TAPE RECORDING



June, 1961

Mr. John Marth 2208 Siegfried Ave. Northampton, Pa. F1-25

35c

SOUNDTALK ... from the world's most experienced manufacturer of magnetic tapes



How "four-track" stereo challenges tape quality...

The dramatic improvement in sound and new economy in tape use that four-track stereo promises, make new demands on tape . . . make the quality you find in "SCOTCH" BRAND Tartan[®] Series Magnetic Tapes four times as important! For not every brand of tape will work satisfactorily on four-track.

THE NARROWER TRACKS used make highest uniformity of oxide coatings a must. Now even minute irregularities can cause distortion or decrease in output, which in monaural or two-track recording would not be as noticeable.

FROM THE TAPE MANUFACTURER'S point of view, slitting the tape to correct width becomes an extremely critical operation. Close-tolerance precision characterizes SCOTCH[®] BRAND Tartan Tapes. And lack of this precision can render a tape useless for four-track.

THE NUMBER ONE CHOICE of top stereo tapemachine makers is "SCOTCH" BRAND. Uniformity of oxide thickness (as well as tape width) is held to microscopic tolerances to keep dynamic range identical throughout each reel, each track, from reel to reel. *High-potency* oxides permit thinner coating, greater flexibility, closer head-to-tape rapport, sharper resolution. Lifetime Silicone lubrication protects recorder head, extends tape life.

WHEN YOU GO "FOUR-TRACK" let Tartan Series Tapes lead the way: No. 141, plastic, standard play, 600' and 1200'; No. 140, plastic (50% extra play) and No. 142 (50% extra play on super-strong polyester backing), both in 900' and 1800'; and No. 144, double length and strength on tensilized polyester backing, 1200' and 2400'. From \$1.75 at retail dealers.

FREE! With each Tartan Series Tape—a handy endof-reel elip that prevents spillage in mailing, handling or storage.



MINNESOTA MINING AND MANUFACTURING COMPANY

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TAPE RECORDING

VOL. 8 NO. 7

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JUNE 1961

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FOR YOUR AUDIO BOOKSHELF

HOW TO GET THE MOST OUT OF TAPE RECORDING

by Lee Sheridan

This book is aimed at the new recordist, who has yet to discover the hundred and one unusual, interesting and profitable uses to which a tape recorder can be put . . . with patience, a little imagination, and a few accessories.

Lee Sheridan, who authored this book, is actually two people: Elsie Lee and Michael Sheridan, who comprise one of the most prolific and successful freelance writing teams in the country. They have appeared, with articles and short stories, in many magazines both here and abroad.

6" x 9", 128 pp., paper bound, illustrated SI.00

HIGH FIDELITY SIMPLIFIED

by Harold D. Weiler

This book has sold more than 65,000 copies and is one of the most popular books on the subject. It covers the How, What, Why and Where of Hi-Fi, Sound, Acoustics, The Simple Loudspeaker, The High-Fidelity Loudspeaker, Loudspeaker-Enclosures, The Basic Amplifier, The Amplifier, The Record Player, Tuners, Use of a Home Music System, and Tape Recorders. It is illustrated with numerous drawings, charts and pictures. While authoritative, it is written in an easy-to-read style.

5½" x 8½", paper bound, 208 pp. illustrated .. 53,30

TECHNIQUES OF MAGNETIC RECORDING

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This book translates the complexities of a science into practical, easy-to-follow techniques It is a book for the professional who wants new ideas, new standards of excellence, and a book for the amateur just introduced to magnetic recording. Beginning with a description of Poulsen's invention of magnetic recording, the author presents a condensed history of developments since 1900. Then he treats the many problems that arise in magnetic recording. Individual chapters are devoted to recording in such areas as medicine, education, and public entertainment and advertising. The inclusion of descriptions written by the originators of various techniques, extensive quotation from the laboratory notes of pioneers, an extensive glossary, and a comprehensive bibliography make this book invaluable to the amateur and to the professional.

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TAPE RECORDERS AND TAPE RECORDING

by Harold D. Weiler

The latest book by the well known author of "Hi-Fi Simplified" which has sold over 65,000 copies. Written so that anyone can understand it the book covers Room Acoustics; Microphone Techniques; Recording From Records; Radio and TV; Sound Effects; Tape Recorder Maintenance; and Adding Sound to Slides and Movies. Over 100 illustrations and diagrams in 13 chapters of practical down-to-earth suggestions make this book the beginners bible.

5½" x 8¼" — 190 pages — illustrated — paper bound \$2.95

HOW TO MAKE GOOD TAPE RECORDINGS

by C. J. Le Bel, Vice President Audio Devices, Inc.

A complete handbook of tape recording containing 150 pages of up-to-the-minute information of practical value to every tape recordist. Easy reading for the most inexperienced of

tape recordist. Easy reading for the most inexperienced of home recordists. Sections include: How A Tape Recorder Works, Characteris-tics of a Tape Recorder, Selecting A Tape Recorder, Selecting A Recording Tape, Using the Tape Recorder Making A Micro-phone Recording, Acoustically Treating the Studio, Tape Edi-ing, Binaural or Stereophonic Recording, Putting Together A Recording Show, and a Glossary of Tape Recording Terms. 5¼″ x 8″, 150 pp., paper bound, S1.50 illustrated\$1.50

TAPE RECORDERS-HOW THEY WORK

by Charles G. Westcott and Richard F. Dubbe This book is based on the principle that to get the most from a recorder, one must first understand thoroughly how it op-erates. It contains diagrams and schematics and explains in not too technical language "what's under the cover" of a recorder. $5^{1/2}$ " x $8^{1/2}$ ", 177 pp., paper bound. (1)

\$2.75 illustrated

BASIC ELECTRICITY

by Van Valkenburgh, Nooger and Neville, Inc. Vol. 1—Where Electricity Comes From. Electricity in Ac-tion, Current Flow, Voltage and Resistance, Magnetism, DC Meters. Vol. 2—DC Circuits, Ohm's and Kirchoff's Laws, Electric Power. Vol. 3—Alternating Current, AC Resistance Capacitance and Inductance, Reactance, AC Meters. Vol. 4— Impedance, AC Circuits, Resonance. Transformers. Vol. 5— DC Generators and Motors, Alternators.

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NEW TAPES

CLASSICAL

Reviewed by Robert E. Benson



Music +++Performance **** Fidelity *** Stereo Effect ***

DE FALLA: Nights in the Gardens of Spain (with Gonzalo Soriano, pianist) RODRIGO: Guitar Concerto (with Narciso

Yepes, guitarist)

- National Orchestra of Spain conducted by Ataulfo Argenta
- LONDON LCL 80010

4 track, 71/2 ips

\$7.95 . . . 43 mins.

Surprisingly, the highlight of this tape is the Rodrigo Guitar Concerto, which is a constant delight and highly listenable, although of rather limited musical interest. What it lacks in musical values it compensates for with a succession of engrossing, pleasant melodies. Narciso Yepes' masterful playing is rather over-size here, but no one would object to that. Nights in the Gardens of Spain is a magical score, and is actually three necturnes for piano and orchestra, highly evocative of Spanish scenes. Its subtle beauties are beautifully brought out by Gonzalo Soriano, and wonderfully captured by London's engineers. Throughout both performances the extent of the loss to the musical world with death of Ataulfo Argenta is vividly apparent.

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Music **** Performance Fidelity ** Stereo Effect $\star\star$

- BEETHOVEN: Piano Concerto No. 3 in C Minor, Op. 37, Piano Concerto No. 4 in G, Op. 58
- Wilhelm Backhaus, pianist, with the Vienna Philharmonic Orchestra conducted by Hans Schmidt-Isserstedt

LONDON LCL 80007

4 track, 71/2 ips

\$11.95 ... 68 mins.

It is doubtful that any listener would find fault here with the performances, which are a model of nobility and interpretive insight. Backhaus continues to amaze us with his solid musicianship and technical dexterity, even though he is well over seventy. The Vienna Philharmonic under Hans Schmidt-Isserstedt plays warm accompaniments to both concertos, and these are certainly among the finest performances of this music.

This tape is superior technically to the London disc versions. However, regardless of the medium, the reproduction is disappointing, with a subdued piano, lacking in brilliance. The close-up recording of the orchestra, lacking almost entirely in natural hall reverberation, produces steely string tone and a muddiness not characteristic of London's best sound. Too bad, for this could have been a winner.

**-Good



DE FALLA: The Three-Cornered Hat Ballet (complete)

Barbara Howitt, mezzo-soprano; London Symphony Orchestra, Enrique Jorda, cond. KHACHATURIAN: Gayne Ballet Suite London Symphony Orchestra; Anatole Fis-

toulari, cond.

EVEREST Twin-Pack T4-003

4 track, 71/2 ips

\$11.95 . . . 84 mins.

Everest has a real winner here-a tape which should rapidly become a staple in any tape library. For \$11.95 one gets about 84 minutes of exciting Russian ballet music.

Those listeners familiar only with the usual two suites drawn from The Three-Cornered Hat Ballet will find that there is much more of interest in the complete score. The Gayne excerpts include all of the well-known selections, such as the Sabre Dance, Lullaby and Lezghinka, plus other less-familiar sections, such as the thrilling Fire which concludes the suite in this recording.

Jorda and Fistoulari seem to be just right temperamentally for their assignments, and orchestral playing is of the highest order. This is Everest's sound at its very best-big, solid and clear, and this bargain tape is guaranteed to satisfy both musically and sonically.



RESPIGHI: The Fountains of Rome, The Pines of Roma

Chicago Symphony Orchestra conducted by Fritz Reiner .

RCA FTC 2012

- 4 track, 71/2 ips
- \$8.95 . . . 37 mins.

When the disc version of these performances first appeared I was greatly disappointed with the sound, and thought that the considerable distortion and fuzziness was caused by inferior disc processing. Now that the four-track tape version is available, one can only assume that the master tape is at fault.

***-Very Good

In spite of the claim of "thrilling recorded sound" in the notes accompanying the tape, sonically this leaves much to be desired. These are big acoustics, impressive in places, but the sound is mushy, lacking definition, with low bass that gets out of hand. How spectacular these two fine performances would have been had they been recorded with the early-type Victor sound with the Chicago Symphony, such as heard in their recording of Ein Heldenleben! The 33/4 ips cartridge version (KCS4039) isn't as good as the 71/2 ips reel to reel, and is even more distorted because of being grossly overmodulated. A disappointing release.



STRAVINSKY: Petrouchka

Boston Symphony Orchestra conducted by Pierre Monteux, with pianist Bernard Zighera

RCA FTC 2007

4 track, 71/2 ips

\$8.95 . . . 35 mins.

Ballet enthusiasts will want this distinguished recording for its historical value alone, as it is conducted by the man who gave Petrouchka its world premiere over a half century ago. The performance is up to the standards one would expect, with refined musicianship on the part of all concerned. For Victor to mention especially that Bernard Zighera is the pianist, fine though he may be, and not to mention the name of the important first trumpeter, seems rather unfair.

Hi fi enthusiasts will find the sound somewhat lacking in resonance, which makes the Boston Symphony sound smaller than it is. Monteux omits the drum rolls between the last three tableaux, and these are missed.

I rather imagine that the average tape collector would prefer the Everest twin pack (TT 43 002, \$11.95) with Sir Eugene Goossens conducting the London Symphony Orchestra, in a fine Petrouchka coupled with a slow but good Rite of Spring, a tape sonically superior to the Victor.



HANDEL: Water Music (complete) Concertgebouw Orchestra of Amsterdam, Eduard van Beinum, cond.

🛨 🖌 Fair

EPIC EC 804 4 track, 71/2 ips \$7.95 . . . 49 mins.

A magnificent tape in all respects, and a poignant reminder of the tragic loss to the music world when Van Beinum died in April of last year. This is one of the best recordings of the Concertgebouw Orchestra, capturing its richness and incredible beauty, and the orchestral playing, particularly the French horns, is unbeatable. Van Beinum uses a large orchestra for this music, and it's a delight to hear the Water Music played with such precision and sumptuous tone. This is a tape to cherish.

| 4 | Music | **** |
|--|------------|---------------|
| MACH CONCERTS | Performanc | • **** |
| and a second sec | Fidelity | *** |
| | Stereo Eff | ect *** |
| | | |

BACH: Violin Concerto in E Major, Violin Concerto in A Minor, Concerto in D Minor for Two Violins

Felix Ayo and Roberto Michelucci, violinists; 1 Musici

EPIC EC 809

- 4 track, 71/2 ips
- \$7.95 . . . 54 mins.

I Musici is an instrumental ensemble consisting of twelve players, widely acclaimed for their performance of baroque music. Their first four-track tape was a fine Seasons of Vivaldi.

Now we have another superb tape, containing Bach's best-known violin concertos. Felix Ayo is soloist in the E Major Concerto. Roberto Michelucci is soloist in the A Minor Concerto, and together they play the Concerto in D Minor for Two Violins.

Performances are exemplary, the sound exceptionally fine, and the stereo effect natural, with the solo violinist toward the left, and, in the double concerto, one towards each side. There was a marked absence of hiss on the review copy and no echo of any kind. With a playing time of well over fifty minutes for \$7.95, this is a great bargain. Epic is to be commended for using the extra tape necessary so as not to interrupt any of the music, placing the E Major Concerto on the first track, and the other two works on the reverse track.

SEMI-CLASSICAL



| Music | **** |
|---------------|------|
| Performance | **** |
| Fidelity | *** |
| Stereo Effect | *** |

GERSHWIN

Rhapsody in Blue and Cuban Overture Eugene List, pianist; Howard Hanson, Eastman-Rochester Orchestra

- MERCURY STA90138
- 4 track, 71/2 ips
- \$5.95 . . . 27 mins.

Here is another rendition of the ever



popular Gershwin Rhapsody in Blue and as played by the Eastman-Rochester Orchestra with Eugene List at the piano deserves a good honorable mention. Mercury's mike technique brings out all the subtle nuances -the musicianship of the orchestra is above reproach and Howard Hanson conducted with feeling and animation. The clarity and tone quality of the piano performance of Eugene List seems to excel throughout this recording. However, a perfect balance between it and the rest of the orchestra is always maintained.

The Cuban Overture, one of Gershwin's lesser known compositions, is a symphonic work in three sections. Based in part on the rhumba and habanera, it presents Cuban rhythms woven in a theme of various moods. The same fine musical quality prevails here also .- F. N. West

SHOWS

| dimme stated & Call Street at | | |
|-------------------------------|---------------|-----|
| FRANKIE CARLE | Music | *** |
| SHOW STOPPERS | Performance | *** |
| SHOW SIUPPERS | Fidelity | * |
| SHOW STOPPERS | Stereo Effect | ** |
| | | |

SHOW STOPPERS IN DANCE TIME

"Show Boat" Medley; "Carousel" Medley; Waltz Medley; "South Pacific" Medley; "King and I" Medley; Beguine Medley; Waltz Medley; "Oklahoma!" Medley

Frankie Carle, His Piano and Orchestra

RCA FTP-1005

4 track, 71/2 ips

\$7.95 . . . 36 mins.

The distinctive style of Frankie Carle, which is to let the melody speak for itself rather than sell it with music pyrotechnics, is what makes this such an enjoyable tape. Thirty melodies, all-time Broadway "show stoppers", are patterned to dancing rhythm with such musical artistry, that you will want to grab a partner and dance to some of the best tunes ever written.

