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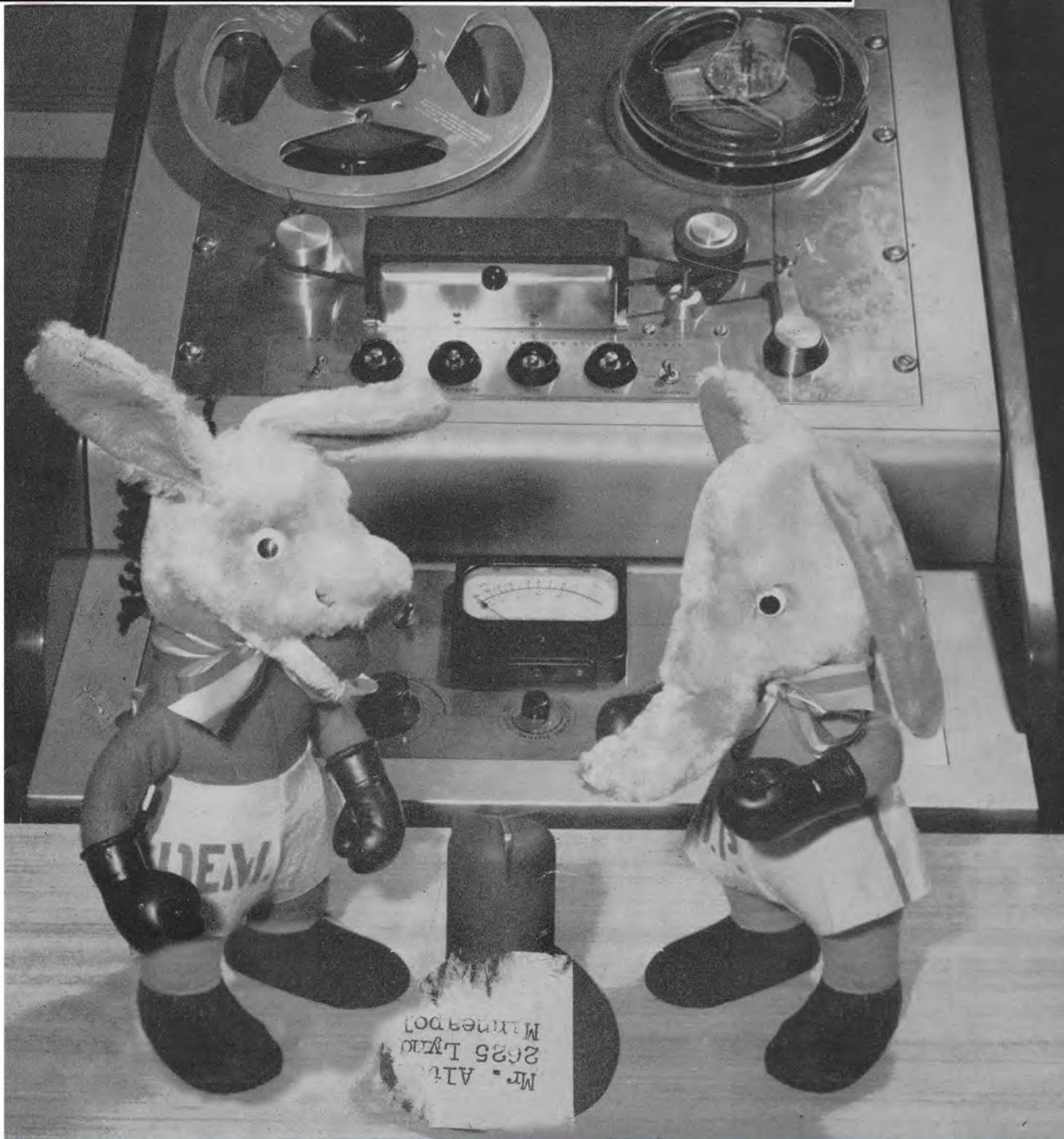
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MAGNETIC FILM &

TAPE RECORDING

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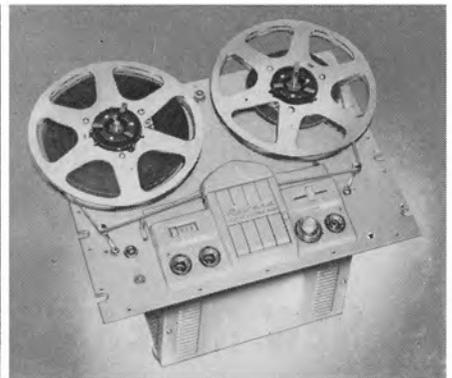
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Editor's Note: We are pleased to be able to announce that the name "Sigsbee" will still appear on the masthead of this column. Mrs. Charles Sigsbee will carry on the work begun by her husband who was killed in a car crash. Mrs. Sigsbee always worked closely with Mr. Sigsbee on the tape reviews and, in her own right, is a capable reviewer. We are certain that you will enjoy her work and comments.

