ 4.6	75.5	55
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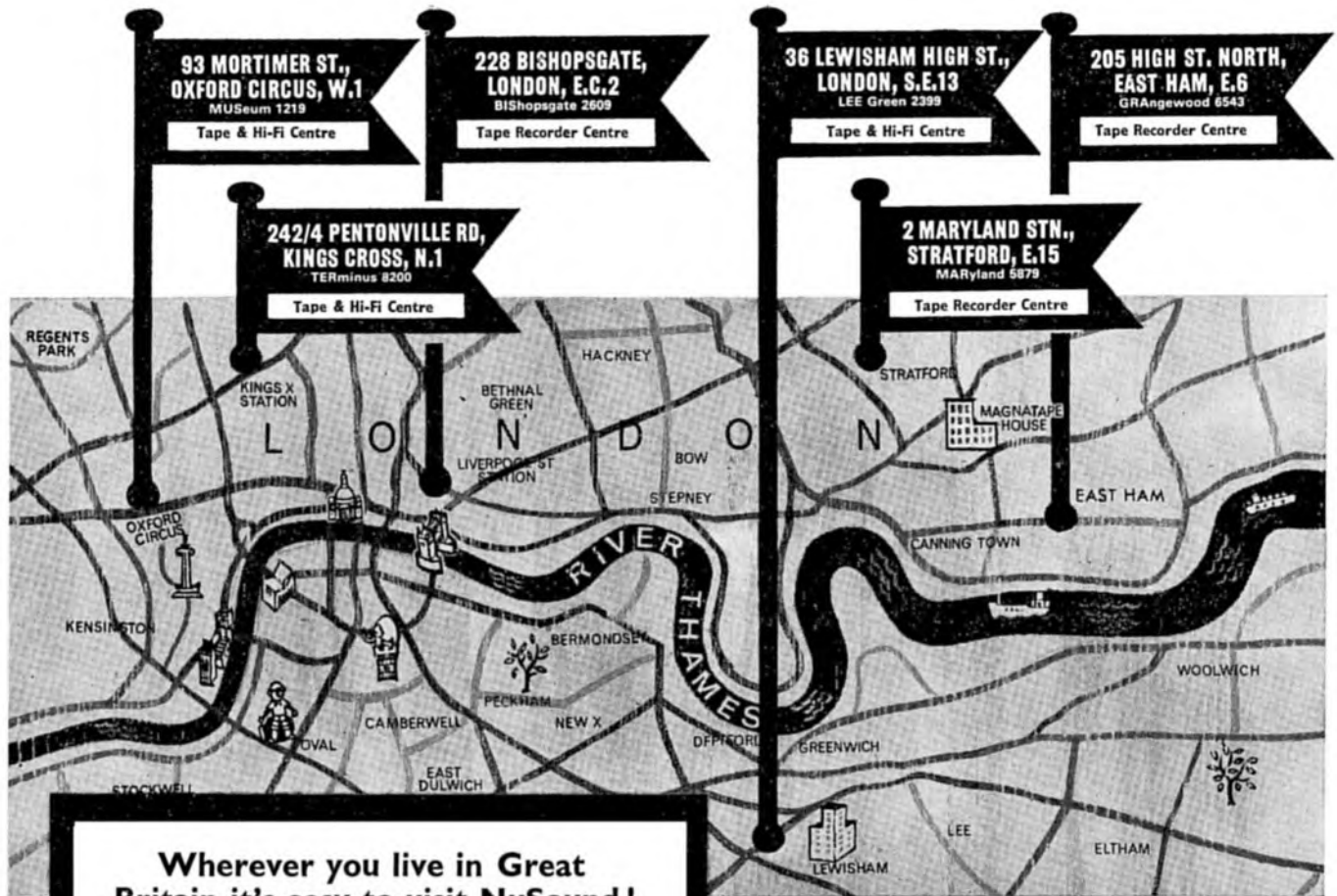
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THIS MONTH'S



FEATURE

Brenell

Brenell



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SERIES 3**

BRENELL MARK 5, Series 3, 4 speed (1½, 3½, 7½ and 15 ips) mono tape recorder, 3 Papst motors, low wow and flutter content, 8½in dia. reels, fast rewind (1,200ft. in 60 secs.) **Price: 74 gns.**



**MARK 5
TYPE M SERIES 3**

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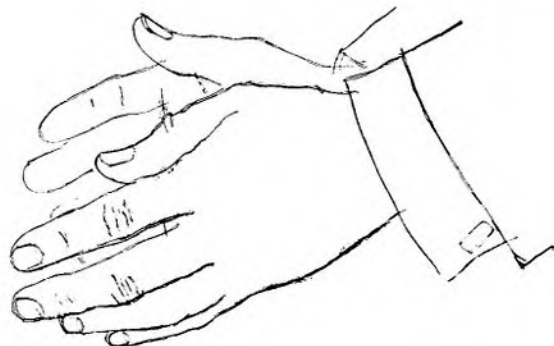
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got to
hand it to
them**



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AUTHENTIC SOUND EFFECTS, a series of eight complete tapes which include some forty different sounds on each tape. Just the thing for the creative tape recordist or film maker.



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Please send information on PICKWICK SOUNDS and MUSIC TAPES Sampler.

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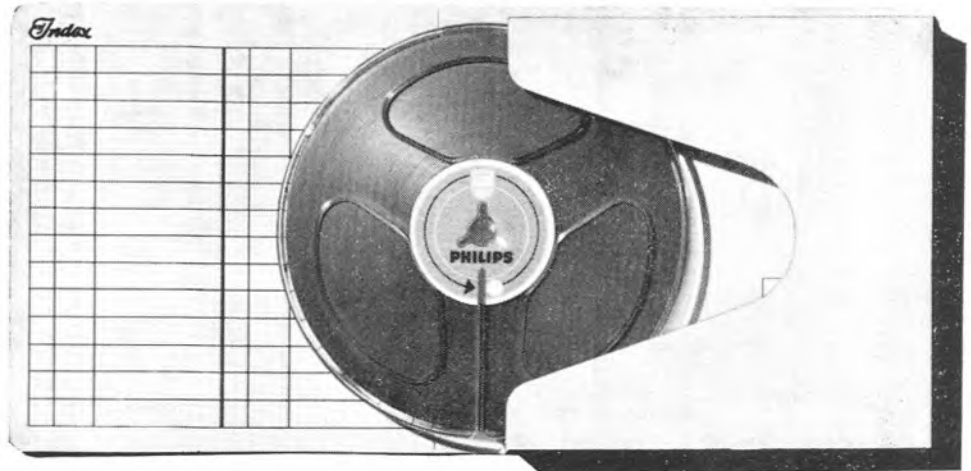
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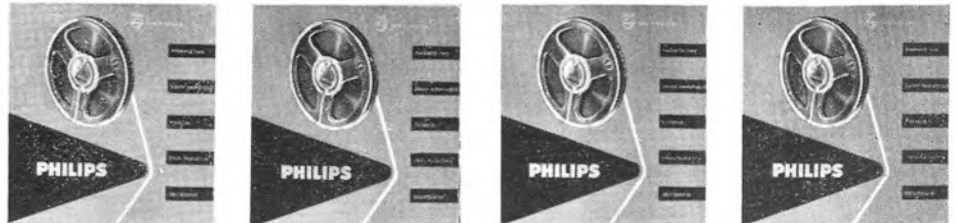
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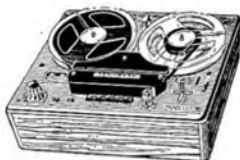
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Price 110 gns. each.
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Stereo/mono tape
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Three speeds — dual
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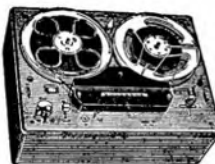


SERIES

7

SERIES

8



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(teak case) **54 gns.**
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Model 843 4 track
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High class monaural tape recorders suitable for
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($3\frac{3}{4}$ and $1\frac{7}{8}$ I.P.S. speeds — 7" reels).

Model 92 2 track only
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High class monaural 3
speed ($7\frac{1}{2}$, $3\frac{3}{8}$, $1\frac{7}{8}$ I.P.S.)
tape recorder, with quality
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reliable machine
recommended for all
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SERIES

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TAPE

RECORDING
MAGAZINE

Vol. 10

No. 1

January 1966

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COVER PHOTOGRAPH: Our cover this month shows contributor John Aldred using a Synchroflex 16mm magnetic recorder coupled to a Bolex H.16 camera. This 'double-film' system enables lip-sync. sound to be recorded by both amateurs and professionals with inexpensive equipment. The Synchroflex is further described in the special feature on "Tape and Cine" on page 13.

"TAPE Recording Magazine" is published on the third Wednesday in the month, by Print and Press Services Ltd., from 7, Tudor Street, London, E.C.4.

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Back numbers, if still in print, are available at 2s. 6d. per copy.

Address all communications

7 TUDOR STREET, LONDON, E.C.4

EDITORIAL

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LUDgate 9088

Assistant Editor,
FRED CHANDLER

Tape trends and tape talk

By the Editor

I HAVE JUST SEEN the first big-company magazine advertisement for a video tape recorder marketed for home use. It appeared in the United States a few weeks ago. "With the Sony Videocorder you can record any television show . . ." it announces boldly. "The tape can be spliced, so if you'd like to put yourself on the Hollywood Palace, you're on. . . . With the optional camera you can tape and play back instantly, sight and sound. . . ."

The one thing we're not told is the price! I believe, however, that the recorder is being offered in America at 995 dollars—just over £350.

To keep it down to this price, Sony have sacrificed the facility to record from *any* TV receiver and instead include a miniature TV set as part of their product which uses a scanning system with fewer lines per inch than the conventional American TV set. It is claimed that this does not seriously affect picture quality.

There is no news about when we may hope to see the video recorder in Britain.

According to an investigation made by another United States firm, Par Ltd., there is a big market open to manufacturers if they can hit the right price target. This firm claims to have evolved a system by which it is possible to record and reproduce good video signals at 60 ips with a fixed head system, and to be making progress at 30 ips. So they promise a recorder to retail

at less than 600 dollars—about £215— and believe they could sell 100,000 of them in the first year.

This firm further forecasts that by the end of 1967 the colour video recorder will be available, but it sees such scope for sales to industry, commercial concerns, institutions and such like that it is not bothering with the domestic consumer.

It all adds up to an exciting prospect. The prospect, of course, has been with us a long time—I recall an executive of E.M.I. telling me six years ago that they were well advanced with a video recording system—but we are clearly close to delivery, at last.

THE AUDIO FESTIVAL AND FAIR will be at the Hotel Russell in London again next year. Director Cyril Rex Hassan reported to a recent luncheon of exhibitors that alternative proposals had been investigated for 1966, but that the Russell was still the best available venue.