Stereo effect is good. Not a scintillating tape, but one you'll play again and again at your next party .--- F. N. West



Performance **** Stereo Effect ★ 🛧 🛧

CAMELOT

Overture, Parade, I Wonder What the King Is Doing Tonight, The Simple Joys of Maidenhood, Camelot, Follow Me, The Lusty Month of May, C'est moi, Then You May Take Me to the Fair

How to Handle a Woman, Before I Gaze at You Again, If Ever I Would Leave You, The Seven Deadly Virtues, What Do the Simple Folks Do, Fie on Goodness, I Loved You Once in Silence, Guenevere, Camelot (Reprise)

Original Broadway cast featuring Richard Burton and Julie Andrews



the giggles

 Put one little girl together with something that tickles her funny bone—and out comes the purest, merriest of sounds. We don't propose there's anything quite as nice. But we can tell you about another kind of purity of sound that's worth discovering. Make your next tape recording on Audiotape. Then listen.
Audiotape ... it's wonderful! It has less distortion, less background noise, more clarity, more range than other tapes, because it's made to professional standards. Let it be your silent (but knowing) partner in capturing fresh, clear, memorable sounds. (Like Sissy's giggles, for instance.) Remember: if it's worth recording, it's worth Audiotape. There are eight types...one exactly suited to the next recording you make.





AUDIO DEVICES INC., 444 Madison Ave., N. Y. 22, N. Y. Hollywood: 840 N. Fairfax Ave., Chicago: 5428 N. Milwaukee Ave.



Take advantage of three special 'bonus pack' offers from Audiotape. Each pack contains a 7" reel of quality Audiotape-and a reel of beautiful music superbly recorded on Audiotape. All you pay for the 'two-pack' is the regular price of two boxes of Audiotape plus \$1. Your choice of three musical programs, in 2- and 4-track stereo or dual-track monaural sound.



Stormy passages of music from Tchaikovsky, Sibelius, Brahms, Stravinsky, Beethoven.



Sprightly selections from Strauss. Beethoven, Tchaikovsky, Bizet.



Classics that became hit Pop tunes, by Borodin, Tchaikovsky, Chopin, Rachmaninoff.



AUDIO DEVICES INC., 444 Madison Ave., N.Y. 22, N.Y. Hollywood: 840 N. Fairfax Ave., Chicago: 5428 N. Milwaukee Ave.

COLUMBIA OQ 344 4 track, 71/2 ips \$9.95 ... 52 mins.

Many of the admirers of Lerner and Lowe (myself included) expected Camelot to be a sequel to My Fair Lady, but such is not the case. Since this almost impossible task has not taken place, Camelot must be judged on its own merits and their present effort is certainly not disappointing. The score for this musical is probably one of the best that Frederick Lowe has written and as captured by Columbia on tape is a source of great delight.

A brilliant cast thrills and enchants you with the wondrous melodies that give life to the legend of King Arthur and his court. Fair Lady Julie Andrews reigns as Queen Guenevere and takes command of eight songs with perfect assurance. Richard Burton is a magnificent King Arthur, but the real surprise is Robert Goulet as Lancelot, who displays a thrilling baritone voice. What a pleasure to hear actors who can really sing, whether it be tender ballads or stirring rhythms! The chorus and musical arrangements make this a sumptuous musical feast.

Columbia has recorded this tape with rich stereo sound that is exceptional, and clarity and presence that puts you right down in the front row of the theatre. .

With tickets for the show selling now for two years hence, this is the next best thing to seeing it.-F. N. West

HUMOROUS



WOODY WOODBURY LOOKS AT LOVE AND LIFE

BEL CANTO ST/150 4 track, 71/2 ips

\$5.95 . . . 36 mins.

Woody Woodbury is one of the new, young funny men in the night club field, and has become rather popular by way of several monaural records. Now, recorded on stereo tape, is his unexpurgated and unrehearsed performance from the floor of the Bahama Hotel in Fort Lauderdale, Fla., where he uses only a piano to recount a program of somewhat bawdy jokes and off color stories to his audience. You will never hear or see this kind of performance on radio or TV for obvious reasons. An unusual and funny tape for a dull party, but definitely not for children.-F. N. West

FOLK



GIPSY MAGIC

Liszt: Hungarian Rhapsody No. 2, Young Peasants' Dance, Villagers' Dance

Brahms: Hungarian Dances Nos. 11, 12, 19, 20, 21; Csardas and other dances

Orchestra of the Hungarian State Folk Ensemble

VOX XTC-717

4 track, 71/2 ips

\$7.95 . . . 44 mins.

A fascinating program of native folk dances and authentic gypsy music that you only hear when played by an orchestra such as the Hungarian State Folk Ensemble. Depicting many moods, it is gay or sad, bitter or sweet, and brings to the listener Hungarian music at its very best.

Among the selections by the cymbalomdominated orchestra is a performance of the well loved Liszt's Hungarian Rhapsody No. 2. Foot stomping dances and a vocal group contribute to the interest.

Stereo effect is good but quality of the recording is somewhat lacking in presence. -F. N. West

POPULAR



IT'S MAGIC

Sequence A: It's Magic, That Old Black Magic, Shuffle Off To Buffalo, Witchcraft, Out of Nowhere, High On A Windy Hill Sequence B: Little Sir Echo, Magic Is the Moonlight, Old Devil Moon, Did You Ever See A Dream Walking, The Trolley Song, I've Got the World On A String Marty Gold and His Orchestra

RCA FTP-1057

4 track, 71/2 ips

\$7.95 . . . 33 mins.

Here is a new kind of demonstration tape called "Stereo Action-the sound your eyes can follow," that turns out to be an exciting combination of well recorded music and startling sound effects, with surprises galore.

Imagine an orchestra and chorus directed by a sorcerer who can move them any place on stage at will, and you begin to get a hint of the electronic magic that abounds throughout this tape. A music passage starts in the left channel and before you know it, has moved to the right channel and back again. The chorus, freight trains, street cars, windstorms, bells and other musical noises parade back and forth and add to the fun. The real magicians in this case are the RCA sound engineers who must have had a good time making this one. Above and beyond the startling electronic effects, here is listenable big orchestra renditions of many of your favorite popular tunes.—F. N. West



CROSSTALK

from the Editors

AFTER MUCH COGITATING, field testing and consideration of the claims of various manufacturers, the FCC has decided that the Zenith-GE plan for stereo multiplexing by FM stations will be the one to be used nationally.

* * * * * * * * * * * * * * * * * * *

THIS NEWS HAS BEEN eagerly awaited by the audio industry and a goodly number of manufacturers are planning to sell FM stereo tuners or adapter units for existing tuners so that stereo broadcasts may be received by the listening public.

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THE SYSTEM, which is a combination of plans offered by Zenith and GE, will use the main FM carrier for one channel and a sub-carrier for the other. Converters may be attached to present FM tuners to split the two channels apart in the home, or a new tuner designed to receive FM multiplex broadcasts may be purchased.

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FM STATIONS MAY start stereo broadcasts anytime after June 1 of this year without further authorization from the FCC. Several manufacturers are practically ready to go with equipment. How soon the radio stations will start the stereo broadcasting is anyone's guess. Perhaps a few pioneers will get the ball rolling with others coming along as the number of sets in the homes increases.

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SOME LOOK UPON THIS development as a "shot in the arm" for component sales which have been lagging somewhat and there is quite a bit of feeling that the FM multiplexing will prove a great boon to the tape industry.

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SO ONCE AGAIN THE TAPE industry has the ball on the one-yard line and we hope that they don't fumble. FM radio broadcasting has been built on the basis of quality and since they will be going heavily into stereo, they should go tape. Considering the limited life of the stereo disc, and the number of times a recording is played by a radio station, tape will prove not only the best in regard to quality but likewise the cheapest in the end.

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FOR THE TAPE INDUSTRY it offers an opportunity to get the same recognition on the public airwaves that other forms of music have had for years. This should serve as an impetus to its wider acceptance by the music buying public.

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THERE IS TALK, ALSO, that the broadcasting of multiplex FM stereo will boost the sale of stereo recorders—and we mean those which will both record and play back stereo—not record monophonically and only play back stereo.

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WHILE THE PRESENT authorization by the FCC is for FM only, ways are being sought to adopt similar systems for both AM radio and TV. The latter developments are sometime in the future. But when they do occur, all broadcasting will be stereo. What effect this will have on both records and tapes is hard to assess.

ONE CHANNEL OF the multiplex is a full channel which carries the complete signal thus, even though a station may be broadcasting in stereo the full monophonic signal may be received with an ordinary FM receiver. Thus, no FM receiver will be obsolete because of the change.

* * * * * * * * * * * * * * * * * * *

FM TUNERS FOR multiplex use will have to be of high quality to secure the best results. The subcarrier containing the second channel will be in the 38 kc range and this may cause interference with the bias frequency of a recorder if any of the subcarrier or its harmonics is present at the output jack on the tuner. The result will be a beat frequency which will cause whistles to record on the tape.

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YOU WON'T HAVE TO worry about this for a few months yet but if you want to dash out and be one of the first to have multiplex—try the tuner with your recorder before you buy it.

10

INDUSTRY NEWS

NORTRONICS, 1015 S. 6th Street. Minneapolis, has just designed a new bias oscillator transformer especially designed for transistor circuits in magnetic recording applications. The transformer has a range of 40 to 100 kc.

MICHIGAN MAGNETICS is expanding its Vermontville, Michigan plant to provide both more manufacturing and office space. This is the fourth major expansion move in five years. The expansion will permit further increases in recording head production and also more space for research activities.

SARKES-TARZIAN, Bloomington, Indiana, is expected to market a fully transistorized stereo tape machine using drop-in cartridges. Speakers are housed in separate cabinets and have a 10 watt stereo output.

ALLEN ORGAN COMPANY, Macunie, Pa., manufacturers of electronic organs will introduce a complete line of console tape players. Price will range from \$1300 to \$2500 and the smallest unit will be six feet long and have 20 speakers.

FERRODYNAMICS CORPORATION, Lodi, N. J., reported record sales and earnings for 1960. Fred Kantor, president, attributed part of the increase to the entrance by the firm into the recorded tape market. The firm also has a development program underway for the production of instrumentation tape.

ROBINS INDUSTRIES, Flushing, Long Island, has brought out a complete serviceman's kit of replacement tape heads manufactured by Michigan Magnetics. The kit contains a variety of quarter and half track heads which may be used to replace original equipment in at least 189 models of recorders.

BELL SOUND, Columbus, Ohio, has developed a cartridge (RCA type) transport which weighs only 7 pounds and is 8 x 10 inches in size. It can be equipped for automatic or remote control applications. Airline and bus operators are reported to be interetsed in the unit for background music and announcements.

AUDIO RECORDERS, 138 Grand Avenue, Oakland, Cal., is now the largest, independent duplicating facility in Northern California, Oregon, Washington and Hawaii. A duplicating rate card has recently been issued giving charges for duplicating a wide variety of tapes.

AMERICAN CONCERTONE, Culver City, Cal., has recently acquired a controlling interest in Aero Data Corp., missile and satellite tape recorder manufacturer. The Aero recorders are extremely advanced highly miniaturized units. Melvin C. Oelrich, executive vice president of American Concertone will head the new operation.

MATTHEW STUART & CO., New York, has announced the setting up a nation-wide service network for Phono-Trix Portable and Miniature tape recorders. More than 300 independent service agencies will now handle repairs. The firm also plans to introduce several new models this vear.

ARMOUR RESEARCH FOUNDATION

will celebrate its 25th anniversary this year and into May 1962. Beginning with two research projects valued at \$40,000 twenty-five years ago, the Foundation has grown until its research volume has reached \$16,500,000 last year. It has a staff of more than 1200 scientists and technicians.

INSTITUTE OF HIGH FIDELITY MANUFACTURERS announces its 1961 New York show dates as September 13 to 17th at the New York Trade Show Building. A large show is anticipated on the basis of the sell-out in Los Angeles and the new interest to be stirred by FM multiplexing.

REEVES SOUNDCRAFT reports record earnings for the year with a 9.8% increase over the previous year according to a report issued by Hazard E. Reeves, president.

WESTREX CORPORATION, a division of Litton Industries, has developed a voice actuated recorder which automatically stamps the time and date on the magnetic tape. The unit can operate continuously for 251/2 hours without a change of reels if the lowest speed of 5% inch per second is used. Other tape speeds are also available. If continuous operation is desired, the time is stamped on the tape every minute. The recorder was designed for applications where a log of messages must be kept, such as police and aircraft communications. Westrex is at 6601 Romaine Street, Hollywood. Cal.

SONY OF JAPAN is undertaking a research project with Tohoku University to develop a tape to operate at about one fourth of conventional speeds. The tape coating has a thickness of three microns and is of metallic formulation. Recorders to use the tape are also being designed.

TANDBERG OF AMERICA at Pelham, N. Y., is increasing its facilities. Included is a nine story building with increased research and manufacturing accommodations as well as employee recreational facilities. including a swimming pool.

RECENT PATENT issued to Rudolph Singer covers repetition of last played portion of tape. This is accomplished by having a tape loop of any desired size continuously erased and recorded as the main tape plays through. When the main tape stops, the tape loop will then play the last segment without further motion of the main tape. It is thought this will have application for language and music learning, among other applications. Walter Schrenck-Szill of 11 Terrace Circle, Great Neck, N. Y., has the negotiation rights to the parent.

AUDIO ENGINEERING SOCIETY is calling for technical papers for presentation at the Fall Convention and Technical Exhibit to be held October 10 to 13 in New York. Abstracts of all papers must be sent prior to August 15 to Hermon H. Scott, Chairman, Convention Committee AES, 111 Powder Mill Rd., Maynard, Mass. Completed papers received before August 15 will be preprinted before the convention



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instance. See how easily it handles . . . how quickly it splices. Did you notice the shape of the splice ? So dramatically different, yet so practical it prevents adhesive from forming on critical points of the recording mechanism points of the recording mechanism. The result: elimination of the most frequent wow or cause of wow or flutter— increases your listening pleasure.

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At dealers, or write Dept. TR-6. Patent No. 2,778,420 ROBINS INDUSTRIES CORP. Flushing 54, N.Y.



QUESTIONS AND ANSWERS

Questions for this department may be sent by means of a postcard or letter. Please Address your queries to "Questions and Answers." TAPE RECORDING, Severna Park, Maryland. The most interesting and widely applicable question will be used in this department.

Copying Speeds

Q—In copying from tape to tape, I read that recorded tape should be run at the speed of the original recording—but the copying tape may be run at any speed. We have tried running $3\frac{3}{4}$ ips recording at $7\frac{1}{2}$ ips while copying from one machine to another with both machines at $7\frac{1}{2}$ ips in order to save time. When the copy is played at the $3\frac{3}{4}$ ips speed it seems to be OK. What is the disadvantage of this, if any?—O. M., East St. Louis, Ill.

A-So long as you do not exceed the capabilities of the machines there is no disadvantage at running at a higher speed. In fact, commercial duplication of tapes, which are intended to be run at 7½ ips on home machines, is done at speeds up to 120 inches a second.

The danger lies in having high frequencies on the slower speed tape which would fail to reproduce at the higher speed. For instance, if you had an 8.000 cycle tone on a $3\frac{3}{4}$ ips tape and you ran the machine at $7\frac{1}{2}$ ips, this would have the effect of doubling the frequency and the result would be 16,000 cps which the machine might not be able to handle.

Of course, both playing and copying recorders must run at the same speed in order to maintain the same speed on both tapes i.e., a 33/4 ips tape played at 71/2must be copied at 71/2 for playback at 33/4. If the playing machine ran at 33/4 and the copying machine at 71/2, the copy tape would only be suitable for playing at the 71/2 ips speed and, if played at 33/4 would be slowed by half and not be intelligible.

Head Demagnetization

Q—You may or may not have covered the demagnetization of recorder heads in one of your past issues but I would appreciate your amplifying this a bit.