SOME people do not feel that sound reproduction should be above all things realis-

tic, but it seems to me that as the years pass we, as people, are searching more for the basic truth and realism of all things. It is my opinion that from the old Edison system to the more modern phonograph, to high fidelity and now to tape and stereophonic sound the trend shows that progress is, always, toward the ultimate of *realism*.

Another industry which comes to mind, as an example, would be the movies. From silent films, to sound on film, from poorly reproduced black and white to clear, sharp pictures and on to color, wide screen and Cinerama.

All this progress is for one result . . . realism; a "you are there" feeling.

Now, insofar as music reproduction is concerned, we can stick our heads in the sand via our home systems and eliminate the "realism" of live concert distractions such as coughing, or those two women carrying on a conversation about the movie they saw the night before, or people getting up and going out, etc.

Music on tape has given us a truer fidelity. Stereophonic sound has brought us the realism of having the balance of sound precisely where it should be. For one who loves music and wants to hear it at its best, it is a thoroughly satisfying experience, like receiving a gift one has long desired.

If you are one of those who are just beginning to "break into" the tape field, or if you have not yet done so, you are in for more pleasure in the future. The tremendous stack of tapes this month fall into many categories and it is hard to visualize anyone not having his tastes satisfied.

CLASSICAL

OFFENBACH

Gaite Parisienne

MEYERBEER

Les Patineurs

Boston Pops—Arthur Fiedler

RCA VICTOR DC-14

Offenbach's gay, bright ballet with a rollicking musical score is given a vivacious performance by the Boston Pops. The interpretation does not compare with the delicacy of Dorati, but this makes for good listening.

Les Patineurs (The Skaters) had its premiere at the Sadler's Wells Theatre in London in 1937. The score consists of a series of four dances which Meyerbeer wrote for his opera "Le Prophete." This is a shorter selection than the Gaite Parisienne, and so much the better, as Les Patineurs is a little too showy compared to it. However, the two make good companion pieces and make up a well-rounded tape.

One cannot resist the innate charm and appeal of this music and I feel, especially for those who have not yet opened the door to classical music, that this tape would be a fine one to add to the library.

The fidelity is excellent.

OISTRAKH PLAYS

Franck Sonata in A major for Violin and Piano

Prokofiev Sonata No. 1 in F minor for Violin and Piano, op. 80

David Oistrakh, Violin

Lev Oborin, Piano

AV 1043 E

There is no question as to Oistrakh's mastery of the violin, and this tape is more proof. The Franck Sonata is performed with delicacy and beauty, being somewhat Brahms-like in quality with all the melodic and harmonic expression brought out by this great artist. He takes the plaintive, sad theme which occurs throughout and gives it such depth of emotion and feeling that one literally lives with the music.

The Prokofiev is more modern and atonal

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with the first movement opening on an ominous and depressive note. The second movement is fast and dramatic, with atonal qualities and leads into a quieter, more romantic style in the third. The fourth movement is spirited with pizzicato effects and the entire sonata displays in full Oistrakh's virtuosity.

A true high fidelity tape in every respect with Oistrakh and Oborin achieving a beauty of symmetry and form which condenses into a distillation of beauty for the music lover.

BETHOVEN

Fifth Symphony
Boston Symphony Orchestra, Charles Munch
RCA VICTOR ECS-7

From the moment "fate knocks at the door" one is held by the impact of this most famous of all symphonies. A clear, dynamic rendition executed by Munch brings out the glowing fabric of this beautiful music and with stereophonic reproduction there is little more one could ask.

The first movement is powerful and vibrant; the second finds the cellos exhibiting deep sentiment in the lovely song which carries throughout to the third movement wherein the orchestra imparts the feeling of fear and joy, alternately. In the finale, Munch and his men expressively perform Beethoven's "victory over struggle."

This is a richly resonant recording with balance and clarity. I am a little prejudiced for Toscanini's reading with its sheer drive and brilliance but for fidelity and lifelike reproduction this tape cannot be beaten.