But the upstairs layout is to be reorganised for the next Fair. So many people have crowded through in past years, that the greatest possible improvement would be

We extend cordial Seasonal
Greetings and Best Wishes
for 1966 to all our readers

LAUGH WITH JEEVES



"Oh, we couldn't have got lost Dad. We borrowed your recorder, and left a trail like Hansel and Gretel!"

more space. So, Mr. Rex Hassan has booked an additional floor of the hotel. On the fifth floor firms whose demonstrations require better listening conditions will now be able to escape the extraneous noises of the crowds.

Dates for the 1966 Audio Fair: Thursday, April 14, from 4 to 9 p.m., Friday and Saturday, from 11 a.m. to 9 p.m., and Sunday, April 17, from 11 a.m. to 8 p.m.

And if you want a new diary in which to note the dates, Link House Publications have just produced, at 7s. 6d., an "Audio Diary" with 56 pages of audio background information.

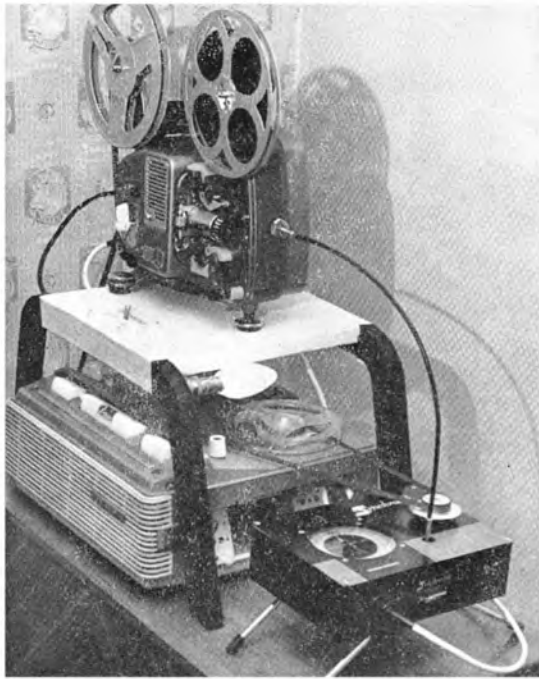
IT WILL BE RECALLED that the 1965 "Tape of the Year" was produced by a group of undergraduates at Oxford. Thumbing through the correspondence and papers arising out of the entry, I came across the name of Nigel Rees, now the President of the Oxford University Broadcasting Society.

Nigel Rees was probably the youngest-ever entrant in the British Amateur Tape Recording Contest—I think he was only 13 when he first submitted a tape, and was highly commended for its quality. He has also contributed to our pages.

He has one more year at New College, Oxford, and then he hopes to get a job in television.

The Oxford University Broadcasting Society was formed in 1962 to provide a meeting point for undergraduates interested in broadcasting, and its meetings are regularly addressed by the top men in radio and TV. It also visits studios whenever possible. It also "offers every encouragement to members interested in experimenting in the production of programmes on tape, culminating in the annual Recorded Cuppers competition held in March each year."

In fact, the 1965 "Tape of the Year" had already won this Recorded Cuppers event.



In this special feature, 'Tape' takes a look at the various ways of synchronising tape recording with film projection; recalls how the pioneer inventors managed over 60 years ago; and, on page 26, provides a test report on one of the available synchronising units.

Sound recording for cine

By JOHN ALDRED

SOUND RECORDING FOR CINE

YOU have only to witness a silent film show to appreciate the fact that home movies without sound are barely acceptable today—due mainly to the effect of television on our affluent society. But since film sound tracks can be compiled in many different ways, limited only by the skill and ingenuity of the recordist, there is no reason why your own personal movies should remain silent any longer.

There is nothing like the thrill of seeing and hearing your first sound film, although do not make the mistake of being too ambitious at the outset. For example, don't rush headlong into a complicated story film with lip-synchronised dialogue until you have achieved success with more simple subjects.

Why not make a start by examining closely the sound track of a professionally-made film. You will find that this consists of many different sounds occurring simultaneously, including music, dialogue or commentary, foreground effects, and background effects, all carefully prepared on separate reels of magnetic film and running in synchronisation with the picture. Each component sound will have been balanced for volume level and tonal quality, and then welded into a final composite sound track by a re-recording process.

This multiple track technique is not really a practical proposition for the average amateur, since it requires possession of a number of synchronised repro-

ducing machines. But the ways of the professional can be adapted to the needs of the amateur, such as preparing multiple tracks on a single magnetic tape which can be synchronised with your 8 mm, 9.5 mm, or 16 mm projector.

SYNCHRONISATION

Since all recordings for cine must be carried out to an extremely accurate time scale, synchronisation is all important. You must make sure that whenever you show your films, the sound track will fit the picture as accurately as it did when you originally made the recording. The degree of synchronisation required actually depends to a certain extent on the type of sound track you wish to record. For instance music and commentary will usually appear to be correct if they remain within two or three seconds of their correct place; but sound tracks containing highly synchronised effects or dialogue must be kept correct to within one frame of picture, or at least

1/16th of a second. This allows no tolerance at all between projector and tape recorder, assuming that you are utilising your recorder for your sound track.

I say this because there are two basic systems of magnetic recording for films, tape and stripe. Tape requires a special synchronising projector, which is speed controlled by the tape itself passing through a synchroniser, or a special synchronising attachment if your projector has not got one already. Stripe entails purchasing a special magnetic recording projector, and having an iron-oxide coating applied to the edge of your film after editing. The advantage of stripe is that synchronisation is automatic during every film show, whereas tape is apt to lose synchronisation occasionally, especially if you change projectors. Below is a list of available equipment to help you make a choice.

TAPE SYNC ATTACHMENTS

Tape sync attachments are actually losing favour, and in fact some manufacturers have already discontinued making them. But they have been around for the past ten years or so, and some of the more popular units still remain. From Austria comes the Eumig Phonomatic, a complete 8 mm projector with synchroniser attached, from Great Britain the Specto and Synchrodek attachments—the latter fitting almost any projector, from Germany the Noris Synchroner projector and Bauer tape coupler, from France the Heurtier synchroniser, from Japan the Elmo synchroniser, from Czechoslovakia the Meopta tape coupler, from Russia the Luch, and from Switzerland the Bolex synchroniser. All in all a truly international range.

The normal tape speed used with these units is 3½ ips, although some of them will accept 7½ ips as an alternative. The actual projector speed at which synchronisation takes place is 16 frames per second, so this

(Continued on page 14)

PRICE LIST OF TAPE SYNC PROJECTORS AND ATTACHMENTS

	£	s.	d.
Bauer Coupler	27	10	0
Bolex Synchroniser	25	0	0
Eumig Phonomatic			
Projector	49	15	0
Elmo Coupler	19	19	0
Heurtier Synchroniser ...	13	10	0
Luch Synchroniser	6	6	0
Meopta Coupler	10	9	6
Noris Synchrona Projector	54	19	6
Specto Synchroniser	12	12	0
Synchrodek Unit	19	19	0

TAPE AND CINE

(continued from page 13)

is the filming speed you should aim for when using tape sync systems for your sound track. Of course if your projector has a constant speed induction motor to drive it, you may find that a sound track on your tape recorder stays sufficiently in sync for your needs, providing you place start marks on both tape and film. In which case you will not need a synchronising unit. But if your projector has a variable speed motor of the AC/DC type, then you will certainly need one.

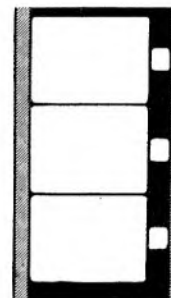
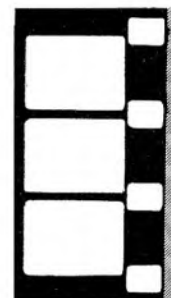
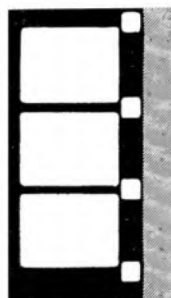
Before attempting to record an important sound track, make sure exactly what your equipment can do. In other words, do not aim for a higher degree of synchronisation than can be efficiently maintained. Allow sufficient leader on your film to permit the projector to reach its correct running speed, and for the tape sync unit (if used) to become stabilised. Some units, such as the Bauer, require the recorder to be started first—the projector being switched on later by a relay. But usually a micro-switch inside the projector starts the motor as soon as you press the start button on your recorder. It should be possible to keep good synchronisation, even with films lasting thirty minutes or so. But tape stretch and tape slip at the synchroniser capstan can upset the most accurate calculations.

In an effort to overcome these defects, perforated Cinetape has been developed with 16 perforations every 3¼ inches. The idea behind Cinetape is to provide a positive "interlock" between tape and projector, using a special sprocket on the tape sync unit. Cinetape is used in the normal way through your recorder, whether you own a twin-track or four-track model, and 100 per cent synchronisation is guaranteed.

STRIPE PROJECTORS

1966 may prove to be the turning point where separate tape systems take a back seat and stripe projectors take a leap forward. This state of affairs is being dictated by equipment manufacturers, who are offering new stripe equipment in ever increasing quantities. Stripe is eminently suitable as a projection system, since only one piece of apparatus has to be set up for a show. With your sound recorded on the same piece of film as your picture material, there is little chance of losing synchronisation. Further-

Diagrams to show how Format M (left) differs from Standard 8 (centre) and Super-8 (right). The large sprocket holes on Standard 8 have been shrunk to give a bigger sound track on Format M, and to give a bigger picture on Super-8.



more you can show your film on any 8 mm sound projector, since there is an internationally agreed distance between a picture frame and its corresponding sound of 56 frames—known as the sync separation interval. With the 16 mm film gauge this distance is 28 frames.

When the magnetic stripe system first appeared some years ago, it got off to a bad start and gave itself an equally bad name. The sound quality of the early machines

was poor by comparison to even a cheap tape recorder, and the magnetic heads themselves had a very short life. This was due to the excessive wear caused by stripe, which is far more abrasive than quarter-inch tape. New alloys such as Alfenol were developed to overcome this, and improved amplifier systems in the latest projectors have stepped up the quality considerably. Of course the quality from stripe is still rather limited, around 60-8,000 cps at a film speed of 24 frames per second, owing to the slow linear speed of the stripe past the record/replay head. But the convenience of stripe is what matters to most people, since a film sound track is only part of a film and not an exercise in hi-fi.

8 MM

Below is a list of current stripe projectors, together with a brief specification of each one. It should be borne in mind that the

nominal speed of a stripe projector is 18 frames per second, not 16 frames, with 24 frames per second offered as an alternative. This latter speed follows professional standards, and is used mainly for showing library films which are optically reduced from 35 mm originals.