I learned the hard way and it was not until I had my recorder for about $1\frac{1}{2}$ years did this come to light and a very noticeable hiss developed on one or two of my stereo tapes. I now have a demagnetizer which is regularly used. There may be other tape bugs who are not aware of the necessity of demagnetizing the heads. Also, is there such thing as an automatic demagnetizer built into any of the current tape recorders.—R. E. P., Sumner, Iowa.

A —Heads should be demagnetized about every ten hours of playing time for best results and freedom from adding hiss to tapes. Any of the small hand type demagnetizers will do the job in a matter of a few minutes and it is well worth the time it takes. The tip of the demagnetizer is simply worked over the head and then slowly withdrawn to a distance of a few feet before the current is cut off. This induces an alternating current in the head, strong when the tip of the demagnetizer is in contact and gradually weakening as the unit is withdrawn, leaving the head in a demagnetized state.

Professional recording engineers will demagnetize the recording heads before every session to make sure the sound is clean and hiss tree.

The Revere and Wollensak recorders have the automatic demagnetization feature.

Oxide on Roller

Q—Why does a recorder pressure roller get to be so contaminated with iron oxide from the magnetic tape even though it is the polyester base and not the magnetic oxide coating that runs against the pressure roller?

How does the output of High Output tape compare with regular tape. How do the outputs of the various thicknesses of tapes compare with each other?

No one can dare refute the kingship of 2-track stereo tape but I have heard that individuals having access to good test equipment have shown that stereo records keep their fidelity far beyond eight or ten playings and when played on fine components their fidelity exceeds that of 4-track tapes. — P. H., Jr., Brooklyn, N. Y.

A—The iron oxide that builds up on the pressure roller comes from the edges of the tape and also from the back of the tape which picks it up from adjacent layers. The powdered iron oxide is so fine that it can creep around this way.

High Output tape, as the name implies has a greater output and also is more sensitive than regular tape. It might be considered somewhat like fast film for a camera. On the output side, it will produce about 100% more.

The thickness of the base material on which the oxide is coated has little or nothing to do with the output of the tape.

Present duplicating procedures have made 4-track tapes the equal of the older 2-track variety. When the man who invented the LP record says that stereo discs begin to deteriorate after a half dozen playings, we'll take his word for it.

Phone Answering

Q—Would you please tell me if I can use my Webcor tape recorder to answer my telephone when I am not at home?—W. J. R., Portland, Ore.

A —A telephone answering instrument must have a means of iurning itself on when the bell rings, of making a recorded announcement and then recording the reply. No home-type tape recorder is equipped to do this and you will have to get a set from the telephone company.

TAPE IN EDUCATION

(This month's column is a continuation of a series begun in March on teaching machines and the newly-developed techniques of programmed learning which make them possible.)

Another valuable book for any person seriously interested in teaching machines and programmed learning is *Automatic Teaching: The State of the Art*, edited by Eugene Galanter, published 1959 by John Wiley & Sons, Inc., New York 16, N. Y., at \$3.25.

Automatic Teaching is essentially the publication of the proceedings of a conference on the Art and Science of the Automatic Teaching of Verbal and Symbolic Skills held jointly by the University of Pennsylvania and the Air Force Office of Scientific Research in December 1958.

This book was published some months before *Teaching Machines and Programmed Learning: a source book*, which we reviewed in this column last month. As a consequence, the sixteen papers included in *Automatic Teaching* were not reprinted in full in the enormously more comprehensive *Teaching Machines and Programmed Learning*, although all of the individual papers were abstracted briefly in Appendix I of that book.

As the first published book in the teaching-machine field, *Automatic Teaching* was organized to present a comprehensive yet coherent picture of current thinking on the principles and practices of the various systems of programmed learning now being developed experimentally. For this reason, I believe this book to be an essential reference for anyone interested in attempting to apply programmed learning principles to *any* teaching situation.

Since the entire field is rather new in practice, it should go without saying that the ultimate definitive work in the field probably will not be written for many years.

The broadest and most challenging implications of studies being made in this field are—in my mind—that programmed learning may lead to a substantial reversal of the principles of teaching which have governed classroom teaching practice in years gone by.

The basic principle of programmed learning, of course, is that by proper sequential presentation of bits of information of manageable size in conjunction with a related procedure which automatically tests, corrects, and fortifies learning, the student is able to proceed independently to learn without waiting for the teacher to present the new material in the form of classroom lectures.

The teaching *machine* comes into use, therefore, merely as a way of presenting the instructional material to the student in an orderly fashion and insuring that he masters each sequence before moving on to another. More sophisticated teaching machines in the future may also include computer type elements which will measure and evaluate the performance and rate of progress of individual students and then design appropriate instructional programs for the individual students.

Robert C. Snyder

At this moment, however, it seems important to recognize that the most significant studies in the teaching-machine field are really directed toward determining how learning is actually achieved, and—thus how information and other instructional directions should be supplied to the learner (student) to achieve most effective learning.

If there are, indeed, discoverable universal principles of learning which can be utilized to design optimum procedures for providing information and instructions to students (i.e., programming the learner), then these principles will apply just as much to instruction administered by a teacher as they will to instruction administered by any type of teaching machine or other autoinstructional device.

Automatic Teaching begins by presenting the fundamentals of teaching and learning theory necessary to an understanding of machine teaching. It then presents discussions of several types of teaching-machine programs in use and offers suggestions on methods of broadening the applications of the new techniques, and concludes with evaluative chapters on teaching machine theory, psychological theory, and certain psycho-educational issues raised by the papers presented at the conference.

Because of its specific orientation, it gives a much quicker grasp of what has been learned so far without the necessity for the reader to wade through a large number of papers which may contain repetitive sections.

When we began this series we had intended to go into substantial detail in the actual applied techniques of the field. However, in the last two or three months articles on teaching machines and programmed learning have appeared in almost every type of magazine and in the Sunday supplement sections of a great many newspapers. We have already cited some of these and it seems likely that the interested reader will find it more useful to refer to the detailed atticles now available elsewhere rather than have this column go over that same material again in the limited space available here.

For that reason, next month we will try to wind up this series and the following month will try to bring you a report on a very interesting and remarkably successful method of teaching ballroom dancing which may have valuable applications in teaching other performance skills such as spoken languages (including speech therapy), manual arts, playing musical instruments, etc.

(To be continued next month.)



Now you can record or play your tapes anywhere . . . in car, boat or plane. Terado Converters change the 6 or 12 volt battery current to 110 volt, 60 cycle A.C., making your recorder and other electronic equipment truly portable. Models from 35 to 200 watts, all filtered for radios and tape recorders. List prices start at \$23,95.

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The Tape Fun Kit is composed of whimsical, hilarity provoking, laughfilled skits, all of which are designed primarily for fun—and lots of it. Each skit is short and each has a script for every character called for.

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Kit No. 1 contains ten scripts—all different—all amusing. These skits are excellent for affairs where a goodly number of party-goers are present. Everyone has something to say and he or she can say it as his imagination interprets it. The ten scripts encompass 26 different characters, 14 male and 12 female.

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TAPE RECORDING

Severna Park, Maryland

Please send me Tape Fun Kit No. 1. I enclose \$2.00. (Send First Class. I enclose 24c additional.)

FEEDBACK

Excerpts from readers' letters will be used in this column. Address all correspondence to: The Editor: TAPE RECORDING, Severna Park, Maryland

Valuable To Blind

To the Editor:

I wish to sing the praises of the tape recorder in my special field. As a blind student attending San Diego State College with a goal of a Bachelor of Arts in Social Welfare, I find the tape recorder to be an invaluable asset. I, in fact, have three recorders-two Norelcos, Continental 400, and a Steelman Transi-tape battery job. I record my 40-minute lectures in class on the Steelman; later I play it back at home while making verbal notes on a larger permanent tape (note tape) on one of the Norelcos. Most of my text books are read to me on tape-some by local readers on the school's machines, or at their homes on their own machines. Other texts are read by a distant Voicespondent in another state: while still another may be read by a prisoner in a state penitentiary under the Reading for the Blind program.

My Seeing Eye dog, Greta, takes me to college where my tape recorder remembers and repeats my lectures. It plays and records magnificent stereo music, brings into my home the voices of tape friends from all over the world, and can keep up a steady conversation longer than most women and is only half as expensive! What more could one ask? How handicapped I might indeed be, without my tape recorders.

I have just finished listening to the August edition of the "Tape Recording Magazine" which is read, with your permission, by Mr. Edgar Violette of Hartford, Conn. This friend to the blind records the magazine each month without charge and on his own tape, and circulates it among about twenty blind persons throughout the United States and Canada.

My tape reels shall continue to turn, bringing me closer to the frontiers of Knowledge, allowing me the ecstasy of a Beethoven Symphony in stereo, or knitting me closer in friendship to a tape friend in South Africa. Keep up the good work.— Joseph M. Strawn, San Diego, Cal.

Semantics

To the Editor:

Having read books on semantics that were written by Prof. S. I. Hayakawa, I think the terminology that should be used should be that suggested by noted authorities in the audio field.

In your Dec. issue, in "Crosstalk," you mentioned the terms "monophonic" and "monaural," so I dug up an article by a man that I think is an authority on the audio field. The article is from the July-August 1959 *IRE Transactions on Audio* Vol. AU-7, No. 4 title "Wide-Stage Stereo" by Paul W. Kilpsch of Klipsch and Associates, Inc., Hope, Arkansas. In the footnote of this article Mr. Klipsch said that the term "Monophonic" was suggested by W. B. Snow, and that the term "monaural" was a misnomer. Monaural means one eared. I think the term "Binaural" came out back when Emery Cook first developed his binaural disk player—which had two arms —this was about the time binaural tapes came out. In those days the way they heard two track recordings was by using what we now call stereo-earphones; which was the true meaning of binaural, two ears.

I suppose when you are using a small one ear earphone with a small transistor radio that "monaural" is no longer a misnomer.—R. C. Van Dyke. Little Rock, Ark.

Good Hints

To the Editor:

Here are a few little things I have picked up in salvaging scrap and junk to use on tapes.

(1) for leader stock, I salvage the inner foil wrap found in the boxes of X-ray film (the 14 x 17 inch size). A hospital X-ray department will be glad to save these for you. I then open them the full length, flatten them out and fold them so that they can be put in a paper cutter and cut them into $\frac{1}{4}$ inch strips. This will make a strip about 2 feet long which is sufficient for all size reels. This inner wrap is a triple layer and quite sturdy being made of paper, foil, and plastic coating.

(2) for tape clips to keep tape from spilling off the spool in envelope or box, I salvage these disposable heavy aluminum foil pans in which brown and serve rolls or frozen pies are sold in the grocery store, even some types of glass milk bottle have these as caps. After washing I cut off all the wrinkled rims and use only the flat portions. I then cut them into 1/4 inch strips. I feed one end between tape and reel, fold over the inner rim, push the other end between tape and reel on the other side, loop over the inner rim, pull tight and fold back. It is disposable and quite a snug holder.

(3) at long last I have found a use for these polyethelene dust bags put over garments from the dry cleaners. I cut these into squares and use them as dust protectors for tapes, by wrapping the tape in them and fastening with cellophane tape. With ingenuity they can even be adapted as scratch preventers on LP discs in the LP folder.—Rexford F. Mortimer. Altus, Oklaboma.

Where Are The Ads?

To the Editor:

In the articles CROSSTALK in TAPE RECORDING the advantages of the tape recorder over the phonograph are often mentioned and with this I fully agree, and the point is often made that recorder manufacturers do not push their product enough to increase sales, and this is also very true as in the two large newspapers in Cleveland there are very few ads about tape recorders compared to those of phonographs. I have long ago recognized the desirability of owning two tape recorders in copying radio programs and for the last two years I have used two, but being of two different makes one being out of production almost four years ago, it occurred to me that it would be better to use two of the same make and accordingly I bought one of the same make as the later one of the other two as it was a later model and as I was very much pleased with the earlier.

Now here I would like to say this, if the sales of tape recorders fall behind those of phonographs some of the recorder manufacturers at least are themselves to blame in one respect as my experience will show.

Here is what happened, to begin with the instruction and service pamphlet furnished with the recorder I bought was for a somewhat earlier model, along with this however there was also a printed sheet tending to show how the connections should be made between the tape deck and the preamplifier, but these added instructions were not at all as clear as they could have been, so much so in fact that the service man of the dealer I bought from could not understand it himself, but after almost a month of running back and forth the service man found the proper hookup and the recorder operated very well.

A few days before this however I had written to the manufacturer protesting the inadequate instructions and some three weeks later received a reply stating that with any change of a model a certain amount of attendant confusion ensued and saying that a reprint of the instruction and service manual was in progress and invited me to write in for any information I might wish in the meantime.

There were a few things I wished to know as soon as possible and following their invitation I wrote them again requesting the desired information and if possible the new instruction and service manual which I had also earlier requested from my dealer.

This was well over a month ago and to date I haven't heard a word from either the manufacturer or the dealer, so now here it is a little over three months ago that I bought the recorder and I still don't know all I would like to know about it.

As I said at the beginning of this I much prefer the tape recorder over the phonograph and I would like to talk up my particular recorders to my friends and others, but how can I honestly do this after such an experience as I have had.

In addition to the foregoing but quite apart from it, I would like to say that in view of the proclaimed popularity of the tape recorder it is quite amazing to meet now and then a person who has never heard one and some few who have never seen one, and others who have actually bought one, used it for a short time, and then set it aside without realizing its full possibilities, but on this subject I could say much more if only time and space permitted.—Peter F. Gilles, Cleveland, Obio.

Speeches Wanted

To the Editor:

I wonder if you could help me out by telling me where I can obtain a tape recording of Winston Churchill's speech at M.I.T. in 1948 (I think). I have written to many places but have not been able to obtain it. I would also like to obtain a tape of General MacArthur's speech to the Senate on his return from Korea. This I have not been able to get hold of either.—D. C. Buscall, 714 Sligo Avenue, Apt. G-2, Silver Spring, Md.

Perhaps one of our readers has the desired item and would furnish a copy. If so please communicate with Mr. Buscall directly.

Knowledge Needed To the Editor:

Recently a question has arisen as to why tapes are not meeting with greater popular demand. The blame was placed on lack of the proper publicity.

It has occurred to me that the same question might be raised in connection with tape recorders. Why are they not selling faster? Why, with their great versatility and fine musical performance, are they not in greater public demand?

It is my experience that, when I ask someone I think is a prospective buyer why he does not get a tape recorder he inevitably answers with the question, "What do I need a tape recorder for?" This is the answer one gets in an astonishingly large number of cases. Obviously these people have no idea of what a tape recorder really is. They think it is a mere gadget for recording conversations, playing jokes, reporting, or taking down dictation. They simply do not connect a tape recorder with music and entertainment.

Why do they have this idea? I am enclosing an advertising clipping from a local newspaper which shows radios, record players, hi-fi etc. under one heading and tape recorders, further down, under an entirely different heading, as though they were an entirely different type of gadget. This seems to be the general practice in advertising nearly everywhere.

This, I suggest, is the principle reason why the public has a wrong idea of tape recorders, and why people are not buying more tape recorders than they do. Besides this, turn over the pages of your local newspaper and notice how many pictures of hi-fi and record sets and record players there are and how few tape recorders. Perhaps if it were called a "tape player' it might go across with the public better.—E. M. Gilboy, Montreal, Quebec, Canada.

Don't be a "NOW AND THEN" reader! Get TAPE RECORDING <u>Every</u> Month!