MOZART

Jupiter Symphony No. 41
Chicago Symphony Orchestra, Fritz Reiner
RCA VICTOR DCS-10

Composed in his thirty-second year (1788) and considered one of his three greatest symphonies, this reading brings out all the melodic shape, form and coloring of pure classic music form of which Mozart was a master.

In the first movement the light melody and quiet phrasing for strings is given a lucid interpretation. One of the finest of Mozart's slow movements is the second and Reiner and his orchestra bring to it a fluid flow of tone and delicate texture. The third (Minuet) is gay and playful and in the finale the simplicity and yet highly complex technical structure is beautifully balanced and expressed by the orchestra. The climax is forceful and has quite an emotional impact.

This tape is, with stereophonic sound, Mozart's poetry of music, and the Chicago Symphony, one I would highly recommend.

W. A. MOZART

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James Stagliano, French Horn
The Zimble Sinfonietta

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Royal Garden Blues — How Come You Do Me Like You Do — At the Jazband Ball — Love Is Just Around The Corner — Jeepers Creepers — Sleepy Time Down South — Mandy — Sunday — There'll Be Some Changes Made — Honeysuckle Rose — China Boy
Just Friends — It Could Happen to You — Lilacs in the Rain — Carl's Blues — Way Cross Town — You Don't Know What Love Is — The Lady Is A Tramp — Woody You
Laura — That Old Black Magic — Begin the Beguine — Why Shouldn't I? — Cafe — My Heart Belongs to Daddy — My Funny Valentine — Little Girl Blue — Top Little Time — When Your Lover Has Gone — I Only Have Eyes for You
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Tests by Ampex Corporation show tape made with Du Pont "Mylar" gives best all-around performance on new "Videotape" recorder

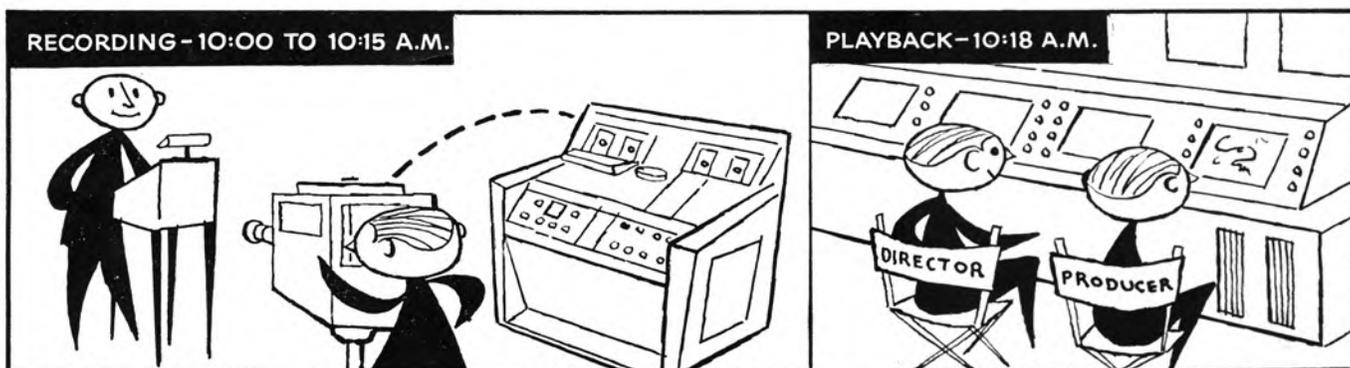


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THE first practical method for recording TV sound and pictures on magnetic tape has been announced by the Ampex Corporation, Redwood City, California.

The Ampex "Videotape" recorder uses tape made with Du Pont "Mylar"* for these important reasons: It's tape that can withstand unusual recording rigors without the risk of cracking or breaking—it can be stored indefinitely and played many times without any harm to either picture or sound quality.

Tape made with "Mylar" is strong, but thin enough to reproduce a whole hour's TV program on one 14-inch reel. It's virtually unbreakable—



Here's how the new "Videotape" recorder works: As TV camera captures the action, it is recorded on magnetic tape along with the sound. The tape can then be played back immediately. This enables the producer and director to check the performance immediately without tying up costly talent and studio time.

made with Du Pont "Mylar" for "Videotape" recording

unaffected by changes in temperature and humidity. In short, the high tensile strength and dimensional stability of "Mylar" offer unlimited tape life under *all* conditions.