Quite apart from their recording capabilities, these projectors differ in mechanical and optical details. For example some give a more brilliantly illuminated picture than others, whilst the actual definition on the screen can vary according to the type of lens in use.

The Eumig, although one of the cheapest models, offers excellent illuminations by using a miniature Iodine-Quartz lamp. The illumination on the Kodak machine is boosted by the use of a wide aperture lens. Generally speaking, a lens of fixed focus gives a better picture than a "zoom" type lens of varying focal length. Also the larger the aperture the more difficult it is to obtain a good edge-to-edge focus. Almost all stripe projectors are capable of running forwards or backwards with film threaded, but the stripe is usually lifted clear of the record/replay head(s) when running in reverse. An erase head is always fitted, although the distance between it and the record head varies considerably from one projector to another.

STRIPE AND SUPER-8 MM

The possibility of further 8 mm stripe apparatus now seems rather remote, due to the recent introduction by Kodak of a new film format called "SUPER-8 MM." This is 8 mm completely re-designed, with a much larger picture, smaller sprocket holes, and a magnetic stripe applied on the other side of the film away from the sprocket hole area. But the stripe dimensions remain exactly as before, which is 0.03 inches wide located 0.008 inches away from the film edge.

One significant change is the picture to sound sync separation. This has been reduced from 56 frames to 18 frames,

CURRENT STRIPE PROJECTORS

	PRICES		
	£	s.	d.
AGFA: Two audio inputs with built-in mixer, superimpose button on microphone, monitor circuit, output—4 watts	204	3	6
CARENA: Two audio inputs with mixing, tape or direct monitor, third head for echo effects, transistorised, output—3½ watts	149	19	6
EUMIG: Two audio inputs, AVC and automatic mixing, no monitor, built-in loudspeaker, extension sockets, output—2 watts	99	10	0
HEURTIER: Two audio inputs with mixing, superimposition, tape or direct monitoring (three heads), output—6 watts	154	0	0
FUJI: Two audio inputs, transistorised, output—2 watts	126	0	0
ELMO: Separate three-channel transistorised mixer, monitoring circuit, printed circuit main amplifier, output—10 watts	169	10	0
KODAK: Two audio inputs on one control, no superimposition or monitor, output—2½ watts	185	0	0
RICOH: Two audio inputs with mixing, monitoring (direct only), output—2½ watts	139	15	0
SILMA SONIK: Two audio inputs with mixing, variable superimposition, monitoring circuit, output—3½ watts	139	10	0
SILMA SOUND: Two audio inputs without mixing, three-digit counter, superimposition, transistorised amplifier, output—4 watts	105	0	0
TOEI: Separate record amplifier with two audio inputs and mixer, monitoring, output—6 watts. Replays magnetic and optical sound	99	10	0

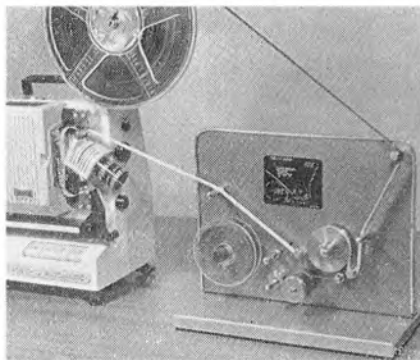
In the early days

By David Cleveland

THOMAS EDISON was one of the first men to conceive the idea of adding sound to moving pictures, just before the turn of the century. He connected his Phonograph to his new Kinetoscope, and enhanced his moving pictures (a series of stills shown in quick succession) with recorded music. The listener heard the music through acoustical ear tubes, whilst looking into a kind of

mainly to assist designers of cassette loading automatic projectors which are on their way to us. Another factor with Super-8 is the slightly increased height of each frame, which effectively raises the linear film speed by some 10 per cent. This has the effect of raising the high frequency response by about 500 or 600 cps at 18 frames per second, and 800 cps at 24 frames per second, giving a marginal increase in sound quality.

It is anticipated that all new equipment from now on will be in the Super-8 gauge, such as the latest Eumig Super-8 stripe projector. It is not physically possible to



The Harringay home striping machine, with a projector supplying the motive power

use 8 mm films on Super-8 equipment and vice versa; although there is the possibility of dual gauge projectors appearing before very long.

STRIPE YOUR OWN FILMS

The usual system for obtaining a magnetic stripe on your films is to send it away to a specialist firm offering such a service, such as Zonal Film Facilities, Westfields Road, Acton, W.3, or E.V.T. Magnetics, 333, Broadway, Bexleyheath, Kent. The cost is approximately 2d. per foot for liquid stripe, and slightly more for a laminated type of

(continued on page 24)

“What-the-butler-saw” device. At this time he made no attempt at synchronisation.

However, one day whilst Edison was away, his engineer William Dickson made what was probably the world's first “talkie.” When Edison returned he was taken straight to the “Kinephone” to view a scene with Dickson in it.

Dickson walked across the room, raised his hat, and at the same time his voice was heard to say “Good morning, Mr. Edison, glad to see you are back.” This was an attempt to make a sound record at the same time as the picture was taken.

For the next five or six years there was a lull in “talking pictures” activity, but in 1902 several inventors produced systems of synchronising a flat gramophone record (of the type developed by Berliner) with a film projector. Messrs. Walker, Turner, and Dawson introduced their own Walturdaw equipment, called the Cinematophone, consisting of a Walturdaw projector, Auxete gramophone with a Parson sound box, and a special synchroniser. This worked extremely well, with almost perfect synchronisation.

At the same time Leon Gaumont, who founded the original Gaumont-British Company, was working along the same lines. After several attempts with synchronised electric motors, he finally came out with his Chronophone. His production methods were quite simple. First a wax disc was made, after which the performer was filmed miming his words to the sound of the record. Gaumont featured many stars singing their own songs, including the great Harry Lauder with his “I love a lassie” and “Stop your tickling Jock,” as well as films of Indian tribal life and native dances. By using the Auxete gramophone equipment, which amplified sound by means of compressed air, Gaumont was able to show his films to a large number of people at a time.

In fact the problem of how to get the sound loud enough was as difficult for these pioneers as accurate synchronisation. There were no valve amplifiers in those days, and one inventor fitted every seat in his cinema with earphones which the audience had to wear if they wished to hear the sound. Another connected a projector at the back of the cinema (there were no projection boxes) with a gramophone at the side of the screen by means of a rod which ran under the cinema floor. The hired operator who turned the whole contraption by hand had to be a strong man!

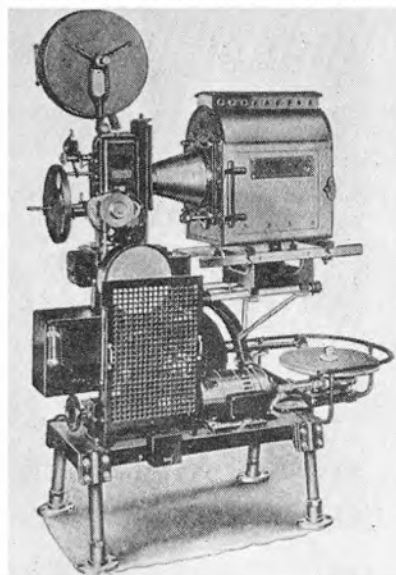
The year 1906 saw an entirely new system of actually photographing sound on film. This optical sound was invented by a Frenchman, Eugene Lauste, who had once worked in Thomas Edison's studio. Although born in France, he actually invented his sound film in England. It was a similar looking sound track as is used today, except that Lauste used half the width of his film for sound and half for the picture. He fed electric currents from a microphone to make a tiny shutter vibrate in front of a lamp. Its flickering shadow fell on the film as it went through the camera, and thus photographed sound for the first time.

In order to reproduce his films, Lauste invented a projector containing a selenium cell. The sound track on the film passed in front of a lamp and threw shadows on the cell, which were promptly changed back into electrical sound impulses. The pity of all this was that nobody could use his invention because of the patent rights he had secured.

So between 1906 and 1912 there was a

further lull in activity. But in 1912 and 1913 many patent applications were made for sound and picture synchronisation systems, mainly with a photographic type of sound track. The first Great War put a temporary brake on proceedings, but the early '20s brought renewed interest in “talking pictures.” The art of synchronisation had been mastered, but the problem of sound amplification remained.

Nothing much more happened until August 26, 1926 when Warner Bros., who were attempting to ward off bankruptcy, introduced as a novelty in New York the film “Don Juan” with a synchronised musical score. It was widely advertised as the first feature length film with sound accompaniment, and was preceded by a synchronised picture of Will H. Hays welcoming sound to the screen. But the real



A Western Electric 35 mm projector (circa 1928), used for showing films with sound-on-disc or sound-on-film

sensation in the film world was the first showing of the “Jazz Singer” in 1927. Al Jolson actually singing and talking!

The sound was still on a synchronised discs, but there was a remarkable improvement. It was the use of an amplifier, like those used at the time in telephone and radio, which had solved the greatest difficulty—sufficient volume of sound to fill a large theatre.

Incidentally these were rather special gramophone records, 16 inches in diameter and running at 33 $\frac{1}{3}$ rpm. The needle was placed on a special Start mark on the inside groove, and travelled towards the outside. With a groove spacing of 96 to the inch, it was possible to make them last as long as the 100ft. reel of picture film. If the picture happened to break or become damaged, black spacing was cut in to maintain synchronisation.

It was only a question of time before sound on disc was replaced entirely by the sound on film system we know today. But during the early days, projection equipment had to be capable of running films with either type of sound track, and the Western Electric projector illustrated is typical of the 1928 period. It seems rather ironical that the man who made the modern talking picture possible, Eugene Lauste, did not live to reap the benefits of his invention. He had allowed his patents to run out, and died in 1925—poor and forgotten!



WHO SAID BEAUTY AND BRAINS DON'T GO TOGETHER?

This great new tape recorder is best in its price range for performance and looks!