If you're a casual reader of TAPE RECORDING, if you buy the magazine just occasionally for a particular feature, now is the time to change, time to make TAPE RECORDING a reading habit. Every issue contains informative and interesting articles written just for tape recording enthusiasts, in addition to regular features such as Crosstalk, Industry News, Tape Reviews, New Products, Tape in Education, Shop or Swap, etc. Each issue also contains a New Product Report on the newest of recording equipment tested for performance by our staff. Think how convenient it will be to have all 12 issues per year delivered right to your door. Fill in the handy coupon NOW!

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NEW PRODUCTS

MARK-Q-MATIC SYNCHRONIZER



The Mark-Q-Matic Division of General Techniques has brought out a new type of tape-to-slide synchronizer which uses a pencil for cueing. The Mark-Q-Matic Model MQM-1 is a completely self contained unit which does not have to be installed onto or into the tape recorder or the projector. To add sound to slides, the MQM is simply placed next to the recorder and the tape is looped through a sensing slot. The tape is then recorded and cued to slides with a pencil mark; there is no need to laminate, splice or slit the tape, or to record a beep signal. Because the MQM uses no vacuum tubes which can burn out, it will operate with virtually no need for service during its long, trouble-free life. The cue mark can readily be erased for any reason without affecting the tape. The Mark-Q-Matic Model MQM, complete with full instructions and connector kit, is priced at \$49.95. For information, write Dept. MP, General Techniques, Inc., 1270 Broadway, New York 1. N. Y.

REVERE STEREO COMPANION



Revere Camera Company, 320 East 21st Street, Chicago 16, Ill. is now marketing a separate amplifier-speaker which matches the styling and electronics of the Revere T-2200 stereo tape recorder. Named the Stereo Companion T-2200, the new unit, when used with the T-2200 provides all the equipment needed for stereo playback and for stereo recording, either "live" with two mikes or from other recordings, on both two and four tracks. For stereo hookup the recorder simply plugs into a wall socket, and the companion plugs into the recorder. A single control on the recorder also starts and stops the companion. The companion is also designed for use separately as a portable extension amplifier and speaker for radio, phono and other audio systems, and as an independent 8-watt public address system. Frequency responses of the companion, identical with the recorder, are 40 to 18,000 cps, plus or minus 3 db at 71/2 ips, with a signal-to-noise ratio better than 46 db. The wow-flutter rating of the recorder is less than 0.3%. The companion, including amplifier, speaker, matching microphone, matching case, 10-foot AC power cord, a 15-foot stereo connecting cable and storage space, sells for less than \$70.

PRO-TEX SEALEDREEL



Pro-Tex Reel Band Co., 200 Film Building, Cleveland 14, Ohio is marketing a new packaged tape reel called Sealedreel, which seals tape and film from dust and extremes in humidity. A molded resilient band of patented design snaps and locks into a conforming bead around the periphery of the reel. The molded band also wedges itself into the reel and provides a substantial support to the reel flanges, against bending and consequent damage to tape or film. Write for prices and additional information.

ROBERTS MIKE STAND



A new microphone desk stand for use with the Roberts microphone is being introduced by Roberts Electronics, Inc., 829 North Highland Avenue, Los Angeles 38, California. It is made of gleaming black bakelite and built for years of service, according to the manufacturer. It is priced at \$2.45.

The Roberts microphone, which has an M-300 high quality crystal, has been specially contoured for comfortable holding by the speaker. It retails for \$17.90.

EICO TAPE DECK



Production of a new stereo/mono 4track tape deck for professional and home use, has been announced by Electronic Instrument Company, Inc., 33-00 Northern Blvd., Long Island City 1, N. Y. This deck, the RP-100, includes such features as 14transistor playback, amplifier, and record electronics, with separate push-pull biaserase oscillator and full-wave rectifier; a hysteresis synchronous capstan drive motor and two heavy-duty 4-pole induction reel motors. Each head is provided with a 4point professional head mount, and the record and play heads have laminated mumetal core pieces, interchannel mu-metal shielding, and mu-metal outer shielding. Use of separate record and playback heads and amplifiers permit off-the-tape monitor and selected sound-on-sound operation without changing connections. Heads and guides are on a common detachable base plate. Controls are all-electric, all-pushbutton, and the "record" button is interlocked with the "run" button to prevent inadvertent erasure. Frequency response at $7\frac{1}{2}$ ips is 30-15,000 cps plus or minus 2 db, noise if 55 db below maximum recording level, and wow and flutter are 0.2%. Fully wired and tested-\$395; with the electronics in kit form-\$289.95. Write EICO for details.

TAPE FUN KITS

The Tape Fun Company has available packaged kits for use with tape recorders. The first kit contains 10 skits with 26 different characters—14 male and 12 female —and each skit has sufficient copies so that each character reads from his own. Interpretation of lines is left to the actors imagination. Other kits contain radio interviews, songs, historical scenes and characters and other materials. Each kit costs \$2.00. Beginning this issue these kits will be available through this magazine. See page 14.

TAPE CLUB NEWS

Copyright Infringement?

It is most distressing to learn of the plight of Organ Music Enthusiasts with an organization in England known as "Mechanical Copyright Protection Society Limited." who demanded that this club obtain a license from them. Because of it the club has been forced to discontinue their tape library.

For some time now we have all been aware of the copyright laws of the United States which allow recording of copyrighted material as long as it is not sold for profit. This, to us, is certainly the fairest form of handling such material. Under the English law a person apparently could not even record copyrighted music in his own home from the radio or TV or even his own child's piano lessons, which may include practice of some copyrighted material, without first obtaining a license. As we said in • the beginning-most distressing.

We believe the Organ Music Enthusiasts to be a grand club for all those folks truly interested in the hobby and with a talent for organ music and to have such problems as this infringement face them is most disheartening indeed.

Continues Expansion

We have been informed that the New Zealand Tape Recording Club now has an active membership of 142, with five branches of the club in the main centers of new Zealand. Twenty '"Overseas Members" are included.

This club is controlled by an "Executive Council." In this council there is a Tape Digest Director, who produces a Sound Magazine of N.Z.T.R.C. news and events which is sent to all New Zealand members five times per year, and the running time of each magazine is approximately one and one-half hours. A similar Overseas Tape Digest is now in preparation. Also included in the council are a Library Director, Technical Director, a Publicity & Publications Section and a Friendship Committee.

The club is keen to obtain more new members, particularly from the United States, and full information can be obtained by writing to the Overseas Membership Director, Ross McEwan, c/o club headquarters.

New Name

The Bilingual Recording Club has changed its name to the Amateur Tape Exchange Association. After considerable discussion at a general club meeting, it was decided to substitute this name because: "Amateur" distinguishes club activities from those of professional groups engaged in tape recording for profit. It is the club's intention to preserve the meaning and spirit of a non-profit organization. "Tape" is the club's main interest. "Exchange" is what club members do with their tapes. "Association" is a group formed for a common purpose.

Larger Club Bulletin The May issue of "The Voicespondent,"

quarterly magazine of The Voicespondence Club, is always a somewhat larger one than usual. This May it runs to 16 pages, all filled with interesting reading material. One of the features this time is an index of important articles that have appeared in previous issues, and from it we note that some 57 of these articles, to which members frequently still refer, have been published during the past eight years. The in-

- JOIN A CLUB -

TAPE RECORDING Magazine assumes no responsibility for the management or operation of the clubs listed. This directory of clubs is maintaired as a service to our readers. Please write directly to the club in which you are interested regarding membership or other mat-

AMATEUR TAPE EXCHANGE ASSOCIATION J. G. Valla, V-P & Secretary 1680 Couvrette Street St. Laurent 9, P. Q., Canada

AMERICAN TAPE EXCHANGE Cortlandt Parent, Director Box 324 Shrub Oak, N. Y.

CATHOLIC TAPE RECORDERS OF AMERICA, INTERNATIONAL Jerome W. Ciarrocchi, Secretary 26 South Mount Vernon Avenue Uniontown, Pennsylvania

> CLUB DU RUBAN SONORE J. A. Freddy Masson, Secretar Grosse IIe, Cte, Montmagny, P. Que., Canada Л. Secretary

INDIANA RECORDING CLUB Mazie Coffman, Secretary 3612 Orchard Avenue Indianapolis 18, Indiana

MAGNETO-VOX CLUB J. M. Roussel, Sec.-Exec. 8140, 10 leme Avenue Montreal 38, Que., Canada

ORGAN MUSIC ENTHUSIASTS Carl Williams, Secretary 152 Clizbe Avenue Amsterdam, New York

STEREO INTERNATIONAL O. B. Sloat, Director 1067 Flatbush Avenue Brooklyn 26, N. Y.

THE VOICESPONDENCE CLUB Charles Owen, Secretary Noel, Virginia

UNION MONDIALE DES VOIX FRANCAISES Emile Garin, Secretary 886 Bushwick Avenue Brooklyn 21, N. Y.

> WORLD TAPE PALS, Inc. Marjorie Matthews, Secretary P. O. Box 9211, Dallas 15, Texas

OVERSEAS

AUSTRALIAN TAPE RECORDISTS ASSOC. John F. Wallen, Hon, Secretary Box 970. H., GPO. Adelaide, South Australia

ENGLISH SPEAKING TAPE RESPONDENTS' ASSOCIATION Robert Ellis, Secretary and Treasurer Schoolhouse, Whitsome By Duns Berwickshire, Scotland

TAPE RECORDER CLUB A. Alexander, Secretary 123 Sutton Common Rd. Sutton, Surrey, England

THE NEW ZEALAND TAPE RECORDING CLUB Kenneth M. Tuxford P. O. Box 7060 Auckland, W. I, New Zealand

Please enclose self addressed, stamped envelope when writing to the clubs.

dex also lists 30 of the more important equipment and product reports that have been published in "The Voicespondent" during this same period.

Welcome Committee

Some new World Tape Pal members in the U.S. will be receiving their welcome tape from Wales, according to Ray and Peg Smithey, heads of the Welcome Committee, who announce an exchange arrangement with Reg and Marion Gapper, who are welcoming new members in the United Kingdom.

The Welcome Committee, some 30 strong, greets new WTP's and helps them get started with tape exchange. Ray and Peg find that welcomers often acquire all the tape pals they can answer in a short time, and withdraw from the committee, but they are quickly replaced with other members eager to expand their taping acrivities.

WTP Stamp Reel

The WTP Stamp Reel is shaping up nicely with 24 (probably more by the time this is in print) members registered. A list has been compiled, giving information on the registered members, and a copy will be sent on receipt of a stamped envelope. Club members outside the U.S. should send an International Reply Coupon or equivalent of 8 cents U. S. in mint stamps of your country.

Assistance of all WTP representatives is requested for help in setting up an exchange plan. If any WTP who receives a large amount of mail will tear off the stamps and either send them to his representative or to Al Bagnall, they will be used to make up exchange packets, which will be circulated to members of the WTP Stamp Reel. Remember that what seems to be a commonplace stamp to you in your country will be a welcome and appreciated stamp to a collector in another country. A large number will be needed, so that any amount of duplicates can be used.

Radio Station WFHA-FM Interviews CTRI

John McGuire, special events reporter, interviewed Angelica Colasurdo and Jerome W. Ciarrocchi (secretary of Catholic Tape Recoders, International) on November 27, 1960 for a radio broadcast over station WFHA-FM in Redbank, New Jersey. Through the courtesy of Mary Productions of Belford, N. J. the broadcast was made possible. It was aired twice throughout the New Jersey, New York, Delaware, and Rhode Island area. The interview originated from the studios of WFHA-FM at 7 Broad Street in Red Bank, N. J. Mary-Eunice and Joseph Spagnola of Mary Productions are planning a series of programs for the station. We encourage members of CTRI to be on the lookout for their programs. For more details, write to the radio station.

To All Clubs

We on the staff of Tape Recording have noted that some of our listed clubs are much more active than others, and we urge all clubs to take stock of themselves and see if any revamping of activities and/or policy can be done to improve their organizations.

Keep your members interested and eager for participation through varied activities.



"They laughed when I said three of me were going to sing." Multiple recording, where one person sings all the different parts, will provide you and your friends with many exciting possibilities for creating recorded musical effects ordinarily impossible.

Sound-On-Sound With Your Recorder

by Tommy Thomas

.... you can convert your recorder to add sound-on-sound

MORE and more emphasis is being given, lately, to the sound-on-sound feature on recorders, and it's getting harder and harder to completely ignore this intriguing "new" idea. After all, it *does* sound rather fascinating, being able to record someone singing a duet, trio or even "making like a quartet," with just the one person doing all the parts. Or you can accompany yourself with two or three different instruments, with you playing all of them (one at a time, of course). With so many recorder ads stressing this feature now, I'm sure you've already conjured up 'a few ideas of your own whereby you could effectively utilize this exciting idea.



This Flow Chart illustrates how you can convert an "ordinary" recorder so it will be capable of multiple recording. Since most recorders nowadays play from left to right, this is the way this chart was constructed. "A" represents the tape coming from the Supply Reel, and "E" is the tape going on to the Take-Up Reel.



Left: Please note that this particular recorder plays "backwards." That is, from right to left. To lessen possible confusion, the various main parts have been lettered to exactly correspond with the preceding chart. And the previously brown Auxiliary Head Assembly was painted a light tan so it would stand out a lot better. Right: The type recorder you have will determine how you should mount the Auxiliary Head Assembly. For just-for-fun use, the method shown here (two long wood screws and lots of washers) is okay. But for more permanent, serious use, experiment a bit to locate the best "detour" for the tape, so as not to add any wow or flutter.

The trouble is, recorders that offer the sound-on-sound feature (usually stereo recorders, nowadays) cost quite a bit of money, and not all of us are prepared right at present to put out this much loot. So maybe the answer to this problem is for you to "convert" your present recorder! It's not difficult, really, especially if you've already made up the Auxiliary Tape Head Assembly described in the January issue. With that and its accompanying preamplifier, all you need further are three or four dollars worth



of minor parts and a rearrangement of where the Auxiliary Tape Head goes. We'll go into all this in detail a bit further on.

First, I'd like to bring up the subject of monitoring. When you "monitor" a recording, you are listening to the material being recorded. Usually, with home recorders, you are listening to the signal that is fed into the recorder ... and that is just exactly what we are looking for here. It's absolutely necessary, when making soundon-sound recordings, to be able to hear the first recording(s) as you make subsequent ones, or you wouldn't be able to synchronize the two together. So, if you're so far unfamiliar with how to monitor with your recorder (and just about all but the very cheapest recorders have this feature), then check through your recording manual to see how it's done. Or, if this doesn't give you the required information, then ask your dealer to see just how (and if) monitoring can be accomplished. With the little Crescent recorder illustrated here, it's merely a matter of plugging a set of 4000-ohm headphones into the appropriate output jack.



Left: The auxiliary tape preamplifier equalizes the tiny signal that comes from the extra tape head and also boosts it to a usable strength. Further, though not shown here and not really recommended (see text), the preamp output can be divided and used both for recording and for "monitoring" purposes. Above: Lacking the refinement of a professional-type mixer, some sort of shielded "Y" connector is needed so you can combine the individual signals . . from the auxiliary head preamp and from the microphone. Also, a separate "line control" is needed to balance the two signals, so they will be recorded at an equal level.



Monitoring (which means listening to the signal being recorded) is absolutely essential, of course, so the performer will have an accurate method of synchronizing himself in perfect harmony with the previously recorded music. Your recorder manual should tell you how to do this, or ask your dealer if in doubt.

Now, for those of you who have recorders that are *not* capable of monitoring the incoming signal, there's still some hope. The signal that you are interested in hearing is the one coming from the auxiliary head preamplifier. It's possible to divide this signal up so not all of it goes into the recorder to be re-recorded . . . but a little is "diverted off" to a set of headphones. This is best accomplished, perhaps, by plugging the shielded output cable from the preamp into a shielded flexible "Y" connector. From there, divided, it can go both to the recorder and to the headphones. It's not a very *loud* signal, though, making it somewhat difficult to really do good work. The person doing the singing will find it a strain singing and listening at the same time. It'll be far better if your recorder has a regular monitor output.