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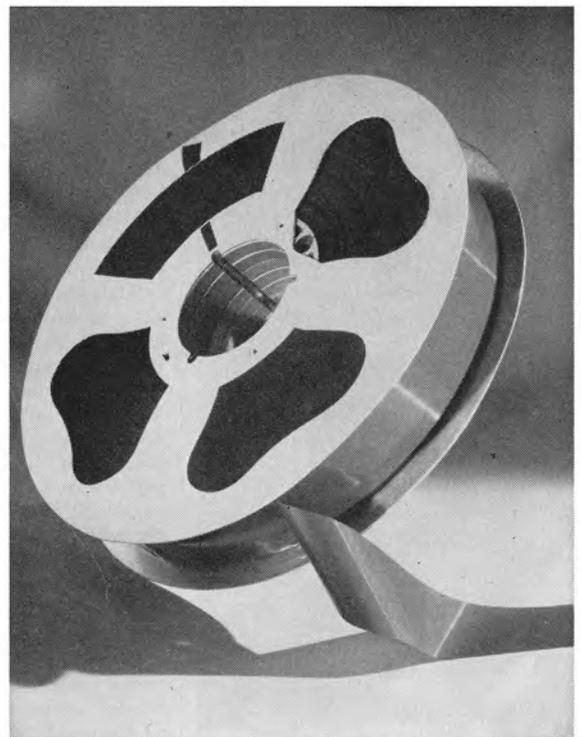
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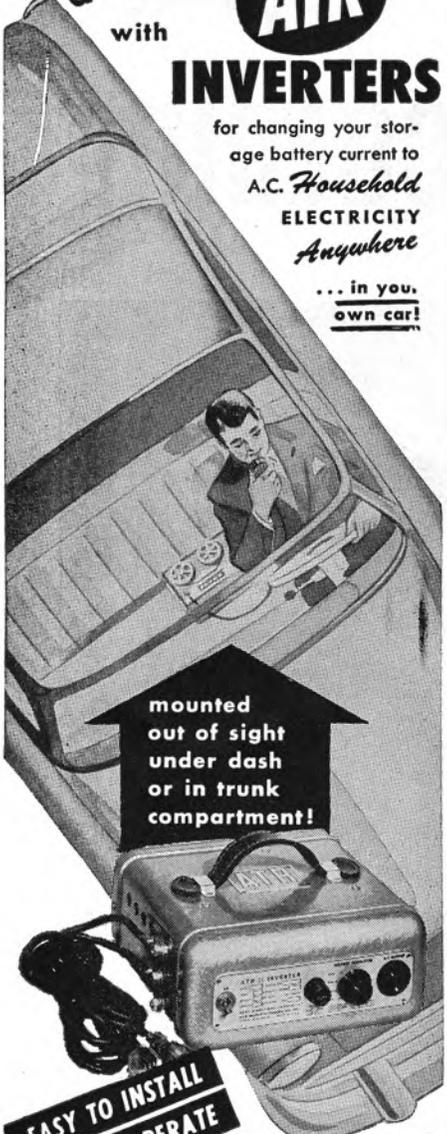
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Symphony, does a sensitive interpretation of these two concertos with the Zimble Sinfonietta giving a good performance. The tonal quality is good and the music warm and delightful. The recording was made in the newly completed Kresge Auditorium of MIT, Cambridge, and is flawless in balance, range and fidelity.

A. E. Foster of Newark College of Engineering, Newark, New Jersey, was kind enough to forward the Columbia EMI tape containing the four horn concertos, by Mozart with Dennis Brian, horn, and the Philharmonia Orchestra conducted by Herbert Von Karajan, for review.

We compared the two side by side and find that the better orchestra is on EMI and Brian's delivery is a bit more sharp and clean-cut in style. The difference lies mainly with stereophonic reproduction and the Livingston tape comes off ahead with a fuller, richer sound. Both tapes are good, clear recordings and it is purely a matter of personal taste.

TCHAIKOVSKY
Concerto No. 1
Emil Gilels, Pianist
Chicago Symphony Orchestra
Fritz Reiner, Conductor
RCA VICTOR ECS-8

Written in the short space of a month and condemned as "thoroughly worthless" by Nicholas Rubinstein, this concerto has become one of the most popular for piano. Considered a good display piece for the virtuoso, this effectively shows the brilliant technique and interpretative style of Soviet Russia's foremost pianist, Emil Gilels.

Through the combined factors of Gilels, Reiner and stereophonic sound, this rendition of the familiar concerto takes on new life. In the finale the orchestra and artist perform in the spirited coda with such effectiveness that one is emotionally lifted by the music.