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(PTRO129)

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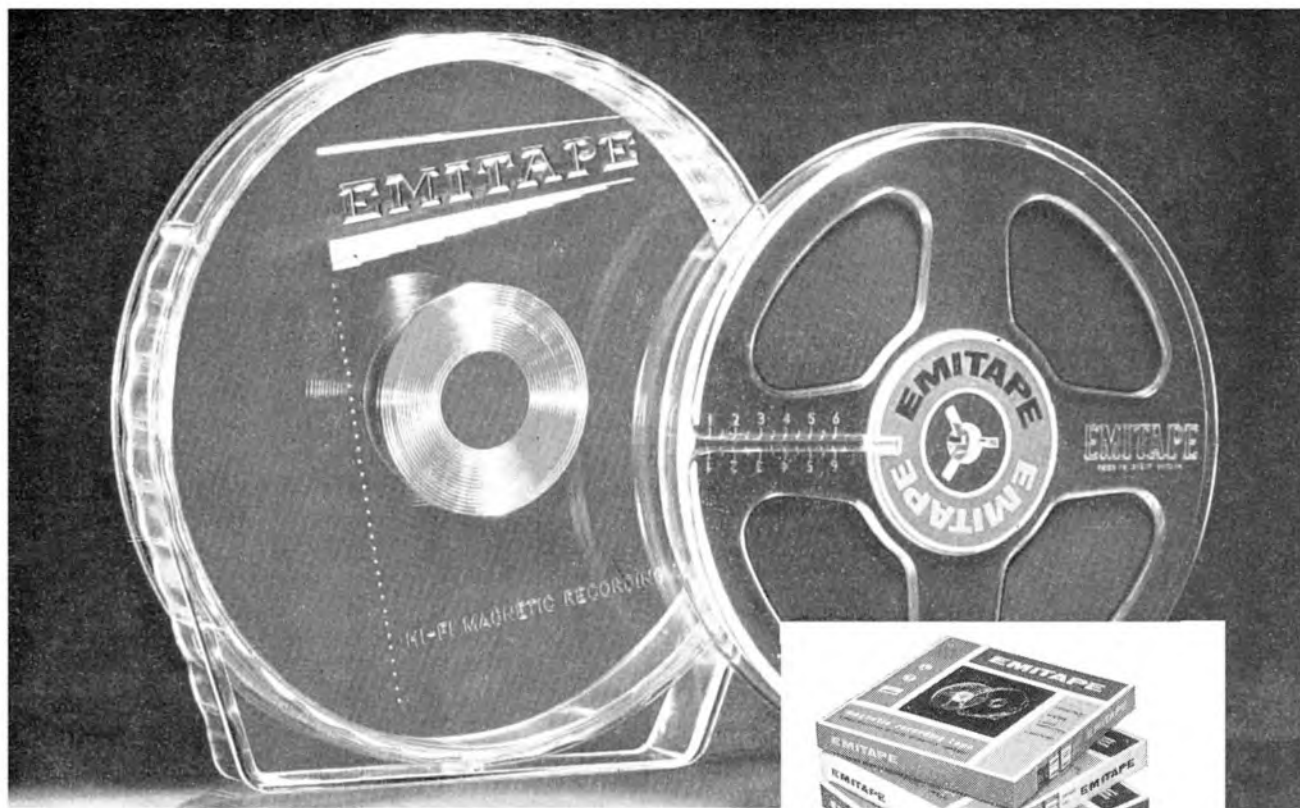
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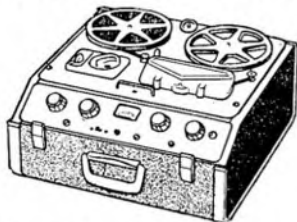
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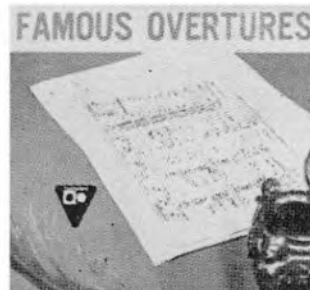
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MAY this column take the liberty of wishing all its readers the Compliments of the Season? As this is its very first appearance in print it didn't actually have any readers until this moment. Welcome to the club.

The intention of this column is to express opinions without fear or favour—to bestow praise, criticism or comment under neither restraint nor influence. So let us first praise an enlightened editorial policy for giving this outspoken columnist the freedom of its pages.

Do I see tears of gratitude sparkling in the rheumy old editorial eye as it glints in the stygian depths of Fleet Street's caverns—or should it be taverns? No, I do not. Only a cry of anguish disclaiming responsibility for contributors' statements. And as a first courageous act much time was spent deciding on a nom-de-plume under which to cloak the writer's fearless identity. I never was in favour of personal violence.

Let's drink a health to the manufacturers, that band of happy philanthropists devoting their lives and energies to the production of better and still better equipment at lower and yet lower prices. Your very good health, gentlemen! Let no words of the Consumer Association relating to their review of tape recorders costing between £25 and £45 as published in the November issue of *Which* intrude upon your Yuletide festivities. But you and I, members as we are of a gullible public, should study this report carefully.

Especially read and then read again its concluding paragraph. This states, quite clearly, that demanding people will not be satisfied with even the best of the machines tested and such customers should look outside that price range. Why "demanding" people will not be satisfied? As the cash customer, have we not the right to demand? And at what stage does the unhappy purchaser wake up and start demanding? I'll tell you. Just as soon as the novelty has worn off and he realises that his modern styled box of miracles is not quite so wonderful after all. After a few more weeks of gathering dust it's consigned with unwanted coats and battered suitcases to the limbo of the loft.

The public has a right to expect quality in the products it buys. In this instance that word quality means performance. Those refined and tactful words in *Which* can be translated to mean that someone, somewhere, is handing forty-five one pound notes over a counter and is buying disappointment.

Here, too, is a health to my old friends of the Mechanical Copyright Protection Society Limited. I'm just wrapping up a bottle of my best home-made poison-ivy wine for dispatch to Streatham. They do their job well—too well. That's my complaint. Composers, and authors too for that matter, are rightly entitled to the protection of their copyright material. But surely we could have a more rational approach to the problem?

Since they are prepared to issue clubs with special licences for a nominal fee, why not offer a dispensation releasing amateurs from their obligations under the Copyright Act where material is being used other than for profit or commercial gain.

To the writer's simple mind this seems an obvious solution that could do no real harm. As a gesture of good faith all rights under the Act in respect of this column are hereby

CROSS

TALK

relinquished. These words may be copied, read, recorded or set to music by any amateur for his own amusement or entertainment. Beware! My private eyes will be touring the realm looking for abuses of this generous offer. Defaulters, expect the full rigour of the law to fall upon your sinful heads.

MY last Christmas toast is to a dealer. I recently sent him a customer who purchased, on my recommendation, a second-hand Brenell for about £60. The machine was very satisfactory indeed. Mr. Dealer—after I'd received a frantic S.O.S. complaining that play-back was barely audible. Hardly surprising as the heads were completely gummed up with an accumulation of oxide that looked as if it had never been removed in the whole of its history. Is it too much to ask for such a simple service to be given before a machine is handed over the counter?

"This dish of meat," said Isaac Walton, "is too good for any but anglers or very honest men." If we said the same of our Christmas dinner I wonder how many of the people we have discussed today would be entitled to a share? Oh well, perhaps they're ALL fishermen.

NOW FOR THE New Year Resolutions Ugh! Why are they invariably, "Thou shalt not"? It's just about the worst possible time to resolve to do anything, except perhaps to spend more time by the fireside. Dreaming. That's not such a bad idea. Let's do some day-dreaming. The perfect recording session. Equipment, facilities, artistes, everything. Just as we would wish. As fantastic, as complex, as impossible, as you like.

If you care to write to me care of the magazine, describing your day-dream in not more than one hundred words I'll sort out the best and include it in a future edition of this column. No prize, but at least it will be fun. Don't forget, you can really go to town on this one and let your imagination run riot. But please, please do not expect an acknowledgement other than through this page. I'm expecting a deluge...

THERE'S something of a war going on, so I hear, amongst the tape manufacturers. This one offers free plastic boxes so that one offers free plastic cases. None have yet, to my knowledge, offered free plastic roses. Brother, it's your money they're after.

Which is the best tape to buy? The only honest answer is the tape that is best suited to the bias adjustment and transport system on your machine. Which tape is

that? Answer, the tape the manufacturer recommended, or its equivalent. Why? Because your machine *should* have been pre-set to give best results with that tape. So don't be taken in by free gifts.

The tape you buy to acquire them may be, intrinsically, of the highest quality—but it may not be suitable on your own equipment. Always check first with a small spool of the make and grade you intend to buy. If the result is satisfactory go ahead and collect a gross of plastic boxes if you like. If it's not satisfactory don't blame the tape as rubbish, but just make a note not to buy it and try another brand. Personally, I just love to have my tape given to me...

TAILPIECE. A friend of mine has just spent very much more than one hundred pounds on recording equipment. It is destined to be used for recording one programme only, running time about half an hour. It will take the form of a sound track to couple with a film-slide show. This person has already spent some five years on the photographic work, and it's not yet complete.

How long does she expect to spend on the sound side? "Oh!" says she cheerfully, "that's not nearly so difficult. Two or three years should see it through." And then as an afterthought, "As long as we don't run up against any snags." Was it Einstein who said that time is relative?

TAPE HANDBOOKS

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Advice on Buying a Tape Recorder by J. F. Ling.

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Introduction to the Tape Recorder by C. Langton.

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Sound Effects on Tape by Alan Edward Beeby.

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Tape and Cine by John Aldred.

3s. (U.S.A. \$0.70) post free. With practical advice on synchronising methods, etc.

How to Record Weddings by Paul Addinsell.

3s. (U.S.A. \$0.70) post free. Illustrated. Covers preparation, mike positioning, equipment, etc.

Hi-Fi for the Music Lover by Edward Greenfield.

3s. (U.S.A. \$0.70) post free. Aims at giving the music lover basic technical know-how.

How to Make Money with Your Tape Recorder by Henry Woodman.

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TAPE AND CINE

(Continued from page 15)

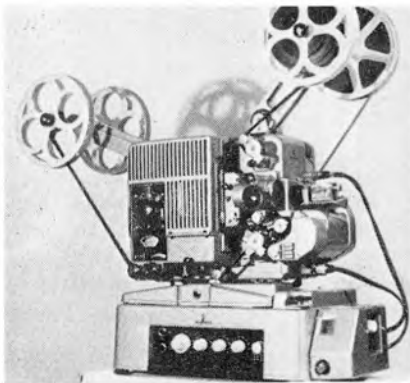
stripe. The laminate is actually a narrow strip of acetate based tape which is permanently cemented on to the base of the film.

Inexpensive striping machines are now available for carrying out this laminated striping operation at home. The Harringay Photographic model (illustrated) requires a projector to pull the film through, whilst a trough of special adhesive gives a good bond between film and stripe. The cost of the machine is £9 10s., and a 100 ft. reel of film can be striped for only three shillings. Another machine is the Supersound Striper, which operates on the same principle and costs £12 10s.

Liquid striping is a highly scientific process, and requires quite an elaborate machine as well as an experienced operator. It is certainly not the thing to have around the house.

USING STRIPE PROJECTORS

Although stripe projectors have amplifiers with two inputs, these are arranged very much like any tape recorder, i.e., one microphone and one gram input. This means that one is limited to these sound sources when recording, unless one compiles most of the sound track on tape first. A simple re-recording process on to stripe, whilst adding further material if necessary, is considered the best method to adopt.