One more point!

Sound-on-sound recording, when you're first introduced to it, seems rather complicated. This is true whether you do it the way shown here or with a recorder specially designed for multiple recording. To do it right and not get mixed up, you have to follow a definite procedure faithfully, making sure that you don't skip or do out of order any of the necessary "steps." And hardest of all until you get the hang of it, you have to keep practicing until you learn how to balance the different signals. But once mastered, and *patience* is the keyword here, an enchanting world of very special recording opportunities are yours forevermore.

In previous articles describing various uses for the Auxiliary Head Assembly, the assembly was always placed *after* the regular tape heads. With the special system described here it is necessary to reverse this procedure and now mount the assembly *ahead* of the regular tape heads. This way, with the play-head before, we're ready for sound-onsound recording that works like this (the letters correspond with those on the diagram): (A) Make your first recording in the regular manner, and then rewind the tape. (B) When run through again, the recorder tape goes past the Auxiliary Head which "captures" the signal as it goes by and leads it through the auxiliary preamplifier, and from there on to the recorder's regular Record Head via an auxiliary volume control. Simultaneously, you make a second recording with a microphone and combine this signal with the previously taped one. (C) As this is happening, the tape goes on past the Erase Head, in preparation for the new recording. (D) Now, both signals having been combined and balanced, they go together to the Record Head and are recorded on the freshly erased tape. (E) The tape now has two separately made signals on it, or sound-on-sound.

Theoretically, the tape can now be rewound and other signals added in exactly the same manner indefinitely. But the practical limit here (due partially to the pickup of background tape noise which increases with each runthrough, and due even more to the eventual "breakdown" of so many re-recordings) seems to be three or four. The better your recorder, the better your chances of expanding your "trio" into a "quartet."

Now, let's go over the diagram again, this time more fully explaining the "A" and "B" functions of this type of multiple recording. And please note my "Wife-Saver" set-up in picture below. As previously stressed, the time-consuming part of multiple recording comes at the beginning, when you're getting acquainted with the step-bystep procedure necessary and when you're experimenting with volume-control balancing. Even if you have a very patient wife (which I have) or other assistant, please try not to use them at the very beginning to help you out with your tests. It's much easier, I soon discovered to my wife's relief (she was beginning to get hoarse), to use a record player for your initial test purposes. Make your beginning "master" recording, upon which all others have to be based, by copying a portion of an LP. Almost any LP will work, I suppose, but the chore is that more easier if you use a record that contains talking as well as music. This makes it especially simple for you to add your own talking during the re-recording, and compare the two volumes directly. It's a lot easier than singing at this stage of the proceedings. Finally, all these beginning tests made and the various volumes noted, make your last "polish up" check with the aid of the aforementioned wife or friend.

(A) The first recording, since it *is* first, takes the greatest "beating" because it's the one that is re-recorded most often. For this reason, try to make this recording as close as possible to *just below* the level of distortion. The higher the level the better. And note that it's nec-



Wow, quite a maze of wire and equipment here! But you only need all this at the very beginning. When you are first getting acquainted with multiple recording, pinning down the different volume control settings for proper overall balance can be a chore. Here a record player can be a handy "assistant" to have.

essary to add your subsequent recordings correctly the very first time, as the first recording is erased and lost forever to you if you goof. This isn't as difficult as it may seem for at least two reasons: (1) You've already made your tests for volume balance . . . and be sure to make careful note of mike-to-performer distance each time. (2) And remember, of course, that you don't have to make the subsequent recordings immediately. By all means play the first recording over a few times—either over the speaker or through phones, for even better practice—and have the performer "run it through" a few times, practicing his harmony until its perfect.

(B) With the tape rewound unto the Supply Reel, now you're ready to proceed with the second recording. The tape passes the auxiliary head, which picks up the first signal and routes it through the preamp for the necessary amplification and equalization. From there it goes through a small, auxiliary volume control (Switchcraft Type 366 Line Balance Control or equivalent) which in turn is plugged into a shielded "Y" adaptor that is plugged into the microphone input. The exact adaptor that you should use will depend on your own particular recorder, and the type input it has. The main point to notice here is that though both outputs (from the auxiliary tape head preamp and from the mike) go to the same input into the recorder, they have to be individually controlled. I found it best to use the volume control on the recorder to control the microphone and, with that set (and marked and noted for all future sound-on-sound recording), to use the



The "added on" recordings are the critical ones, since a mistake here means starting from scratch again. It's a bit tricky, accompanying your own voice coming to you via a pair of headphones, so better practice a few times before going ahead with the actual "take." And watch the important mouth-to-mike distance.



Remember, make the first recording in your regular manner, without going around the auxiliary tape head. Again, a mixer would be nice, used with a multiple microphone set-up, but they're not at all essential. As shown, one mike, placed close to the singer's mouth, will make a pleasing and balanced recording.

separate auxiliary volume control to bring the preamp signal from the first recording down to an equivalent level. Once this was determined, I also marked this volume control knob for future reference so I could always come back to this same adjustment again. Naturally, changing the volume control on the recorder will also affect the preamp signal . . . but I got around having to make further extensive tests by deciding upon a "standard" recorder volume and—as just noted—always using it when doing multiple sound work. All of my microphone volume changes are made by moving the mike closer or further away from the singer (or musical instrument, if one is included in a second, third or fourth addition). All of these special volume control settings-I want to stress one final time-are only used during the re-recordings. The very first recording may be made with any recorder volume you decide is best for the particular situation.

And that's about it! A bit complicated, but not unduly so by any means. For those of you who want something new to experiment with on your "old" recorder, soundon-sound recording should have much to offer. You'll have to experiment a bit at first, getting oriented, but once this is over the rest is pure fun. And don't neglect putting other possibilities to work, with variations of this same system. For instance, briefly, you could use this same set-up for "reworking" some of your already-recorded tapes, to make them more enjoyable. You could take a recorded collection of musical odds and ends-picked up from LP's, TV, radio, etc.-say, and bring them all into a more pleasant balance. During the re-recording you could bring up the level of those selections that are a bit on the weak side. And, for those selections that end abruptly and rather jarringly, it'll be a simple matter to control the rerecording volume so as to introduce gentle "fades" whenever you want them. (By the way, with this idea, since you won't be needing the microphone, lead your output from the auxiliary head preamp directly into your recorder's radio input, if it has one, rather than the mike input. It'll work better that way, and with no auxiliary control needed as the volume control on the recorder will take care of it.) And then, just to give you another version of this same idea, you could . . . oh heck . . . I can't grab all the fun . . . I'll let you take it from here.

TAPE IS FOR WEDDINGS

by Bart Pierson

... the sounds of a wedding evoke memories of the day more forcefully than pictures.



In a large church, such as this, it may be necessary to run mike lines long distances in which case a microphone transformer and a low impedance microphone must be used.

S^{INCE} the days of the tintype, pictures have been the recognized way of recording a wedding for posterity. But the sounds of a wedding are more memory evoking than pictures. One young bride of our acquaintance said "Every time we play the tape of our wedding we feel the same sense of tension and excitement that we felt on our wedding day."

A recording of a wedding makes an excellent gift and recording weddings can add to your income, too. Some recordists tie in with local photographers to offer the couple a sight and sound package that completely covers the event. Others keep an eye on wedding announcements and call the bride to see if she would like the ceremony recorded. Just as a photographer trots out his best work to show what he can do, so a recordist can play samples of his own wedding work to make the sale.

The most difficult part of making a wedding recording is placing the mikes and equipment. Both should be as inconspicuous as possible so there will be no distraction during the ceremony. The permission of the minister or other church authorities should be obtained in advance

The mikes should be concealed whenever possible. Here the florist who decorated the church obligingly decorated the stands with ferns to hide them and fit them in with the decor of the church. and they can be very helpful in making suggestions as to mike placement for they know best where each of the steps in the ceremony will take place.

Mike extension cords may be needed and these, for most mikes, should not exceed 25 feet total and, of course must be shielded wire. If longer lines are needed, then a low impedance mike must be used with a microphone transformer at the recorder to match the high impedance input found on most home type recorders.





If you have a number of mikes and a mixer, the job is simplified for then you can set up one mike for the organ and soloist and another to pick up the vows.

The recording level must be watched carefully throughout the service. Usually there is an organ prelude as the audience comes in. When the ceremony is about to begin, the wedding march is played and as the bride enters the volume suddenly increases. This must be watched for and the level dropped quickly to prevent overload.

Because the vows are usually spoken in rather soft voices, the mike should be as close to the point as possible. Here you will probably have to turn the volume level away up. This will bring in many background sounds but there is little that can be done to avoid them. Again, at the conclusion of the vows when the couple comes back down the aisle as man and wife, the organist usually pulls all the stops and you'll have to drop the recording volume quickly.

Following the ceremony, the recorder should be set up in the reception room or an anteroom and the bride and groom and the principal relatives and wedding guests interviewed. Their comments usually are well wishes for the happy couple with you acting as the interviewer. You can well imagine the impact such a recording will have as the years pass.

For final delivery, you can box the tape in an attractive box, with perhaps one of the wedding pictures as a cover, or have disc records cut from the tape and presented as an album. The latter course might be appropriate for those who do not have recorders but keep a protection copy of the tape when the discs are cut to cover yourself in the event of loss or damage to the master tape.

Recording weddings entails great responsibility. Check out the equipment carefully and have it set up and make trial recordings before the wedding. This will mean a few extra hours of work but its the best insurance.



In addition to recording the music and actual ceremony, both the bride and groom and the wedding guests should be interviewed. The recordist can recruit one of the wedding party to round up the important guests and other members of the party while he is doing the actual interviewing. The tape should be edited afterward to provide the smoothest possible presentation.



If possible, the recording should be monitored through earphones to make sure everything is going on the tape and to set the proper volume levels. $7l_2$ ips speed is best for capturing the organ and singers but be sure your reel of tape will provide enough time to completely cover the wedding without changing tape. The lower $3\frac{3}{4}$ ips speed is satisfactory if your machine is free from wow and flutter at that speed.



Frank Beury, president of Best Selling Books for the Blind in his recording studio complete with a pot of tea, lemon and honey. His work has enabled blind persons to hear the latest in current literature.

Frank Beury -- Eye For the Blind

by Frances Virginia Gordon Photos by Richard Sears McCulloch

... The latest in current literature is made available to the blind through his Best Selling Books for the Blind program.

A TAPE duplicator is the hour glass by which the working life of Frank G. Beury, president of Best Selling Books for the Blind, Inc., is measured. A man intensely dedicated to his work, when he is awake and not recording books on tape—it spins—duplicating books in order that they may be mailed out on twenty-four-hour notice to his blind membership, a service on which he prides himself. Custom built for Beury by T. A. Benham, lecturer in Physics at Haverford College, and a man who is himself blind, its importance in the life of its owner can hardly be overestimated.

Frank Beury is a dynamic and forceful person with an underlying concern for the troubled. Louis Azrael, wellknown Baltimore columnist, once expressed his impression of the man in these words, "Frank strikes me as an unusually vital person of great decency and kindness." And like Cassius, he believes that "A friend should bear his friend's infirmities." It is his vitality and drive which enables him to work twelve hours a day and insist "It's all pure joy." It was his concern for a friend that launched him into his work of reading for the blind.

Because he wanted desperately to do something for an old college friend, Bruce McConnell, blind for nearly ten years, he tried reading to him by means of a tape recording. The idea came to him one night while he was watching television. He had just been given a tape recorder and was playing around with it, while in the back of his mind he kept thinking of what he could do to help McConnell, when suddenly everything fell into place.

He walked out on the TV show, called his friend in Philadelphia, asked him what he was interested in reading, and then proceeded to put his first book on tape. The book— The Man in the Gray Flannel Suit.

Beury took the tape to Bruce McConnell, borrowed a tape recorder, showed his blind friend how to operate it, and then sat for the first hour's reading, hearing his own voice played back. McConnell's pleasure and enthusiasm for the book was a high point in the life of Frank Beury. And that evening marked a crucial time in his life, for his old college crony told him that, in his opinion, the future president of Best Selling Books for the Blind had a knack for reading books so blind persons could enjoy them. From then on it seemed logical to continue reading on tape, not only for McConnell, but for the blind all over the country.

Best Selling Books for the Blind, which is a non-profit organization, has its headquarters in the Beury home on Blenheim Road, Phoenix, Baltimore County, Maryland. During the past four years the company, operating as a rental library, has built up its following to some 100 members and provides them with tape recordings of current best



Tapes are duplicated in this specially made duplicator which runs at 15 ips. It was made by T. A. Benham of Haverford College, himself blind, and a director of Best Selling Books for the Blind.

sellers, both fiction and non-fiction, which are made available on 24-hour notice. Its list of recorded tapes now includes over 200 of the most widely read books published since 1956, with the cost of the rental running close to the purchase price of the book.

Much emphasis is placed on fast service and all mail which comes in the morning post is answered that day. But most important, the blind subscribers to Frank Beury's service can read today's best sellers today, and not six or eight months from now. By giving the members their choice of books which are being read and discussed, when they want them, Best Selling Books for the Blind provides one more way in which the blind can live more normally in companionship with the sighted.

Beury does little custom recording and sticks to the current best seller lists. He is loud in his praise of "Talking Books," operated by the Library of Congress, but his own service is unique and there is nothing like it anywhere in the United States. All his tapes are recorded in a small studio housed in a trailer behind his home. This studio contains books, a comfortable chair, a pitcher of tea, honey and lemon, his Electrovoice 606 microphone, which he prefers because it is a self-cancelling mike which cuts down on background noise, and his recorder, a Revere T-700 D.

It takes about four hours of reading time to turn out three hours of corrected tape and between nine and fifteen hours of finished tape for the average novel. There is a great deal more to his job than reading, however. The mechanical end requires skill, knowledge and hours of time and labor. A copy of any tape can be made on his duplicator in twentytwo and a half minutes. When it is on, clocks are left ticking —alarms at the ready—to alert all members of the family and working staff when it is time to stand by and turn the duplicator off. Whether Mr. Beury is engaged in animated conversation, having a drink, playing with his young son or daughters, or watching a ball game on television, the duplicating machine is always running, and the clock calls the signals.

This machine, which is basically two Viking tape decks, altered, adapted and wired by Benham, duplicates at the rate of 15 inches a second, both tracks at once, with one track being duplicated backward, but with a perfect mirror image which reproduces faultlessly when played forward. The master tape is recorded on 1800-foot Mylar reels at 3³/₄ inches per second. Allowing time for head cleaning and reel changing, it all takes approximately half an hour per reel.

All master tapes are first sent to Bruce McConnell, who is now vice president and a member of the company's board of directors. He points out any errors that have been made in order that they may be corrected before the book is duplicated and sent out to members.

With the exception of a few books written in the first person feminine, Beury has recorded all the books offered by his organization. His mother, Mrs. William M. Beury of Baltimore, has recorded for him, as well as Mrs. Suzanne Baskin of New York, whose latest tape is Noel Coward's *Pomp and Circumstance.*

Undoubtedly his most outstanding and memorable effort was the recording of William Shirer's *The Rise and Fall* of the *Third Reich*, which provides 541/2 hours of reading time. The Maryland tape rental library was the first, and as



Tapes ready for shipment are kept in racks. Shipments are made in fibre boxes similar to those used for 16mm films. A fee is charged for each tape in order to make the operation as nearly self sustaining as possible.