Making the master tape took more than five hours of continuous recording and playback with Reiner and Gilels working for perfection . . . and the desired result was attained.

The piano is clear and concise, the balance between orchestra and instrument fine, the fidelity excellent.

BRUCKNER
Symphony No. 9 in D Minor
Pro Musica Symphony, Vienna
Jascha Horenstein, Conductor
PHONOTAPES-SONORE pm 125

This, his last, and unfinished symphony Bruckner dedicated to God. Until the early thirties no definitive version of this work emerged. Ferdinand Loewe had redone the work changing and revising until Professor Orel arrived at his thesis of the authentic work through arduous study of six separate versions of the composer's manuscripts of the symphony. It was first performed in the original version by Otto Klemperer and the New York Philharmonic Symphony Society in Carnegie Hall in 1934.

There has always been much controversy as to Bruckner and his musical structure and style and as Stokie would say, "It is whether your ear likes it or not." I found the first movement fragmentary containing as it does four themes. The second and third are more to my liking, but in the third

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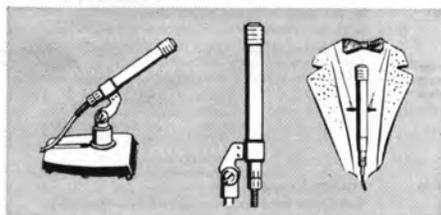
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I fully expected Wagner to take over at times.

Horenstein and the Pro Musica give a good performance with depth and feeling and my one complaint is that the high's, as reproduced, are strident . . . other than that, the tape is a good one.

VERDI

"A Masked Ball"

- Joachim Kerol, tenor
- Jean Borthayre, baritone
- Ethel Semser, soprano
- Loly Valdarnini, soprano
- Marie-Therese Cahn, contralto
- Jacques Linsolas, bass
- Giovanni Di Napoli, bass
- Jean Mollien, bass

Orchestre Radio Symphonique de Paris,
Paris Philharmonic Chorus
Rene Leibowitz, conductor

CONNOISSEUR D-100, D-101
LIVINGSTON ELECTRONIC CORP.

This is an excellent recording of the complete opera "Un Ballo In Maschera." A powerful and dramatic presentation by Leibowitz and the orchestra as well as fine performances from the soloists and chorus.

The solo work of Ethel Semser as Amelia is outstanding. Her aria in Act II, "Ma Dall' Arido" is beautifully delivered and throughout this work her high notes are achieved with smoothness and clarity; her intonation and enunciation pure.

Jean Borthayre, as Renato, provides a strong, rich portrayal of his role. His voice has great depth and expression which he demonstrates superbly in Act II as he sings the great aria, "Eri tu."

Joachim Kerol, as Riccardo, does a capable job as do the others in the cast.

The balance between voices and orchestra is perfect and the string tones clear and basses rich and sonorous. The fidelity is above reproach.

Connoisseur has provided excellent packaging for this operatic work including notes and libretto.

POPULAR

**MORE GEORGE WRIGHT
HIFITAPE R-707**

**GEORGE WRIGHT'S SHOWTIME
HIFITAPE R-708**

For fans of George Wright here is more of the same artistry at the pipe organ. On R-707 Wright plays with his usual skill one of the largest Wurlitzer's (5 Manual) ever made. "You'll Never Walk Alone" and "Stars Are the Windows of Heaven," are expressively performed. "Sanctuary," a George Wright original, has a terrific bass opening and contains the sounds of birds throughout.

On R-708, Wright is playing the 4 Manual Wurlitzer Pipe Organ in the Fox, San Francisco Theatre, where he first started his profession. On this reel you will hear such tunes as "The Man I Love" and a medley of songs from "Showboat."

Tonal regulation, arranging and presentation are fine and the fidelity is excellent. For those who like organ music in a light-hearted vein, these two tapes will more than satisfy.

FOLK MUSIC

IN OLD BAVARIA

Franz Schermann and the Alpiners
BEL CANTO #301

Franz Schermann and the Alpiners produce authentic Bavarian polka and folk music with all its zest, color and gaiety. Keeping with the authenticity, they use only instruments which can be carried as they stroll about.

You find your feet tapping and your mood a lighter one as you listen to such tunes as "Jolly Peter," a very popular Rhineland dance, "Du Du Liegst Mir Im Herzen" (translated it means "You, You Are In My Heart" but you may recognize it as "Oh Where, Oh Where Has My Little Dog Gone!") and other folk tunes.