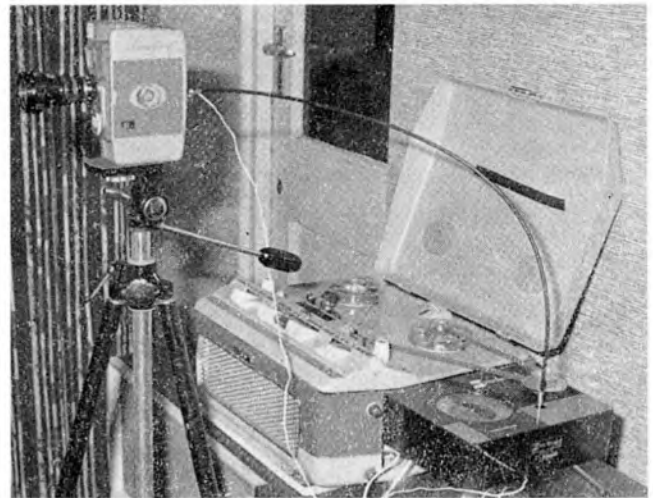


The Siemens 2000 double-band projector for running separate picture and sound films in sync

So your tape recorder is really indispensable, even though you intend to finish up with your sound on magnetic stripe. By pre-mixing music and sound effects on tape, editing where necessary to assist synchronisation, a background track can be compiled in the manner of a normal feature tape. Commentaries can be recorded directly on to stripe, at the same time adding the tape pre-mix, and quite a high degree of synchronisation can be achieved by starting recorder and projector simultaneously—even over 10 to 15 minutes. But in cases where sound is being compiled for a very long film, the previously mentioned Synchronodek unit can be employed to permit the tape itself to control the projector speed.

The microphone cables supplied are astonishingly short, and usually require lengthening in order to get away from the noise made by the projector mechanism. If this is found to be too intrusive, it is prudent to "tape" the commentary without the projector running, and then feed this tape into

A Yashica 8 mm camera set up for shooting lip-sync sound with a Synchronodek unit and Philips tape recorder



the projector amplifier section by section—using the recorder pause control.

There is really a lot more to be said on the subject of sound recording for cine, but no amount of words can ever take the place of practical experience. For it is only by actually carrying out the various processes outlined above that one can assess the problems, and develop one's own ways and means of overcoming them.

LIP-SYNC SOUND TRACKS

So far I have only discussed sound which is post-synchronised, that is recorded to an already edited picture. When sound recording is contemplated at the actual time of filming, the methods adopted and the equipment used changes rapidly.

Consider 8 mm and Super-8 first, there is currently no equipment on the market designed expressly for the amateur user. Therefore a little ingenuity has to be exercised to be able to record lip-sync sound at all: Providing you use an electrically driven camera, and record on perforated Cinetape type A, the much favoured Synchronodek unit will successfully keep tape recorder and camera in synchronisation. But you will require an electrical and mechanical coupling between camera and Synchronodek, and also a slight mechanical modification to your camera. This entails an extension of one of the shafts to connect up with the Synchronodek flexible coupling. My illustration shows a Japanese Yashica camera and Philips tape recorder set up to record lip-sync sound.

When projecting, the same Synchronodek unit can be employed to synchronise tape recorder and projector, as I have already mentioned earlier in this article. This is the only practical system on 8 mm, and one which gives 100 per cent satisfactory results. There is an outfit available in the USA called the "Camera-Corder," which employs ordinary quarter-inch tape and pulse techniques for synchronisation. You send tape and film away for processing, and your sound is returned to you already synchronised on magnetic stripe alongside the picture. But this system, although intriguing, is not available in this country.

On the other hand, 16 mm users are more than well catered for regarding equipment. One of the most practical outfits is the British made Synchronoflex recording attachment, which can be used with any Bell and Howell 70 or Bolex H16 camera. Recording takes place on 16 mm magnetic film and a mechanical coupling between Synchronoflex and camera ensures that synchronism is never lost. The whole outfit is motor driven,

using a 24-volt battery supply, and a transistorised speed control unit permits any filming speed from 16 to 28 frames per second to be used. A small transistor record/replay amplifier, with tape or direct monitor, gives good quality recordings with a flat response of from 50—10,000 cps (± 2 dB).

Recordings thus obtained are subsequently edited with the aid of a picture viewer and pull-through track reader, before the sound is finally re-recorded on to a striped copy of the picture film, using a "double-band" type of projector such as the Siemens 2000, or alternatively on to a photographic type of track at a professional recording studio. This system of making sound movies is rather costly, and is normally undertaken only by small commercial and industrial film units, television news cameramen, and a few advanced amateurs.

BOOK REVIEW

TAPE RECORDER SERVICING MANUAL. By H. W. Hellyer. Published by Geo. Newnes Ltd. 336 pages. Illustrated. Price £3 3s.

THEY are all here, the collected Service Data Sheets of some 280 tape recorders and decks from 62 manufacturers. Many of the models are no longer made, of course, but a servicing engineer has to be prepared to repair vintage recorders as well as more up-to-date ones and these data sheets are the perfect guide to a machine's mechanical and electrical peculiarities.

Nearly all the well-known recorders are included, though one or two names such as Tandberg, Stella and Uher are missing. In terms of up-to-dateness, I was surprised to see that only a few of the newer machines listed in the current "Tape Recording Year Book" are represented in this book.

The author has naturally drawn on the original manufacturers' service sheets for the bulk of his material, but he has also incorporated his own bench notes and sketches compiled during a number of years' practical servicing.

A brief introductory section covers the basic principles of tape recorders and the ways these are applied in practice by recorder designers. Repair procedure is dealt with in a single page—and could perhaps have been expanded with advantage, even if this had to be done at the expense of the five pages on microphones.

J.N.B.

Dramatape

Miscellany

By PERSPECTIVE

TAPE is the best sound-recording medium in the world. Yet, illogical and stupid as it may seem, the gramophone record goes marching on.

How about producing a disc of your own? All you need, basically, is a tape recorder and splicer. Edit the tape to fit a chosen disc-duration; then send it to one of the specialist transfer-studios.

Back will come a superbly new and glossy disc—and I defy you not to be thrilled by it.

Like other recordists, I have a large library of private tapes. But private discs, for me, have a secure place in my heart. Possibly I am influenced by the mystique of childhood "78's"—or maybe I'm just old-fashioned. But a disc, to me, is somehow the more tangible form of sound.

NO DANGER TO TAPE

Does an affection for disc lessen the value and fascination of tape? Of course not, it has exactly the opposite effect. But this, I'm afraid, is something many tape enthusiasts fail to understand. They pour scorn on the disc and would like to see it dead. In consequence, the amateur tape movement has lost a great deal of possible ground. It has neglected (foolishly, I think) its most valuable recruiting asset—the glamour of the gramophone.

Disc still serves many practical purposes. But there's a far more important

reason for encouraging it. Disc can give creative recording a new lease of life. Justifying this assertion can be done quite briefly.

A disc gives you a time limit. You are stimulated into editing the tape—in order to fit it in. A disc *makes* you creative.

A private tape, by comparison, has no such objective. It tends to encourage a more sprawling result. The recordist is given all the time in the world—seventeen hours is the latest provision. He has neither the incentive nor the inclination to cut and splice. He leaves in all the stage-waits—all the superfluity. The first principles of creative recording—brevity and precision—tend to be ignored.

A pity, perhaps, that we have no amateur disc-of-the-year competition!

Another point for consideration. Video for amateurs is now more than a practical possibility—it is a certainty. Like many other enthusiasts, I shall "go over" to video. But my loyalty to audio will continue—but not entirely on tape.

Tape, to me, will mean video—and audio will mean disc. Does anyone agree?

DIRECT OR TRANSFER

In the old days of 1947, private discs were cut during the actual performance. I still recall attending a studio in Soho—with my script and sound-effects in a battered suitcase. My monologue was to feature a man waiting in the rain at a bus stop. Unfortunately, my ingredient for "falling rain" failed at a crucial moment. I had intended to use the

sound of sparklers; but it had rained so much (on the way to the studio) that the sparklers were too damp to use.

Today, you can still record "direct" by attending the studio; but you can have "background effects" mixed in from your own pre-recorded tape. Alternatively, the engineer might suggest a loudspeaker for replaying the effects in the studio—from your own tape recorder, if necessary.

Obviously, however, an entire performance—pre-recorded on tape and sent for transfer—is cheaper and vastly more convenient. But results *won't* be as satisfactory as direct-cut performance—*unless* your equipment is in (say) the £45-£100 class. For example, a cheap tape recorder and crystal microphone would probably result in a rather tinny but subdued disc. The studio then receives complaints, as Mr. Eaglestone (of ERS records) informed me, that the disc "isn't loud enough."

However, Mr. Eaglestone very kindly sent me a magnificent array of private discs—complete with printed sleeves, notes and labels. They prove what *can* be done by using good amateur tape recorders and microphones.

HOW TO SHOUT

Some dramatic sketches and plays include a lot of shouting between the characters. This seems to be causing a serious recording problem! The shout "blasts" the microphone and creates distortion; alternatively, the recording balance is upset by frantic adjustments of the gain-control. The solution, however, is simple.

In the first place, a studio shout is *not* a real shout. The actor should merely "raise" his voice—a trick that is soon learned. And, of course, he must always "shout" from a suitably-distant voice-position.

Conversely, a whisper is *not* a real whisper. The actor merely "drops" his voice and speaks closely into the microphone.

Two-minute tape sketch by David Haines

A monthly exercise in dramatape technique.

A FEW pieces of cutlery and china, discreetly chinked at a short distance from the microphone, will establish the background of any type of restaurant.

IN THE RESTAURANT

WAITER: There we are, sir—a nice plate of Irish stew . . .

CUSTOMER: Thank you. It smells delicious. (*suddenly*) Ouch!

WAITER: Sir?

CUSTOMER: Something under the table has just bitten me in the leg.

WAITER: It's probably the manager's little dawg, sir.

CUSTOMER: Then kindly remove it! (*pause*) What are you waiting for?

WAITER: I can't remove him, sir—his teeth are still stuck in your leg.

CUSTOMER: (*shouting*) This is intolerable!

WAITER: Don't worry, sir—just give him back his bone.

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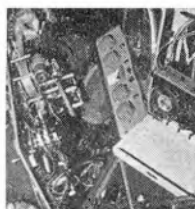
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GRUNDIG SONO-DIA

By JOHN ALDRED

THE Grundig Sono-Dia attachment is a transistorised device which records and replays tape pulses for automatic slide changing on transparency projectors having motorised controls. The attachment consists basically of a single magnetic head which combines the functions of erase/record/replay, a small transistor amplifier, and a relay. It is particularly suitable for use with the Grundig range of tape recorders, although it can be employed with any machine since it has its own transformer for connecting to 220 or 110V AC for supplying power to the transistors.