Having no place in his home for a studio, Frank Beury bought this trailer and parked it outside the barn. In it he built a small studio and the facilities needed for his work for the blind.

far as Beury knows, the only one in the field to record this definitive chronicle of Nazi Germany.

After hearing this book, Judge William E. Powers, of the Supreme Court of Rhode Island, a subscriber to Best Selling Books, wrote the following to Mr. Beury: "Permit me to compliment you on the reading of Shirer's intriguing and somewhat monumental account of the Third Reich. You are to be complimented for your flawless adherence to quotations, footnotes and text proper. . . . it may interest you to know that a sighted friend, a skilled and prolific reader in his own right, followed the printed text along with your recording of reel 3 and was tremendously impressed. I do appreciate your friendly cooperation and count my association with 'Best Selling Books' among my blessings."

Most of the subscribers to the service feel pretty much the same way. And it is his voluminous and intimate correspondence with them that gives them a tremendous feeling of personal and individual contact with Beury. They take the attitude that anything that interests and concerns them, also interests and concerns him. And they are entirely correct. Marriage, the arrival of children, the death of loved ones, trips undertaken, any questions that may be plaguing them, discussions of books, and both praise and criticism, are all subjects of letters to him, and all answered personally and with great warmth by the president of Best Selling Books.

To date Beury has never felt the need to either delete or add a single word to any tape, except to occasionally explain a pun which is only apparent in the spelling of a word, and only once has he made a change. When he discovered that a well-known clergyman writer had two American League baseball teams playing each other in a World Series, he couldn't stand it. Known all over Maryland as its most enthusiastic soft ball fan, and an ardent admirer of the Orioles and the Colts, he respectfully got the American League team at play against the National League champs.

He also does not permit himself the luxury of acting as a literary critic. His personal opinions are witty and pungent but he does not allow them to affect his job.

Since he often records in four-hour stretches, something is needed to keep his hard worked larynx in good condition. After he recorded *Folk Medicine*, a book which points out why Vermonters live longer, he picked up some free advice and tried sipping honey, water and vinegar. However, he now relies on his mixture of tea, lemon and honey, and z pot of it accompanies him to the trailer when he starts recording.

Beury is greatly assisted in his work by his wife, Anne, who inspects tapes, mends boxes, prepares the recorded books for mailing and handles most of his correspondence. They both hope that some day the business will be operated on a sustaining basis. For the present they are happy that outside income from a person deeply interested in the work and in the blind, makes it possible for them to continue.

Until the epic work of Shirer was written, the longest book Beury had recorded was James Jones' Some Came Running, which has 48 hours of reading time. The all-time favorite of both the Beurys is the Pulitzer prize winner, The Travels of Jaimie McPheeters. Recent tapes include Midcentury, The White Nile, The Last of the Just, Pomp and Circumstance, Fate is the Hunter and The Agony and the Ecstasy.

With more and more people acquiring tape recorders a whole new area is opening up in the field of amateur recording on tape. This could prove a tremendous boon to the blind. In some parts of the country efforts are being made to interest individuals in recording with a specific blind person in mind. This is a strictly amateur project and requires no training—only willingness to do something for another human being.

In Philadelphia, the Main Line Guild of Jewish Women acts as a clearing house for such a program and help to match up blind and sighted persons of similar interests. Bruce McConnell, for instance, has someone who records "Sports Illustrated" for him.

While there are a few people reading educational books for students in the Baltimore area, there is no group operating such as the one in Philadelphia. However, a spokesman for the Maryland Workshop for the Blind, endorsed the idea heartily and expressed the opinion that perhaps some of the Women's Clubs would be interested in sponsoring such a project.

The important thing is for a sighted person to start working with one individual blind person, establishing interests and rapport. This could be in the field of music, sports, reviews and articles from papers and magazines, short stories, poetry—in short, any area of common relationship.

As more and more people become familiar with the tape recorder they realize that it has several outstanding advantages: stopping and starting are completely at the reader's convenience; the reader can repeat a passage indefinitely if it is necessary for complete understanding; the quality of the sound will never deteriorate under normal usage conditions; rental fees for tapes can be set at a lower level than they can with any other medium.

Mr. Beury had only one suggestion to offer anyone wishing to record on tape for the blind. It is to read just a little faster than usual. For anyone interested in such a venture, The American Foundation for the Blind, 15 West 16th Street, New York 11, New York, has prepared a booklet entitled "Volunteer Recording for the Blind," and will send it to any person who requests it.

So in the world of the hard sell, the "lonely crowd," and Mr. K.'s cold war, Frank Beury is a man singularly content with his life and his work, and with Tertullian believes, "Where our work is, there let our joy be." And he is wholly grateful for his gift—a voice to which the blind can listen with pleasure.

COMPLETE TAPE DIRECTORY

Compiled by Mark Mooney, Jr.

... being a listing of the tapes of the prime manufacturers

Part V in a Series

Tapes are listed by base materials. First the catalog number is given, then the footage and the size of reel for each item. Unless otherwise mentioned, the tape is on standard plastic reels. Hubs and aluminum reels of the larger sizes have a 3" center hole for use on professional machines or for machines with hub adapters. 101/2" Fiberglass reels have a solid hub with the regular 5/16" center hole. Most 3" tapes are supplied in a self-mailer package. Your local dealer handling the particular line of tape can order any item for you. If there is no local dealer, contact the manufacturer. In addition to the items shown below, tape manufacturers can supply other widths or thicknesses on special order. The items listed here are stock catalog items. "Mylar" is a DuPont trade mark for polyester film used as a tape base.

AMPEX CORPORATION Opelika, Alabama AMPEX AND IRISH



AMPEX PROFESSIONAL TAPE

ACETATE BASE, 1.5 mil: #611-111111, 150 ft., 3"; #611-131111, 600 ft., 5"; #611-151111, 1200 ft., 7"; #611-176311, 2500 ft., hub (plastic); #611-172111, 2400 ft., hub (metal); #611-173111, 2400 ft., 101/2" aluminum reel; #611-174111, 2400 ft., 101/2" fiberglass reel; #611-196511, 5000 ft., hub (plastic); #611-192111, 4800 ft., hub (metal) #611-193111, 4800 ft., 14" aluminum reel.

ACETATE BASE, 1 mil: #621-111111, 225 ft., 3"; #621-131111, 900 ft., 5"; #621-151111, 1800 ft., 7"; #621-176411, 3750 ft., hub (plastic); #621-172111, 3600 ft., hub (metal); #621-173111, 3600 ft., 101/2" aluminum reel; #621-174111, 3600 ft., 101/2" fiberglass reel; #621-196111, 7200 ft., hub (plastic); #621-192111, 7200 ft., hub (metal); #621-193111, 7200 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil: #631-131111, 600 ft., 5"; #631-151111, 1200 ft., 7"; #631-176311, 2400 ft., hub (plastic); #631-172111, 2400 ft., hub (metal); #631-173111, 2400 ft., 10¹/₂" aluminum reel; #631-174111, 2400 ft., 10¹/₂" fiberglass reel; #631-196511, 4800 ft., hub (plastic); #631-192111, 4800 ft., hub (metal); #631-193111, 4800 ft., 14" aluminum reel.

MYLAR BASE, 1 mil: #641-111111, 225 ft., 3"; #641-131111, 900 ft., 5"; #641-151111, 1800 ft., 7"; #641-176411, 3750 ft., hub (plastic); #641-172111, 3600 ft., hub (metal); #641-173111, 3600 ft., $10\frac{1}{2}$ " aluminum reel; #641-174111, 3600 ft., $10\frac{1}{2}$ " fiberglass reel; #641-196111, 7200 ft., hub (plastic); #641-192111, 7200 ft., hub (metal); #641-193111, 7200 ft., 14" aluminum reel. MYLAR BASE, 0.5 mil: #651-111111, 300 ft., 3"; #651-131111, 1200 ft., 5"; #651-151111, 2400 ft., 7"; #651-172111, 4800 ft., hub (metal); #651-173111, 4800 ft., $10\frac{1}{2}$ " aluminum reel; #651-174111, 4800 ft., $10\frac{1}{2}$ " fiberglass reel.

AMPEX RECORDING TAPE

ACETATE BASE, 1.5 mil: #511, 600 ft., 5"; #511, 1200 ft., 7".

ACETATE BASE, 1 mil: #521, 900 ft., 5"; #521, 1800 ft., 7".

MYLAR BASE, 1.5 mil: #531, 600 ft., 5"; #531, 1200 ft., 7".

MYLAR BASE, 1 mil: #541, 900 ft., 5"; #541, 1800 ft., 7".

MYLAR BASE, 0.5 mil: #551, 1200 ft., 5"; #551, 2400 ft., 7".

AMPEX MASTERING TAPE

ACETATE BASE, 1.5 mil: #411-151111, 1200 ft., 7"; #411-172111, 2400 ft., hub (metal); #411-173111, 2400 ft., 101/2" aluminum reel; #411-174111, 2400 ft., 101/2" fiberglass reel; #411-192111, 4800 ft., hub (metal); #411-193111, 4800 ft., 14" aluminum reel.

ACETATE BASE, 1 mil: #421-151111, 1800 ft., 7"; #421-172111, 3600 ft., hub (metal); #421-173111, 3600 ft., 101/2" aluminum reel; #421-174111, 3600 ft., 101/2" fiberglass reel; #421-192111, 7200 ft., hub (metal); #421-193111, 7200 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil: #431-151111, 1200 ft., 7"; #431-172111, 2400 ft., hub (metal); #431-173111, 2400 ft., 10¹/₂" aluminum reel; #431-174111, 2400 ft., 10¹/₂" fiberglass reel; #431-192111, 4800 ft., hub (metal); #431-193111, 4800 ft., 14" aluminum reel.

MYLAR BASE, 1 mil: #441-151111, 1800 ft., 7"; #441-172111, 3600 ft., hub (metal); #441-173111, 3600 ft., 10½" aluminum reel; #441-174111, 3600 ft., 10½" fiberglass reel; #441-192111, 7200 ft., hub (metal); #441-193111, 7200 ft., 14" aluminum reel.

MYLAR BASE, 0.5 mil: #451-151111, 2400 ft., 7"; #451-172111, 4800 ft., hub (metal); #451-173111, 4800 ft., 10¹/₂" aluminum reel; #451-174111, 4800 ft., 10¹/₂" fiberglass reel.

IRISH RECORDING TAPE

ACETATE BASE, 1.5 mil: #311, 150 ft., 3"; #311, 600 ft., 5"; #311, 1200 ft., 7".

ACETATE BASE, 1 mil: #321, 225 ft., 3"; #321, 900 ft., 5"; #321, 1800 ft., 7".

MYLAR BASE, 1.5 mil: #331, 600 ft., 5"; #331, 1200 ft., 7".

MYLAR BASE, 1 mil: #341, 225 ft., 3"; #341, 900 ft., 5"; #341, 1800 ft., 7".

MYLAR BASE, 0.5 mil: #351, 300 ft., 3"; #351, 1200 ft., 5"; #351, 2400 ft., 7".

AUDIO DEVICES, INC. 444 Madison Ave. New York 22, N. Y. AUDIOTAPE



ACETATE BASE, 1.5 mil: #151, 150 ft., 3"; #351, 300 ft., 4"; #651, 600 ft., 5"; #1251, 1200 ft., 7"; #2551H, 2500 ft., hub; #2551R, 2500 ft., 101/2" aluminum reel; #2551FS, 2500 ft., 101/2" fiberglass reel; #5051H, 5000 ft., hub; #5051R, 5000 ft., 14" aluminum reel. Foregoing also available in green or blue base.

ACETATE BASE, 1 mil, "LR" (longer recording): #941, 900 ft., 5"; #1841, 1800 ft., 7"; #3641H, 3600 ft., hub; #3641R, 3600 ft., 10½" aluminum reel; #3641FS, 3600 ft., 10½" fiberglass reel; #7241H, 7200 ft., hub; #7241R, 7200 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil: #671, 600 ft., 5"; #1271, 1200 ft., 7"; #2571H, 2500 ft., hub; #2571R, 2500 ft., 101/2" aluminum reel; #2571FS, 2500 ft., 101/2" fiberglass reel; #5071H, 5000 ft., hub; #5071R, 5000 ft., 14" aluminum reel.

MYLAR BASE, 1 mil, "LR" (longer recording): #261, 225 ft., 3"; #961, 900 ft., 5"; #1861, 1800 ft., 7"; #3661H, 3600 ft., hub; #3661R, 3600 ft., 101/2" aluminum reel; #3661FS, 3600 ft., 101/2" fiberglass reel; #7261H, 7200 ft., hub; #7261R, 7200 ft., 14" aluminum reel. MYLAR BASE, 0.5 mil (super-thin): #1231, 1200 ft., 5"; #2431, 2400 ft., 7".

MYLAR BASE, TEMPERED, 0.5 mil (super-thin): #331T, 300 ft., 3"; #1231T, 1200 ft., 5"; #2431T, 2400 ft., 7"; #4831T-R, 4800 ft., 10¹/₂" aluminum reel; #4831T-FS, 4800 ft., 10¹/₂" fiberglass reel.

LOW PRINT MASTER TAPE

ACETATE BASE, 1.5 mil: #651-M, 600 ft., 5"; #1251-M, 1200 ft., 7"; #2551H-M, 2500 ft., hub; #2551R-M, 2500 ft., 10¹/₂" aluminum reel; #2551FS-M, 2500 ft., 10¹/₂" fiberglass reel; #5051H-M, 5000 ft., hub; #5051R-M, 5000 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil: #671-M, 600 ft., 5"; #1271-M, 1200 ft., 7"; #2571H-M; 2500 ft., hub; #2571R-M, 2500 ft., 10¹/₂" aluminum reel; #2571FS-M, 2500 ft., 10¹/₂" fiberglass reel.

NOTE: 5 and 7 inch reels can be supplied in red, yellow, green or blue. Add "RR" and "YR," "GR" or "BR" to type number.

Quick Load Cartridge, 560 ft.

BURGESS BATTERY COMPANY Div of Servel Inc. Freeport, Illinois BURGESS

ACETATE BASE, 1.5 mil: #111-1.5, 150 ft., 3"; #111-3, 300 ft., 4"; #111-6, 600 ft., 5"; #111-12, 1200 ft., 7"; #111-24H, 2400 ft., hub; #111-24R, 2400 ft., 101/2" aluminum reel. Other lengths available.

ACETATE BASE, 1 mil (extra play): #190-9, 500 ft., 5"; #190-18, 1800 ft., 7"; #190-36H, 3600 ft., hub; #190-36R, 3600 ft., metal reel. Other lengths available. MYLAR BASE, 1.5 mil: #102-6, 600 ft., 5"; #102-12, 1200 ft., 7"; #102-24H, 2400 ft., hub; #102-24R, 2400 ft., 10½" aluminum reel. Other lengths available.

MYLAR BASE, 1 mil (extra play): #150-2.25, 225 ft., 3"; #150-9, 900 ft., 5"; #150-18, 1800 ft., 7"; #150-

FERRODYNAMICS CORP. Lodi, New Jersey SONORAMIC & BRAND 5



36H, 3600 ft., hub; #150-36R, 3600 ft., 10¹/₂" aluminum reel. Other lengths available.

MYLAR BASE, TENSILIZED, 0.5 mil (double-length): #200-3, 300 ft., 3"; #200-12, 1200 ft., 5" #200-24, 2400 ft., 7"; #200-48RPS, 4800 ft., 101/2" fiberglass reel. Other lengths available.

141 AND 140 SERIES

ACETATE BASE, 1.5 mil: #141-6, 600 ft., 5"; #141-12, 1200 ft., 7".