The Sono-Dia is fitted into a two-tone plastic case, and is held against the recorder take-up spool on a special metal bracket. This bracket is adjustable in height so that the tape path on the Sono-Dia can be quickly aligned to the tape path on the recorder. A loop of tape is dropped into the tape slot, the AC supply connected, a connecting lead with DIN plug (supplied) plugged into the projector, and the device is ready to operate. It is completely self-contained and does not rely on any external amplifiers.

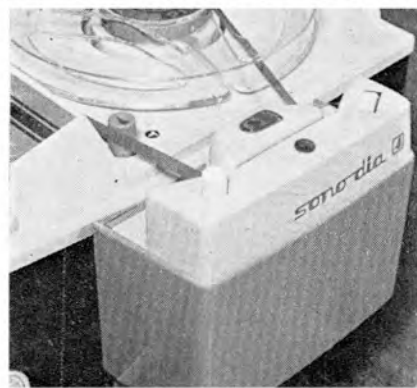
There are only two controls, a record/replay slide switch and a pulse button, in addition to a small red indicator lamp. When switched to "record", the Sono-Dia is actually erasing all previous recordings on the control track by means of a large amount of d.c. flowing through the head windings. The connecting lead, meanwhile, is left attached to the transparency projector, and when the pulse button is pressed two things happen simultaneously: the slide changes due to the projector motor circuit being completed, whilst a 100 cycle pulse is recorded on the control track. This track occupies the space normally taken by one of a four-track recorder.

Before rewinding, the Sono-Dia must be switched to replay, or the tape lifted clear of the tape slot. When the tape is played back, the 100 cycle pulses are amplified to operate the built-in relay whose contacts complete the projector motor circuit. Therefore the slide changing sequence becomes an exact replica of the timing obtained when recording the pulses, and slide shows can be given which are accurately synchronised to previously prepared tape recordings. Furthermore, the Sono-Dia can be dismantled and re-erected on subsequent occasions without any loss of synchronisation.

The duration of each pulse which suits the majority of transparency projectors appears to be approximately one second, which allows sufficient time for the motor to start the slide changing mechanism and close a shorting switch. At the end of each slide change, the motor is shut off by

the projector itself and does not depend on the cessation of a pulse from the Sono-Dia.

However, some projectors have a special feature for going backwards in sequence and showing the previous slide again. This is normally accomplished by keeping one's



finger on the slide change control for longer than usual, so care must be taken when using the pulse button on the Sono-Dia, or one's carefully timed performance can become hopelessly out of sync. The only course open then is to rewind the tape just prior to where the mistake was made, and record a new pulse. Of course the mistake will be apparent immediately, since the projector will be working normally whilst the pulses are being recorded.

The Sono-Dia is very nicely made, and gave absolutely no trouble at all during tests. There are no moving parts to go wrong (except the relay), and it is no trouble at all to set up and operate. The price seems a little high at £16 16s., but it certainly does its job efficiently and should last for a number of years.

Grundig (Great Britain) Ltd., Newlands Park, Sydenham, London, S.E.26.



Tape records reviewed

This tape easily tops my jazz list

JAZZ



By Mike J. Gale

THE BEST OF THE MODERN JAZZ QUARTET. Stateside (TA-SL 1041), 3½ ips, mono, 35s.

In the 21 months since my column started in *TAPE* only a little over one in ten albums reviewed have received "rave" critiques but "The Best of the Modern Jazz Quartet" tops the lot.

Delicate, intriguing, profound and conciliatory, the M.J.Q.'s genius is brought out by this demanding selection and, although not one musician or one item falls below an exceptional standard not often consistently maintained, *Softly as in a Morning Sunrise* with its melodic wealth is so brilliantly interpreted that it must be long remembered as all that is best in this exciting jazz movement.

The other items are: *Ralph's New Blues*, *Delaunay's Dilemma*, *The Queen's Fancy*, *Django*, *Concorde*, *Milano*, *Vendôme* and *La Ronde Suite*.

"PERSONAL APPEARANCE": THE SONNY STITT QUARTET. Personnel: Sonny Stitt, alt and tenor; Bobby Timmons, pno; Edgar Willis, bass; Kenny Dennis, dms. WRC (TT 441), 3½ ips, mono, 29s. 6d.

Sonny Stitt's middle names might well be "bad luck" for apart from living in the long shadow of Charlie Parker his career has been dogged with sometimes brutal criticism because he was alleged to be "unoriginal."

Edward Greenfield and Don Wedge will return to this column next month

It is therefore unfortunate that this session produced nothing of any consequence either original or unoriginal being suffocated in a morass of creative inhibition.

The set consists of: *Easy to Love*, *Easy Living*, *Autumn in New York*, *You'd be so Nice to come Home to*, *For Some Friends*, *I Never Knew*, *Between the Devil and the Deep Blue Sea*, *East of the Sun, Original?*, *Avalon* and *Blues Greasy*.

BEN WEBSTER MEETS OSCAR PETERSON. Personnel: Ben Webster, tenor; Oscar Peterson, pno; Ray Brown, bass; Ed Thigpen, dms. WRC (TT 495), 3½ ips, mono, 29s. 6d.

Ex-Ellingtonian Webster (1940 vintage) almost missed meeting Oscar Peterson and perhaps it might have been better if he had

for the results are not particularly enthralling.

As is often the case during this type of session one man dominates and for a variety of reasons Peterson does just this by accident rather than design. Some of the selections give the impression that he is holding back with too much discipline but Webster never takes advantage of his opportunities.

The collection covers: *The Touch of Your Lips*, *When Your Lover Has Gone*, *Bye Bye Blackbird*, *How Deep is the Ocean*, *In the Wee Small Hours*, *Sunday* and *This Can't be Love*.

HANK WILLIAMS SR. AND HANK WILLIAMS JR. SINGING TOGETHER. M.G.M. (TA-MGM-C 1008), 3½ ips, mono, 35s.

I thought that I was going to violently dislike this effort since barn dance violins and neither-one-thing-or-the-other guitars conjure up horrific visions of pig-tailed Gingham-clad females stampeding to a tuneless background.

Musically, the same ingredients are there; this time they have been mixed with a liberal dose of the vocal talents of both Williams senior and junior. It really isn't too bad and the lyrics—perhaps banal to those who have jumped on the message wagon—appealed to me. *Mind Your Own Business* would go particularly well, I should imagine, in suburbia.

Both men unashamedly go all out to extract the maximum impact with excellent cadence and effortless ease.

THE BIG NEW BAND OF THE '60s.

Ernie Wilkins and his Orchestra. Personnel (includes): Charlie Shavers, Clark Terry, Richard Williams, trumpets; Henderson Chambers, tenor; Zoot Sims, Yusef Latef, Seldon Powell, Earl Warren, saxes; Eddie Costa, vibes; Walter Bishop, pno; Kenny Burrell, guitar; Ronnie Carter, bass; Charlie Persip, dms. WRC (TT 435), 3½ ips, mono, 29s. 6d.

An interesting and dimensional selection from the remarkable Mr. Wilkins whose career effectively started in 1951 when Count Basie hired him as a saxophonist. However, his activities veered towards arranging some of Basie's numbers and this developed to such an extent that when four years later, he left the band to freelance he found that Basie was commissioning him even more frequently than during his staff period. He also worked on arrangements for Harry James and Ted Heath among others.

The one drawback with this production is the evident unfamiliarity of the assembled musicians with each other's "wavelengths." The programming has effectively masked which items started the session or sessions and which ones were recorded when some rapport had been reached but anyway a great compensation is provided by the several individualistic solos on such items as *Ernie's Blues*, *A Swinging Serenade* and *Satin Doll* by, respectively, Messrs. Latef, Powell and Shavers.

The other nine numbers are: *Fascinating Rhythm*, *Canadian Sunset*, *Very Much in Love*, *Undecided*, *Fresh Flute*, *I'll Get By*, *Loverman*, *Everything's Coming Up Roses* and *Speak Low*.

The tapes reviewed this month are issued by the following companies: "M.G.M." and "Stateside": E.M.I. Records Ltd., 20, Manchester Square, London, W.1. "W.R.C.": World Record Club, Box 11, Parkbridge House, The Little Green, Richmond, Surrey.

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(SEE PAGES 6 & 7)

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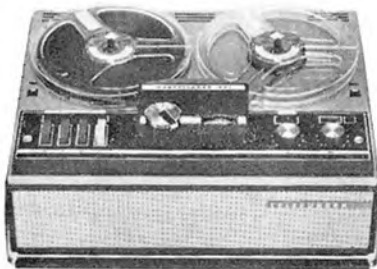
ANOTHER STEREO MODEL BY TELEFUNKEN

A NEW model and a change of name is announced by Welmec Corporation, who handle the Telefunken range of recorders.

Under their new name of AEG (Great Britain) Ltd., the company have introduced the latest Magnetophon recorder, the 201. This is a single-speed, four-track fully transistorised machine (illustrated below), selling at 44 guineas.

It has a quoted frequency response of 60-13,000 cps at 3½ ips; wow and flutter is given as less than 0.2 per cent and signal-to-noise as better than 46 dB. The M 201 will accommodate seven-inch reels, providing a playing time of 64 minutes per track using standard-play tape (1,200 ft.) at 3½ ips.

Among the features are digital rev counter with zero reset, VU meter recording level indicator, tone control, pause control,



and a built-in 5 x 3 inch elliptical speaker to handle the power output of 2½ watts.

The M201 measures 15½ x 12¼ x 6¼ inches and weighs 21 lbs. Included in the price are a reel of tape, spare spool, audio lead and microphone.

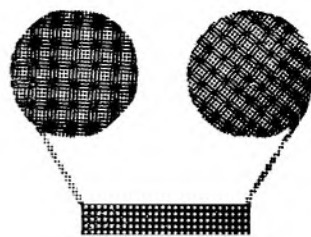
The price of the M301, four-track version of the M300 battery/mains model announced in our November issue, is to be 54 guineas. Developed for these models is the new Mains/recharger Unit Automatic. Now available from AEG, it will retail at £9 19s. 6d.

AEG (Great Britain) Limited, Lonsdale Chambers, 27, Chancery Lane, London, W.C.2.

WYNDSOR ANNOUNCE THEIR LATEST RECORDER

LATEST recorder to be added to the WyndSOR range is the Vanguard, a four-track three-speed model selling at 59 guineas.

The new model (illustrated above, right) is the second machine to be introduced with the new Magnavox 363 tape deck. It has a quoted frequency response of 40-15,000 cps ± 3 dB at 7½ ips; 40-9,000 cps ± 3 dB at 3½ ips; and 40-6,000 cps ± 4 dB at 1½ ips.



Wow and flutter is rated as better than 0.16, 0.25, and 0.3 per cent respectively, and the signal-to-noise ratio as better than 50 dB. With accommodation for seven-inch spools, the Vanguard provides a playing time of 64 minutes per track using standard-play tape at 3½ ips.

Among the wide range of features are facilities for monitoring from tape or incoming signal, track-to-track recording (sound-on-sound), parallel track playback, straight-through amplification. Other features include separate record and replay amplifiers, bass and treble controls and record and replay controls, pause control, safety erase lock, meter recording level indicator, digital rev counter, push-button controls and standard jack socket connections.

Inputs are provided for microphone (2 mV into ½ M ohms) and radio (.25 volts into 1 M ohm). The output socket is for high impedance use (10 K ohms into 5 volts) plus an extension speaker socket (15 ohms). The internal eight-inch round speaker housed in the detachable lid, handles the power output of four watts.

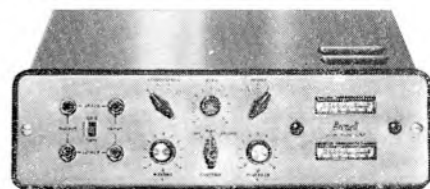
The valve line-up includes three ECC83 and two ECL86; and the mains voltage required is 110-240 volts AC, 50 cycles. Consumption is rated at 90 watts.

Included in the price is 1,800 ft. of long-play tape and two spare jack plugs.

WyndSOR Recording Co. Limited, 2, Bellevue Road, Friern Barnet, London, N.11.

BRENELL INTRODUCE STEREO TAPE PRE-AMP.

A MONO/STEREO pre-amplifier unit, the Hi-fi Tape Link, is announced by Brenell. The new unit, illustrated below, is designed for use with a three-headed stereo tape deck and hi-fi amplifying equipment.



Mono and stereo recording facilities are provided together with monitoring facilities for the original or taped signal. Other features include edgewise-scaled recording-level meters, dual concentric gain controls giving individual control of the two recording amplifiers; variable bias control for different brands of tape, and frequency correction for four tape speeds on record and replay.

Maximum elimination of hum is achieved by enclosing the amplifiers in a metal case, DC heated valves, and placing the power unit on a separate chassis for independent mounting.

Quoted frequency response of the Hi-fi Tape Link is 40-15,000 cps \pm 2 dB at 15 ips; 40-15,000 cps \pm 3 dB at 7½ ips; 40-11,000 cps \pm 3 dB at 3½ ips; and 40-6,000 cps \pm 3 dB at 1½ ips. Signal-to-noise is given as better than 50 dB (half-track operation) and 45 dB (quarter-track).

Dimensions of the tape link are as follows: Front panel, 15½ x 4½ inches; case, 13½ x 8½ x 4 inches; power unit, 6½ x 4 inches (Chassis, four inches high). Overall weight is 18 lbs.

The price, including power unit is £46. Brenell Engineering Co. Limited, 231-235, Liverpool Road, London, N.1.

NEW BRAND OF MAGNETIC TAPE

A RANGE of magnetic tape under the American label is announced by K. & K. Electronics Ltd.

The tape, available on 5, 5½ and 7-inch spools, is supplied with leader tape and stop foil at both ends, and sealed in cellophane wrapped display boxes. All tapes are tensilised for extra strength and are unconditionally guaranteed.

Types, length and prices, are as follows: **Standard-play** (Cellulose Acetate): 6-A: Five-inch reel (600 ft.) 17s.; 9-A: 5½-inch (900 ft.). 23s.; 12-A: Seven-inch (1,200 ft.) 27s. 6d.

Long-play (Cellulose Acetate): L-9-A: Five-inch (900 ft.), 21s.; L-12-A: 5½-inch (1,200 ft.). 25s.; L-18-A: Seven-inch (1,800 ft.). 35s.

Double-play (Mylar/Polyester): D-12M-T: Five-inch (1,200 ft.), 42s.; D-18M-T: 5½-inch (1,800 ft.), 55s.; D-24M-T: Seven-inch (2,400 ft.), 68s.

K. & K. Electronics Limited, 25, Roman Road, London, E.2.

NEW TAPE COATING FORMULA FOR MASTERTAPE

MORE sensitivity, greater output and less distortion with no loss of high frequency response is claimed by Mastertape for their latest tape which is manufactured by a new coating formula.

Improved reel-to-reel uniformity, drop-out reduction, lower head wear are other claims for the new tape with pvc and polyester base materials.

Only variation in their standard spool sizes is with regard to the 8½-inch reel which is now made of a high impact polystyrene and features a NAB drive hole for professional use.

Changes are also announced for the Mastertape Send-a-Message tape for posting at half-ounce rates, which now has a stout

envelope; and the Mini-Voice letter featuring a stronger self-locking box. Both include spare labels for return and both conform to current GPO regulations.

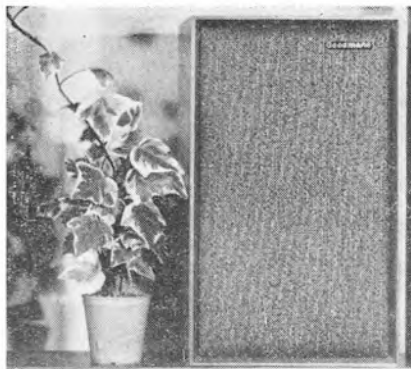
Mastertape (Magnetics) Limited, Prescott Road, Poyle Trading Estate, Colnbrook, Slough, Buckinghamshire.

LATEST SPEAKER UNIT FROM GOODMAN

LATEST addition to the Goodman's "M" range of loudspeakers is the Mezzo, a 15-watt unit priced at 25 guineas.

The new unit (illustrated below) incorporates the pocket-size Maxim and the larger Magnum-K three-speaker adjustable system introduced at this year's Audio Fair.

Measuring 18½ x 10½ x 8 inches, the Mezzo features an eight-inch long-throw bass and mid-range unit, and a sealed-back three-inch treble unit. The L.C. crossover network operates at 2,200 cps, and the



overall quoted frequency response is 40-20,000 cps. Distortion figures are given as less than one per cent total harmonic at 55 cps and above, for sound pressure level of 80 dB at six feet.

Goodmans Industries Limited, Axiom Works, Lancelot Road, Wembley, Middlesex.

NEWS FROM THE TRADE

A CHANGE of address is announced for the UK Sales Divisions of Bang & Olufsen and Sony Companies. With immediate effect, they can now be contacted at Mercia Road, Gloucester. Service and Technical Departments remain at Eastbrook Road (Gloucester 25428-9).

The head office of Standard Telephones and Cables Ltd. has moved to STC House, 190, Strand, London, W.C.2.

Sanyo Sales and Service now have a new London address at 1, Robert Adam Street, Baker Street, London, W.1.

All service facilities for the Fi-Cord 1a battery tape recorder are now available at the new Fi-Cord International headquarters at Charlwoods Road, East Grinstead, Sussex. The previous association between Fi-Cord and Audac-Audio Associates Ltd. of Staines, has now ceased.

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Siemens Mod. 12 ...	8 0 0	5 17 11	75
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Telefunken 85 ...	8 15 0	6 10 8	83
Brenell 5/2 (Meter) ...	7 15 6	5 16 7	74
Brenell 5/2 ...	7 5 0	5 8 8	69
Truvox 92 ...	7 5 0	5 8 8	69
Reps R10 Mk. 2 ...	6 4 0	4 12 11	59
Grundig TK18 ...	4 2 0	3 1 5	39
Grundig TK14 ...	3 13 6	2 15 2	35
Wyndors Trident ...	3 10 0	2 11 11	33
Wyndors 707-11 ...	3 9 0	2 5 0	29
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Philips EL3549 ...	6 12 0	4 17 6	62
Grundig TK23 ...	4 15 0	3 10 10	45
Philips EL3541/H ...	4 12 0	3 5 10	42
Elizabethan LZ29 ...	4 2 0	3 1 5	39
Philips EL3541 ...	3 15 8	2 16 9	36
Elizabethan LZ24 ...	3 14 0	2 13 4	34
Ferguson 3204 ...	3 10 0	2 11 11	33
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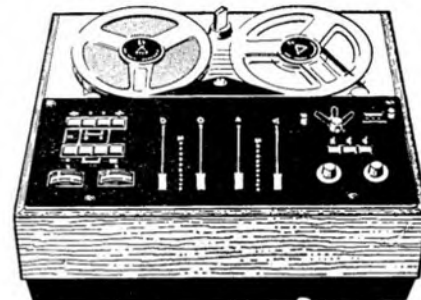
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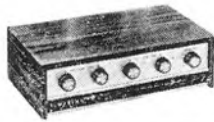
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News from the Clubs

BATH

During the AGM of the Bath tape society, held on November 8, the chairman reported on the success of their Hospital Broadcasting Society. The AGM coincided with the 150th quest programme which had just been recorded, and the chairman spoke of how club activity was concentrating on the preparation, recording and relaying of programmes.

Up to five programmes a week were being relayed including regular request programmes twice weekly plus two feature programmes in most weeks. This programme was endorsed by the treasurer who spoke of increasing electricity bills reflecting the club's activities.

Secretary C. J. Griffie then spoke of the club's other recording activities which have covered most aspects of the hobby. Light opera, beat music, bird-song and train sounds, public interviews and guest celebrities were among the features of taped material. The members also heard that two additional hospitals had been linked by land-line to receive their programmes.

Secretary: C. J. Griffie, 26, Court Farm Road, Willsbridge, Bristol.

BIRMINGHAM

Several of his contest-winning feature tapes were played by Peter Bastin when he visited the Birmingham tape club for their October 11 meeting. The Devil Undone (see Index, page 20) with which he collected top award in the Documentary section of the 1964 British Tape Recording Contest was heard together with location recordings, sound effects, tape loops and examples of electronic music. Musical highlight of his entertaining programme which occupied the entire evening, was "A left-handed tram on B'Trac" specially composed and produced for the club.

Another well-known enthusiast visited the club a week later when the members were entertained to a talk by Maurice Chambers who described his "Tapes for the Blind" organisation.

Members learned how Mr. Chambers started producing the tapes which became so popular that he now works full time producing taped programmes. His present list of some 900 titles provides sufficient material to sustain his current schedule of despatching fifteen tapes per day to as many countries.

He illustrated his talk with extracts from some of the tapes, including an 86-year-old lady describing how her local church had been burnt down. Other tapes heard included pre-war recordings of Potsdam church bells, hymns from East Germany, piano music from Manchester and other programmes from Nigeria and Japan.

The B'Trac November 26 meeting saw members welcoming yet another guest, this time from the BBC, when Mr. Arthur spoke about the professional aspect to tape recording. Sound effects, microphone positioning, local broadcasting, stereo transmissions were among the subjects discussed.