ACETATE BASE, 1 mil (extra-play): #140-9, 900 ft., 5"; #140-18, 1800 ft., 7".



SONORAMIC

(Packed in permanent plastic container) ACETATE BASE, 1.5 mil: #15S7, 1200 ft., 7". ACETATE BASE, 1 mil: #10S7, 1800 ft., 7". MYLAR BASE, 1 mil: #10S7M, 1800 ft., 7". MYLAR BASE, 0.5 mil: #5S7M, 2400 ft., 7". MYLAR BASE, TENSILIZED, 0.5 mil: #5S7MT, 2400 ft., 7".

BRAND 5

ACETATE BASE, 1.5 mil: #15D3, 150 ft., 3"; #15D5,

600 ft., 5"; #15D7, 1200 ft., 7"; #15D10, 2400 ft., 10½" plastic reel. ACETATE BASE, 1 mil: #10D3, 225 ft., 3"; #10D5, 900 ft., 5"; #10D7, 1800 ft., 7"; #10D10, 3600 ft., 10½" plastic reel. MYLAR BASE, 1 mil: #10D3M, 225 ft., 3"; #10D5M, 900 ft., 5"; #10D7M, 1800 ft., 7"; #10D10M, 3600 ft., 10½" plastic reel. MYLAR BASE, 0.5 mil: #5D3M, 300 ft., 3"; #5D5M, 1200 ft., 5"; #5D7M, 2400 ft., 7". MYLAR BASE, TENSILIZED, 0.5 mil: #5D7MT, 2400 ft., 7".

GREENTREE ELECTRONICS CORP. 1122 S. LaCienega Blvd. Los Angeles, Calif. AMERICAN



ACETATE BASE, 1.5 mil: #1-A, 150 ft., 3"; #3-A, 300 ft., 4"; #6-A, 600 ft., 5"; #9-A, 900 ft., 53/4"; #12-A, 1200 ft., 7"; #24-AH, 2400 ft., hub; #24-ARA, 2400 ft., 101/2" aluminum reel; #24-ARF, 2400 ft., 101/2" fiberglass reel; #48-AH, 4800 ft., hub; #48-ARA, 4800 ft., 14" aluminum reel.

ACETATE BASE, 1 mil (long play): #L-2-A, 225 ft., 3"; #L-4-A, 450 ft., 4"; #L-9-A, 900 ft., 5"; #L-12-A, 1200 ft., 5 $\frac{3}{4}$ "; #L-18-A, 1800 ft., 7"; #L-36-AH, 3600 ft., hub; #L-36-ARA, 3600 ft., 10 $\frac{1}{2}$ " aluminum reel; #L-36-ARF, 3600 ft., 10 $\frac{1}{2}$ " fiberglass reel; #L-72-AH, 7200 ft., hub; #L-72-ARA, 7200 ft., 14" aluminum reel. MYLAR BASE, 1.5 mil: #1-M, 150 ft., 3"; #6-M, 600 ft., 5"; #12-M, 1200 ft., 7"; #24-MH, 2400 ft., hub; #24-MRA, 2400 ft., 10 $\frac{1}{2}$ " aluminum reel; #24MRF, 2400 ft., 10 $\frac{1}{2}$ " fiberglass reel; #48-MH, 4800 ft., hub; #48-MRA, 4800 ft., 14" aluminum reel.

MYLAR BASE, 1 mil (long play): #L-2-M, 225 ft., 3"; #L-9-M, 900 ft., 5"; #L-12-M, 1200 ft., 5¾"; #L-18-M, 1800 ft., 7"; #L-36-MH, 3600 ft., hub; #L-36-MRA, 3600 ft., 10½" aluminum reel; #L-36-MRF, 3600 ft., 10½" fiberglass reel; #L-72-MH, 7200 ft., hub; #L-72-MRA, 7200 ft., 14" reel. MYLAR BASE, 0.5 mil (double-play): #D-12-MS, 1200 ft., 5"; #D-24-MS, 2400 ft., 7". MYLAR BASE, TENSILIZED, 0.5 mil (double-play): #D-3-MT, 300 ft., 3"; #D-6-MT, 600 ft., 4"; #D-12-MT, 1200 ft., 5"; #D-18-MT, 1800 ft., 5¾"; #D-24-MT, 2400 ft., 7"; #D-48-MTH, 4800 ft., hub; #D-48-MTRA, 4800 ft., 10½" aluminum reel; #D-48-MTRF, 4800 ft., 10½" fiberglass reel.

HIGH OUTPUT

ACETATE BASE, 1.5 mil: #HO-6-A, 600 ft., 5"; #HO-12-A, 1200 ft., 7"; #HO-24-AH, 2400 ft., hub; #HO-24-AR, 2400 ft., 10¹/₂" aluminum reel. MYLAR BASE, 1.5 mil: #HO-6-M, 600 ft., 5"; #HO-12-M, 1200 ft., 7"; #HO-24-MH, 2400 ft., hub; #HO-24-MR, 2400 ft., 10¹/₂" reel.

LOW PRINT MASTER TAPE

ACETATE BASE, 1.5 mil: #LP-12-A, 1200 ft., 7"; #LP-24-AH, 2400 ft., hub; #LP-24-AR, 2400 ft., 101/2" aluminum reel.

MYLAR BASE, 1.5 mil: #LP-12-M, 1200 ft., 7"; #LP-24-MH, 2400 ft., hub; #LP-24-MR, 2400 ft., 101/2" reel.

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MINNESOTA MINING AND MFG. CO. St. Paul 6, Minnesota SCOTCH

ACETATE BASE, 1.5 mil: #111-1.5, 150 ft., 3"; #111-3, 300 ft., 4"; #111-6, 600 ft., 5"; #111-12, 1200 ft., 7"; #111-24H, 2400 ft., hub; #111-24R, 2400 ft. 101/2" plastic or metal reel; #111-48H, 4800 ft., hub; #111-48R, 4800 ft., aluminum reel.

ACETATE BASE, 1 mil (extra play): #190-9, 900 ft., 5"; #190-18, 1800 ft., 7"; #190-36H, 3600 ft., hub; #190-36R, 3600 ft., $10\frac{1}{2}$ " plastic or metal reel; #190-72H, 7200 ft., hub; #190-72R, 7200 ft., 14 inch metal reel. POLYESTER BASE, 1.5 mil (all purpose, extra strength): #102-6, 600 ft., 5"; #102-12, 1200 ft., 7"; #102-24H, 2400 ft., hub; #102-24R, 2400 ft., $10\frac{1}{2}$ " plastic or metal reel; #102-48H, 4800 ft., hub; #102-48R, 4800 ft., 14" aluminum reel.

POLYESTER BASE, 1 mil (extra play, extra strength): #150-2.25, 225 ft., 3"; #150-9, 900 ft., 5", #190-18, 1800 ft., 7"; #150-36H, 3600 ft., hub; #150-36R, 3600 ft., 101/2" plastic or metal reel; #150-72, 7200 ft., hub; #150-72R, 14" metal reel.

POLYESTER BASE, 0.5 mil, TENSILIZED (double length, double strength): #200-3, 300 ft., 3"; #200-6, 600 ft., 4"; #200-12, 1200 ft., 5"; #200-24, 2400 ft., 7"; #200-48RPS, 4800 ft., 101/2" plastic reel (EIA).

TENZAR BASE, 1.5 mil: #311-6, 600 ft., 5"; #311-12, 1200 ft., 7". HIGH OUTPUT

ACETATE BASE, 1.5 mil: #120-3, 300 ft., 4"; #120-6, 600 ft., 5"; #120-12, 1200 ft., 7"; #120-24H, 2400 ft., hub; #120-24R, 2400 ft., 101/2" metal or plastic reel; #120-48H, 4800 ft., hub; #120-48R, 4800 ft., 14" metal.

POLYESTER BASE, 1.5 mil (extra strength): #122-6, 600 ft., 5"; #122-12, 1200 ft., 7"; #122-24H, 2400 ft., hub; #122-24R, 2400 ft., 10½" metal or plastic reel; #122-48H, 4800 ft., hub; #122-48R, 4800 ft., 14" metal. LOW PRINT

ACETATE BASE, 1.5 mil: #131-12, 1200 ft., 7"; #131-24H, 2400 ft., hub; #131-24R, 2400 ft., 101/2" plastic or metal reel; #131-48H, 4800 ft., hub; #131-48R, 4800 ft., metal reel.

POLYESTER BASE, 1.5 mil (extra strength): #138-12, 1200 ft., 7"; #138-24H, 2400 ft., hub; #138-24R, 2400 ft., 101/2" metal or plastic reel.

POLYESTER BASE, 1 mil (extra strength): #139-18, 1800 ft., 7"; #139-36H, 3600 ft., hub; #139-36R, 3600 ft., 101/2" metal or plastic reel, #139-72H, 7200 ft., hub; #139-72R, 7200 ft., 14" metal reel.

SPECIAL TAPES

#151-17pr., 1 mil Polyester, coated one side (single play), 1700 ft., #152-12pr., 1 mil Polyester, coated both sides (double play), 1200 ft. Quick Load Cartridge, 560 ft.

TARTAN SERIES

ACETATE BASE, 1.5 mil: #141-6, 600 ft., 5"; #141-12, 1200 ft., 7".

ACETATE BASE, 1 mil (extra play): #140-9, 900 ft., 5"; #140-18, 1800 ft., 7".

POLYESTER BASE, 1 mil (extra play): #142-9, 900 ft., 5" reel; #142-18, 1800 ft., 7".

POLYESTER BASE, 0.5 mil (double play): #144-12, 1200 ft. 5"; #144-24, 2400 ft., 7".

RCA Tape Division Indianapolis, Indiana RED SEAL & VIBRANT



RED SEAL

ACETATE BASE, 1.5 mil, (all-purpose professional quality): #15A-1.5, 150 ft., 3"; #15A-3, 300 ft., 4"; #15A-6, 600 ft., 5"; #15A-12, 1200 ft., 7"; #15A-24NH, 2400 ft., hub (metal); #15A-48NH, 4800 ft., hub (metal); #15A-24NMR, 2400 ft., 10½" aluminum reel; #15A-24NPR, 2400 ft., 10½" plastic reel; #15A-24EPR, 2400 ft., 10½" EIA plastic reel; #15A-48NMR, 4800 ft., 14" aluminum reel.

ACETATE BASE, 1 mil, (extra-play): #10A-9, 900 ft., 5"; #10A-18, 1800 ft., 7"; #10A-36NH, 3600 ft., hub; #10A-72NH, 7200 ft., hub; #10A-36NMR, 3600 ft., 10¹/₂" aluminum reel; #10A-36NPR, 3600 ft., 10¹/₂" plastic reel; #10A-36EPR, 3600 ft., 10¹/₂" EIA plastic reel; #10A-72NMR, 7200 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil, (all-purpose extra strength): #15M-6, 600 ft., 5"; #15M-12, 1200 ft., 7"; #15M-24NH, 2400 ft., hub; #15M-48NH, 4800 ft., hub; #15M-24NMR, 2400 ft., 10½" aluminum reel; #15M-24NPR, 2400 ft., 10½" plastic reel; #15M-24EPR, 2400 ft., 10½" EIA plastic reel; #15M-48NMR, 4800 ft., 14" aluminum reel.

MYLAR BASE, 1 mil, (extra-play extra-strength): #10M-2.25, 225 ft., 3"; #10M-9, 900 ft., 5"; #10M-18, 1800 ft., 7"; #10M-36NH, 3600 ft., hub; #10M-72NH, 7200 ft., hub; #10M-36NMR, 3600 ft., 10½" aluminum reel; #10M-36NPR, 3600 ft., 10½" plastic reel; #10M-36EPR, 3600 ft., 10½" EIA plastic reel; #10M-72NMR, 7200 ft., 14" aluminum reel.

MYLAR BASE, 0.5 mil (extra long-play): #5M-12, 1200 ft., 5"; #5M-24, 2400 ft., 7".

MYLAR BASE, TENSILIZED, 0.5 mil (double length, double strength): #5TM-3, 300 ft., 3"; #5TM-6, 600 ft., 4"; #5TM-12, 1200 ft., 5"; #5TM-24, 2400 ft., 7"; #5TM-48NPR, 4800 ft., 10½" plastic reel; #5TM-48EPR, 4800 ft., 10½" EIA plastic reel; #5TM-48NMR, 4800 ft., 10½" aluminum reel.

HIGH OUTPUT

ACETATE BASE, 1.5 mil: #15AH-1.5, 150 ft., 3"; #15AH-3, 300 ft., 4"; #15AH-6, 600 ft., 5"; #15AH-12, 1200 ft., 7"; #15AH-24NH, 2400 ft., hub; #15AH-24NMR, 2400 ft., 10¹/₂" aluminum reel; #15AH-24NPR, 2400 ft., 10¹/₂" plastic reel; #15AH-24EPR, 2400 ft., 10¹/₂" EIA plastic reel; #15AH-48NH, 4800 ft., hub; #15AH-48NMR, 4800 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil (high output, extra-strength): #15MH-6, 600 ft., 5"; #15MH-12, 1200 ft., 7"; #15MH-24NH, 2400 ft., hub; #15MH-24NMR, 2400 ft., 10¹/₂" aluminum reel; #15MH-24NPR, 2400 ft., 10¹/₂" plastic reel; #15MH-24EPR, 2400 ft., 10¹/₂" EIA plastic reel; #15MH-48NH, 4800 ft., hub; #15MH-48NMR, 4800 ft., 14" aluminum reel.

LOW PRINT

ACETATE BASE, 1.5 mil: #15AL-12, 1200 ft., 7"; #15AL-24NH, 2400 ft., hub; #15AL-24NMR, 2400 ft., 101/2" aluminum reel; #15AL-24NPR, 2400 ft., 101/2" plastic reel; #15AL-24EPR, 2400 ft., 101/2" EIA plastic reel, #15AL-48NH, 4800 ft., hub (metal); #15AL-48NMR, 4800 ft., 14" aluminum reel.

MYLAR BASE, 1.5 mil (extra strength): #15ML-12, 1200 ft., 7"; #15ML-24NH, 2400 ft., hub (metal); #15ML-24NMR, 2400 ft., 10½" aluminum reel; #15ML-24NPR, 2400 ft., 10½" plastic reel; #15ML-24EPR, 2400 ft., 10½" EIA plastic reel.

MYLAR BASE, 1 mil, (extra play, extra strength): #10ML-18, 1800 ft., 7"; #10ML-36NH, 3600 ft., hub; #10ML-36NMR, 3600 ft., 101/2" aluminum reel; #10ML-36NPR, 3600 ft., 101/2" plastic reel; #10ML-36EPR, 3600 ft., 101/2" EIA plastic reel; #10ML-72NH, 7200 ft., hub; #10ML-72NMR, 7200 ft., 14" aluminum reel.

VIBRANT SERIES

ACETATE BASE, 1.5 mil: #V15A-6, 600 ft., 5"; #V15A-12, 1200 ft., 7". ACETATE BASE, 1 mil: #V10A-9, 900 ft., 5"; #V10A-18, 1800 ft., 7". MYLAR BASE, 1 mil: #V10M-9, 900 ft., 5"; #V10M-18, 1800 ft., 7". MYLAR BASE, TENSILIZED, 0.5 mil: #V5TM-12, 1200 ft., 5"; #V5TM-24, 2400 ft., 7". Quick Load Cartridge—560 ft.