On the following day, members visited the Kidderminster club where they heard a programme of musical recordings. Live extracts from the 1965 Llangollen Eisteddfod, street organs in Amsterdam, and a fiddling beggar in Harlem were among the tapes heard.

On November 9 a further music programme was heard when Mr. John Lowsley visited B'trac with a collection of folk music from all over the world. This was followed on November 15 by the club's internal competition for a ten-minute tape on the subject "Sunday." Eventual winner was Alan Bird, whose tape included sounds that disturb that proposed lie-in. Second was Harry Marshall's collection of comments on the religious aspect, and third was a snappy tape from contradictory views of the public, produced by Laurie Watson.

Secretary: Alan Bird, 15, Watt Road, Erdington, Birmingham 23, Warwickshire.

GATESHEAD

A change of secretary is announced for the Gateshead society, with R. Turner succeeding Mr. D. A. Wright at their recent AGM. During the evening the secretary looked back on the club's recording year. Outstanding trip was that to the Northumbrian coast when members visited the bird and grey seal sanctuaries on the Farne Islands.

Other activities have included slide shows, quizzes, the usual internal competitions and a "Brains Trust."

Secretary: R. Turner, 43, Richmond Street, Gateshead, Co. Durham.

LONDON

A new secretary has been elected at the London tape club. David Campbell now fills the post vacated by Douglas Morris who is now seeking to form a club in the Richmond area.

A programme of amateur films with taped soundtrack was scheduled for the December 9 meeting of the club. This was to be presented by Ken Blake who has graduated from tape recording, through slide projection to the ultimate art as a long-serving member of the London society.

Also present during the meeting was Mr. Conn Ryan, Senior Documentary producer at the Central Office of Information, who spoke about his work and played extracts from some of his programmes.

Secretary: David Campbell, 46, Aberdare Gardens, London, N.W.6.

NORTH LONDON

Following a request relayed from Singapore, members of the North London club have volunteered to contact relatives of servicemen and civilians in Singapore Hospital.

At their latest meeting, Ron Goodwin and Graham Rosher, helped by suggestions from their audience, planned a hi-fi set-up for £200. Tape unit, pre-amplifier, amplifier, pick-up and the loudspeaker finally chosen were all currently available complete or in kit form. Earlier the same two members had entertained members with an enlightening talk on the problems of impedance matching.

Another recent social service was provided by the club when members supplied a tape of light classical music for a fashion show organised to raise funds for the local Red Cross Organisation.

The finals of the club's League competition was scheduled for November 17. Members had to produce a four-minute tape "commercial" selling the first inter-space holiday. The winner of the league is awarded a trophy at the annual Christmas party to be held on December 8. This year's trophy is to be a beer mug. Another of the club's competitions was also to be judged on November 17. The "Best tape of the year" contest is chosen from members who have entered tapes in the club's regular competition. Top prize in this case is a seven-inch reel of long-play tape.

Secretary: John Wilson, 202a, North End Road, Fulham, London, W.14.

READING

During the summer months members of the Reading Cine and Tape Recording Society interviewed Reading citizens to get their reaction to the proposed launching of the town's first evening newspaper. The results were sent to the paper's editor.

Recently the members were out again with their recorders, this time gathering opinions after the first two month's publication of the *Evening Post*. Results have been edited by chairman, Douglas Noyes, and again sent to the editor.

Other activities of the club have included a competition to find the most energetic member. Points are awarded for contributions to the club meetings. A maximum of ten points can be won each night—the audience to decide—and the top scorer will receive a medalion plus a roll of film or tape.

Latest venture was the instigation of a series of lectures describing the basic problems met by members in their hobby.

Secretary: Mrs. Rita Noyes, 4, Froxfield Avenue, Reading, Berkshire.

RICHMOND

A preliminary meeting has been held by a group of enthusiasts in East Sheen in an attempt to form a tape club. One of the instigators is Douglas Morris who recently completed two years as secretary of the central London club.

Following the meeting, the holding committee decided to hold meetings on alternate Mondays at the White Hart, The Terrace, Barnes, S.W.13, until suitable headquarters can be found in Richmond.

A provisional programme already drawn up and under way included a talk on microphones and acoustics (November 29), practical recording session (December 13), and producing a feature programme (January 21). The January 7 meeting was to include playback of material recorded during the Christmas recess.

Secretary: John Tibble, 29, Meadlands Drive, Petersham.

SOUTH DEVON

President Donald Aldous, Technical Editor of *Audio Record Review*, spoke about the judging of the British Tape Recording Contest at one of the latest reported meetings of the South Devon tape society. As a long-time member of the B.T.R.C. judging panel, Mr. Aldous was well-qualified on the subject, and spoke at length describing what the judges look for and how they decide the winning entries.

As a result of the talk, members are now preparing the club's entry for the 1966 Contest, full details of which will be published in *TAPE* immediately they are available.

Further involvement in the B.T.R.C. for the Devon members resulted from a later meeting which was to include a visit by Peter Cox, John Penty and Joe Penngelly. Peter collected two prizes, and his two colleagues were runners-up in this year's event.

During November, the members were to visit the Bristol Radio and TV studios on a tour organised by their President.

Secretary: Gordon Furneaux, 45, Kenwyn Road, Ellacombe, Torquay.

SOUTH REACH

A successful recording of all the boys' clubs' acts at the recent National Association of Boys' Clubs annual show was achieved by members of the Tape Section of the South Reach County Youth Centre. The annual show "Clubs are Trumps" was held at the Royal Festival Hall in London at the end of October. From the recording of the show, which also included

personal interviews with Frankie Vaughan, Benny Hill, Jimmy Tarbuck, the members produced an edited version for inclusion in their Groups Hospital service at Erith.

Copies are also being sent to some of the boy performers, a chore which is keeping the members working at full pitch. Equipment used for the session included two Truvox recorders together with Brenell and Bush models, and a Uher 4000's Report battery recorder. Other equipment used was made by the members themselves. This included a five-channel mixer, two pre-amplifiers and a monitor amplifier.

The session in London was followed by another nearer home when the Centre's own Launching Ceremony was attended by the Mayor of Bexley. The tape will join the library of special ceremonies and will be included in the Centre's year's history of events during 1965.

Secretary: T. C. Butler, South Reach County Youth Centre, Manor Road, Erith, Kent.

ULSTER

A change of secretary also for the Ulster tape society which has its headquarters in Belfast. The new official, William Boyd, was elected at the club's recent AGM to replace John McEntee who had to resign owing to ill-health. The opportunity was taken to express best wishes for his speedy recovery.

As the only club currently in existence in Ireland—plans are being made for a Dublin formation—the members enjoy a unique position regarding their programme exchanges with a number of the English clubs.

During the past year, which was reviewed by the secretary, the club's activities have included the inauguration of a request programme for several Old People's Homes in the area. Plans are now being made to extend the regular programme "Evergreen" to be received by further homes.

Among their recording activities have been the taping of two local band groups. Members turned out in strength to record the Belfast Newsboys' Club Minstrel Troop and also the Belfast Banjo Band.

Secretary: William Boyd, 90, Donegal Avenue, Belfast 12, Northern Ireland.

TAPE EXCHANGES

TAPE recorder owners who wish to contact others with similar interests, to exchange news and views by tape are invited to fill in and return the form on page 32 giving their name, age, address, special hobby or interest for this free service.

Details given here also include speeds and spool size to be used, name of recorder, and special area to be contacted.

Ings, Andrew (23). 11, Rectory Lane, Chelmsford, Essex. Reading, Fire Briage, jazz and Latin-American music. 3½ ips. Seven-inch spool. Cossor, four-track.

Meek, Jim (23). 35, Garron Crescent, Larne, Northern Ireland. Photography, coin-collecting, folk singing and pop music. 7½, 3½, 1½ ips. Seven-inch spool. Philips AG8108. Male contacts required in UK and Europe.

Medford, Ray (38). 23, The Leasow, Aldridge, Staffordshire. Modern jazz music. 7½, 3½, 1½ ips. Seven-inch spool. Beocord 2000, two- and four-track. Letters not required.

Michaels, Kenneth (39). 287, Navarino Mansions, Dalston Lane, London, E.8. 3½, 1½ ips. 5½-inch spool. Grundig TK46, stereo. England only.

(Continued on page 32)

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(Continued from page 31)

Radcliffe, Hugh (24). 42, Galena Drive, Porchester Lodge Estate, Nottingham. Monkeys, unusual animals. 7½, 3½, 1½ ips. Seven-inch spool. Carousel tape recorder.

Rajak, Miss Ethne (31). c/o Royal Overseas League, Park Place, London, S.W.1. Photography, chess, radio, animals. 3½, 1½ ips. Seven-inch spool. Cossor CR1604. Israel, UK, USA, Australia, Benelux countries. Letters first please.

Riley, Michael J. (25). 79, Alexandra Street, London, S.E.14. Photography, travel, youth hostelling, cycling, rambling, music. 7½, 3½, 1½ ips. Seven-inch spool. Marconi tape recorder. Canada, USA, UK, Eire, New Zealand.

Reed, Robert C. (45). Medbourne, Market Harborough, Leicestershire. 35mm colour photography, history, mountain walking. 7½, 3½, 1½, 15/16 ips. Seven-inch spool. Stella ST459.

Warner, Michael (25). 105, East 192nd Street, Bronx 48, N.Y., USA. Sound hunting. 7½, 3½ ips. Seven-inch spool. Vernon, four-track. Roberts and Concord 330.

OVERSEAS READERS

Bahaudin, A. Rahim (31). Sekolah Rendah, Telok Chengai, Alor Star,

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Blickmann, A. (45). Palamedestrasse 17, Haarlem, Holland. Birdsong recording. 15, 7½, 3½, 1½ ips. Seven-inch spool. Philips four-track and Studio recorder.
Davenport, Keith (26). 247, Shakespeare Street, Cambridge, New Zealand. 35mm photography. 3½ ips. 5½-inch spool. Dreco recorder. UK, Germany, Sweden. Letters first please.
Farson, A. M. (25). 603, Gaylene, Visagie Street, Pretoria, South Africa. Hi-fi, classical and folk music. 15, 7½, 3½ ips. Seven-inch spool. Nagra III, full track.
Jay, Harry (60). 5, Iona Street,

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McKeehan, Graeme (37). 35a, Byron Avenue, Ta Kapung, Auckland, New Zealand. Stereo recording. 7½, 3½, 1½ ips. Seven-inch spool. Akai M7 and National 773, both four-track stereo. USA, England. Letters not needed.

Merwe, Pieter C.v.d. (41). Principal's Residence, Primary School, De Brug, Orange Free State, South Africa. Photography, journalism, music. 1½ ips. Four-inch spool. Siera SA 9101 T recorder.

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