REEVES SOUNDCRAFT CORP. Great Pasture Road Danbury, Conn. SOUNDCRAFT & SOUNDCRAFT HI-FI



SOUNDCRAFT

ACETATE BASE, 1.5 mil: #S-1, 150 ft., 3"; #S-3, 300 ft., 4"; #S-6, 600 ft., 5"; #S-12, 1200 ft., 7"; #S-24, 2400 ft., 101/2" fiberglass reel; #S-24RF3, 2400 ft., 101/2" fiberglass reel; #S-24RM, 2400 ft., 101/2" aluminum reel. ACETATE BASE, 1 mil: #S5-9, 900 ft., 5"; #S5-12, 1200 ft., 53/4"; #S5-18, 1800 ft., 7"; #S5-36H, 3600 ft.,

hub; #S5-36, 3600 ft., 10¹/₂" fiberglass reel; #S5-36RF, 3600 ft., 10¹/₂" fiberglass reel; #S5-36RM, 3600 ft., 10¹/₂" aluminum reel; #S5-72R, 7200 ft., 14" reel; #S5-72H, 7200 ft., hub.

MYLAR BASE, 1.5 mil: #L-1, 150 ft., 3"; #L-6, 600 ft., 5"; #L-12, 1200 ft., 7"; #L-24RM, 2400 ft., 101/2" aluminum reel; #L-24RF, 2400 ft., 101/2" fiberglass reel;

#L-24RF3, 2400 ft., 101/2" fiberglass reel; #L-24H, 2400 ft., hub; #L-48R, 4800 ft., 14" reel; #L-48H, 4800 ft., hub. MYLAR BASE, 1 mil: #PL-2, 225 ft., 3"; #PL-9, 900 ft., 5"; #PL-12, 1200 ft., 53/4"; #PL-18, 1800 ft., 7"; #PL-36RF, 3600 ft., 101/2" fiberglass reel; #PL-36RF3, 3600 ft., 101/2" fiberglass reel; #PL-36RM, 3600 ft., 101/2" aluminum reel; #PL-36H, 3600 ft., hub; #PL-72R, 7200 ft., 14" reel; #PL-72H, 7200 ft., hub.

MYLAR BASE, 0.5 mil: #XP-12, 1200 ft., 5"; #XP-18, 1800 ft., 5¾"; #XP-24, 2400 ft., 7"; #XP-48RM, 4800 ft., 10½" aluminum reel; #XP-48RF, 4800 ft., 10½" fiberglass reel; #XP-48RF3, 4800 ft., 10½" fiberglass reel; #XP-48H, 4800 ft., hub.

MYLAR BASE, TENSILIZED, 0.5 mil: #XP-3X, 300 ft., 3"; #XP-12X, 1200 ft., 5"; #XP-18X, 1800 ft., 5¾"; #XP-24X, 2400 ft., 7"; #XP-48XRM, 4800 ft., 10½" aluminum reel; #XP-48XRF, 4800 ft., 10½" fiberglass reel; #XP-XRF3, 4800 ft., 10½" fiberglass reel; #XP-48XH, 4800 ft., hub.

SARKES TARZIAN, INC. Bloomington, Indiana SARKES TARZIAN

ACETATE BASE, 1.5 mil: #1131-01, 150 ft., 3"; #1131-06, 600 ft., 5"; #1131-12, 1200 ft., 7"; #1131-24H, 2400 ft., hub; #1131-48R, 4800 ft., 14" aluminum reel; #1131-24R, 2400 ft., 101/2" reel; #1131-48H, 4800 ft.,

TRITON TAPE COMPANY 62-05 30th Avenue Woodside, New York TRITON

ACETATE BASE, 1.5 mil: Red Seal, 150 ft., 3"; 600 ft., 5"; 900 ft., 5¾"; 1200 ft., 7"; 2400 ft., 10½". ACETATE BASE, 1 mil (long-play): Blue Seal, 900 ft., 5"; 1200 ft., 5¾"; 1800 ft., 7"; 3600 ft., 10½". MYLAR BASE, 1.5 mil (perma-play): Green Seal, 600 ft., 5"; 900 ft., 5¾"; 1200 ft., 7"; 2400 ft., 10½". ACETATE BASE, 1 mil: #1121-02, 225 ft., 3"; #1121-09, 900 ft., 5"; #1121-18, 1800 ft., 7"; #1121-36, 3600 ft., hub; #1121-72, 7200 ft., hub.



MYLAR BASE, TENSILIZED, 0.5 mil (super-play): Purple Seal, 300 ft., 3"; 1200 ft., 5"; 1800 ft., 5³/₄"; 2400 ft., 7"; 4800 ft., 10¹/₂".

TAPE ACCESSORIES

AMPEX CORPORATION---Plastic Reels; Large Hub Plastic Reels; Splicing Tape; Leader Tape; Mailing Bags for 5 and 7 inch reels; Empty Boxes for 3, 5 and 7 inch reels.

AUDIO DEVICES—Plastic Reels; Aluminum Reels; Fiberglass Reels; Metal Hub; Red, Yellow, Green and Blue 5 and 7 inch reels; Empty Boxes for 3, 4, 5, 7, 101/2, and 14 inch reels; Corrugated Mailing Boxes for 5, 7 and 101/2 inch reels; Self Timing Leader Tape; Adhesive Reel Labels.

BURGESS BATTERY COMPANY—Leader Tape; Splicing Tape; Empty Reels; Empty Boxes for 3, 4, 5 and 7 inch reels; Corrugated Mailing Cartons for 4, 5 and 7 inch reels.

FERRODYNAMICS CORPORATION — Empty Reels; Folding Mailing Cartons for 5 and 7 inch reels; 7" Permanent Plastic Containers; Dove Tail Hanger Strip (holds 14 containers).

GREENTREE ELECTRONICS CORP. — Empty Reels; Empty Boxes for 3, 4, 5, 53/4, 7, and 101/2 inch reels; Leader Tape; Splicing Tape.

MINNESOTA MINING AND MFG. CO.—Splicing Tape, Leader and Timing Tape, Empty Reels, Empty Boxes for 3, 4, 5, 7, 10¹/₂ and 14 inch reels, Mailing Boxes for 4, 5, 7 and 10¹/₂ inch reels, End-of-reel Tape Clips.

REEVES SOUNDCRAFT CORP.—Empty Reels; Metal Hub; Side Flanges and Screws; Empty Boxes for 3, 4, 5, 7, 101/2 inch reels; Tape Chests for 5 and 7 inch reels; Pressure Sensitive Labels; Magna-See Kit (for making tracks visible); Timing Chart; Splicing Tape; Conductive Cueing Tape; Colored Leader and Timing Tape; Tape Index Tabs; Tape Files.

TRITON TAPE COMPANY-Empty Reels Boxed.

Next month—Tape Selection and Storage

PROFESSIONAL

ACETATE BASE, 1.5 mil: #P-12, 1200 ft., 7"; #P-24RM, 2400 ft., 101/2" aluminum reel; #P-24RF, 2400 ft., 101/2" fiberglass reel; #P-24H, 2400 ft., hub; #P48-R, 4800 ft., 14"reel; #48-H, 4800 ft., hub.

SOUNDCRAFT HI-FI

ACETATE BASE, 1.5 mil: #HF-1, 150 ft., 3"; #HF-6, 600 ft., 5"; #HF-12, 1200 ft., 7".

ACETATE BASE, 1 mil (long-play): #HF5-9, 900 ft., 5"; #HF5-18, 1800 ft., 7".

MYLAR BASE, 1 mil (long-play): #HF5-9M, 900 ft., 5"; #HF5-18M, 1800 ft., 7".

MYLAR BASE, TENSILIZED, 0.5 mil: #HF10-3M, 300 ft., 3"; #HF10-12M, 1200 ft., 5"; #HF10-24M, 2400 ft., 7".

Quick-Load Cartridge, 560 ft.



hub

NEW PRODUCT REPORT



WOLLENSAK HOME-AUTO RECORDER

. . . dual track, lightweight recorder has built-in inverter to enable it to operate on both 110 or 12 volts.

HE Revere T-1700 is essentially the same as the T-1500 with one big important difference.

It contains within its case an inverter for changing the 12 volt current from the batteries of planes, autos and boats to 110 volts for operation of the recorder. This means the machine may be used at home, by plugging it into the regular house current or it may be used in any vehicle having a 12 volt power supply—or it may be used in the field anywhere if you have a 12 volt battery along.

We found this recorder extremely easy to operate and its performance was excellent both on the 110 volt power from the house mains or the 12 volt battery in the car.

A power lead is furnished with the recorder and this may be terminated in the two battery clamps, furnished, or the adapter which plugs into the dash cigarette lighter, also furnished.

The recorder draws six and a half amps from the battery which is less than headlights. The only precaution that must be taken is to check to see if the cigarette lighter receptable is on a fused circuit in the car. If it is, the fuse must be of sufficient size to carry the necessary current.

Because the recorder is small, $6\frac{1}{2}'' \times 10\frac{1}{4}'' \times 11\frac{3}{4}''$, it fits nicely on the hump between the seats up front. Of course, it may be placed anywhere in the car where the controls may be operated. It may even be placed in the trunk and operated by plugging in the cord at the cigarette lighter. The speaker may be connected to a rear deck speaker in the car. The bottom ventilation opening should be kept clear so the recorder should not be placed on soft seat cushions. If such is necessary, a piece of plywood cut to size should be placed under it.

If there is any difficulty from ignition noises in the car, the case of the recorder should be grounded to the car with a short length of wire. This, however, is very unlikely.

The recorder is a dual track, two speed machine $(3\frac{3}{4} \text{ and } 7\frac{1}{2} \text{ ips})$. It



Product: Wollensak T-1700 Home-Auto Recorder

Manufacturer: Wollensak Optical Co., 320 E. 21st St., Chicago, Ill...

Price: \$249.50

has keyboard type controls and the operation of all of them is positive. It has an odometer type indexing counter and recording volume is indicated by a two-part neon lamp, one half of which should flash for normal recording and the second half if an overload is present. The lamp is in a well where it may be seen easily in daylight.

The connections for the power, both the 110 volt line or the 12 volt line are on the rear of the case. As a safety feature, there is a door covering the 110 volt receptacle. This is actuated by a pin in the 12 volt receptable. To insert the 110 volt power cord the pin is pushed up, opening the door. When the pin is in the down position, the 12 volt cord may be plugged in and the door seals off the 110 volt receptacle.

If the unit is powered directly from a battery, the red clip should be attached to the plus terminal and the green clip to the minus. The leads from the clips are then plugged into a cord connector which is also marked for polarity. If the cigarette lighter adapter is used, its short cord is plugged into the cord connector instead of the clips. They too, are marked for correct polarity. Fords and Buicks, and some other makes will not accept the cigarette lighter adapter but they can be modified by the dealer as necessary.



The recorder in carrying position. The finish is in aluminum and white and the weight is only 18 pounds. An accessory carrying case is available if desired.



Upper left: all controls are grouped at the right side of the recorder. They include fast forward and rewind, play record and stop keys and below them the volume, recording, and tone controls. Upper right: the instant stop lever stops the tape without clicks or pops. It also permits pre-setting the record volume without running tape. Lower left: the speed selector and odometer type counter. Lower right: Mike and cords are held in lid of recorder.

The recorder will accept 7" reels and recordings may be monitored by pushing the speaker switch to monitor. This will also serve to enable the recorder to be used as a 10 watt PA system. Headphones may be plugged into the external speaker output jack or the monitoring signal may be heard from the speaker, in which case, if a mike is used, it should be kept at a distance to prevent feedback.

The tone control has four tonal extremes. In the "Balanced Tone" position the extreme lows and highs are emphasized; in the "Bass" position the highs are cut off and the lows emphasized; the "Treble" position emphasizes the highs and gives excellent speech clarity and the "Hi-Fi" position gives the widest uniform response for the connection of the recorder to auxiliary equipment. The tone control does not operate while recording although it should be set to the Treble position for maximum accuracy of record level setting.

An instant stop lever, which also doubles as a safety interlock for recording, permits instant starting and stopping of the tape as well as holding the tape still to set the record level.

The recorder also has an automatic head demagnetizing feature which goes into operation each time the record key is released.

The input jack is for both high and low sources using the proper plugs.

It takes no stretch of the imagination to see the many ways in which this recorder may be used. It is well worth your consideration.



Left: a pin in the 12 volt input closes the door on the 110 volt input when the plug is inserted. Finger is resting on pin. Right: 12 volt plug in place showing power cords, clamps and lighter adapter furnished with recorder.



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AND

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BRAND NEW Roberts Stereo Recorder Model 900 \$275.00, Brand New Polaroid Electric Eye Complete Kit Model 850 \$129.00, Write For Other Prices, Siger's 127 Main Street, Hudson, Mass.

naturist sunbathing camp. B. Seymour, 38 Maple St., Warren, Rhode Island,

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FOR SALE-Viking FF-75 tape playback deck with new quarter track stereo head-plays quarter or half track stereo and half track monaural tapes. Sherwood 36-Watt mono amplifier, Electro-Voice Regency Speaker System (dark mahogany cabinet). Magnavox AM-FM radio with phono input and recording output. Any of the above for \$95—or make me an offer. Norman Reed, Graterford, Pennsylvania.

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TAPE PALS WANTED: Will gladly exchange two, or four track tapes, with anyone in the U. S., or abroad. Correspondence done in Eng-Steven Pelly, 40 Monroe St., New York lish. 2, N. Y.

WANTED—BACK ISSUES of this magazine. Oct. '59, June '55, Oct. '54, April '54, Feb. '54, Dec. '53. 2—Tapes of unfamiliar and unsuccess-ful Boradway and off-Broadway musical comedies. 3—Tapes of WBAI-FM Program "Opening Night." 4—A Heathkit Speedwinder, Will Shop or Swap to the best of my resources for the items above. Please contact Stan White, 2435 Sunset Blvd., Los Angeles 26, California.

RADIO ANNOUNCER wanted to speak a reel-full of home-made "radio announcements" for private use, Mature, cultured voice essential. Speci-men tapes will be returned. Charles Leach, 502 West Market Street, Jeffersonville, Indiana.

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CANADIANS! Ampex 351 half-track and 350 full-track portable tape recorders, Sony C-37A and E-V 655-C microphones, Fisher 80-C Audio Control. Voice of Hope Recordings, Box 303, Willowdale, Ontario.

BELL STEREO TAPE PREAMPLIFIER, \$25; Shure 55S Dynamic Microphone, \$35; Remington Noiseless Typewriter, \$25, "Ted" Hein, 418 Noiseless Typewriter, \$25. Gregory, Rockford, Illinois.

FOR SALE, BRAND NEW Norelco "Continental 400" (EL3536) recorder. Records 4-track mono, stereo, Plays 2- and 4-track, Original carton and guarantee. All accessories. Guaranteed not used at all. One unit only. Original price: \$400. Best offer, Allan Mandelstamm, 708 Richfield Drive, Nashville 9, Tennessee.

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- 7-Dinner-Dance Fred Martin Radio Orchestra -
- Flamingo, Song of India, Symphony -Dinner-Dance Fred Martin Radio Orchestra l've Got Plenty of Nothin', Ebbtide, Autumn Leaves
- -Dinner-Dance Fred Martin Radio Orchestra Fiddle Faddle, Blue Tango, Serenata 10-
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Here is the fourth — and greatest — Soundcraft Premium Pack promotion. Featuring one of the most exciting stereo recordings ever made! Eight all-time Cole Porter favorites recorded exclusively for Soundcraft by eight of the top musicians playing today! Directed by Larry Clinton ----Cozy Cole, Charlie Shavers, Bob Haggart, Buddy Weed, Sol Yaged, Barry Galbraith, Urbie Green and Sam ("The Man") Taylor swing through three decades of America's most haunting, most lasting music. The result is pure gold. Not only a stereo "first" but a musical "first" too, as eight Cole Porter perennials receive

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