The Alpiners seem to enjoy playing as much as one enjoys listening . . . even to some vocal "heys, yippees and one, two drink" . . . one of our German friends became a little homesick!

Fidelity, as on all Bel Canto releases this month, is fine. This is a tape to add to your library for lighter moments.

GYPSY MUSIC

Lendway Kalman and his Gypsy Orchestra
ALPHA tape 7

No finer gypsy music are you liable to find on recordings. Even boasts of the ancient cymballum. Those interested in this difficult instrument will find "Romanian Hour" interesting as a solo.

As there are no notes included with the tape, I would imagine the group to consist of one (or two) violins, piano, cello (good . . . soloist on "A May Night"), bass viol and cymballum.

MISCELLANEOUS

YOUR FATHER'S MOUSTACHE IN HI FI

Professor Al White and his Gaslight Orchestra
BEL CANTO #107

Professor White and his fifteen-piece aggregation play with spirit and all too impeccable artistry some music of the Gay Nineties. Such instruments as the slide trombone, banjo, glockenspiel and bird whistle are made wide use of on selections such as "What Do You Mean You Lost Your Dog?" and "Tickle the Ivories."

Playing it before a small group the consensus of opinion was this: "It should be on scratchy 78's," "too polished," "the rhythm is there but it sounds like a symphony orchestra," and there is the clue, as this tape features members from the San Francisco Symphony.

They play as though having much fun and the listeners all agreed they derived the same feeling. We know you'll enjoy it as we did. Fidelity is tops.

HERE'S MORGAN—Satires and Monologues
RIVERSIDE TAPE LIBRARY RT 5-10
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Yes, here *is* Morgan and it depends on whether you like him or not. We played this for several groups and found that "Twelve Bottles" and "The Truth About Cowboys" (we had an ex-professional one in our midst who stated this satire was "slightly exaggerated.") were the most popular. This boils down to personal taste . . . if you like this type of entertainment, then you'll like the tape.

JAZZ HYSTEREO

Jack Millman Quintet
STEREOTAPE ST 5

Move the furniture out, this will set the house jumping! This *is* modern jazz, hysterically speaking; beating it out on "Woodyn Hue," "Darn That Dream," and "Stitt's It," are Jack Millman, trumpet, Ray Teidel, drums, Lin Halliday, tenor sax, Don Friedman, piano, and Clarence Jones, bass.

You hear the instruments just where you would expect them to be and it is a listening experience to hear this quintet invade your home, via stereophonic sound.

Jazz fans will love it. Fidelity excellent.

JOSH AT MIDNIGHT

AV 852 J

Josh White singing in his inimitable style, with the talents of Sam Gary, vocal and Al Hall, bass. We have been looking forward to another release by Josh since Livingston's "Josh White Comes A-Visitin'" (T-1085). A close-in mike technique is used, a little too close on the first number "Saint James Infirmary" as the s's hiss somewhat, but throughout this is a good

recording which makes you feel Josh is right in your room.

My personal preference runs to the selections of ethnic value as Josh White is a master of same.

Fidelity is excellent.

MUSIC FOR SLEEPWALKERS ONLY

Murray McEachern

BEL CANTO #104

This is a very smooth thirty minutes of popular music. It may be for sleepwalking only but is par for the course for good dancing or just listening. From the harp intro to "Laura" to the last of "Lullaby" this tape is excellent in content, arrangements and fidelity. To date, Bel Canto releases have been tops from the recording angle and this month is no exception.

SIPPIN' MUSIC

Jack Kelly Trio

BEL CANTO #105

With Jack Kelly at the piano, George Shaw on bass and Jack Saunders on drums, this trio does a good job of producing some light, easy background music.

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BOOK REVIEWS

How to Make Good Recordings by C. J. LeBel 5 1/4" x 8", 151 pages, well illustrated, Published by Audio Devices, New York, N. Y. Paper bound, \$1.50, cloth bound \$2.50.

C. J. LeBel is one of the recognized authorities on tape, and the chairman of the Magnetic Recording Industry Association Standards Committee. In this book he has produced a very readable and not too technical work that is both practical and informative. The section on microphone recording was prepared by Vincent J. Liebler, Director of Recording Operations, Columbia Records and the section on Tape Editing by A. A. Pulley, Administrator, General Recording, RCA Record Department. The information on the Use of Sound Effects was prepared by Herman Haverkamp, Assistant Director WNYE.

The book can be understood by the average layman and contains a wealth of practical data and information. We recommend it highly.

Audio Control Handbook for radio and TV Broadcasting by Robert S. Oringel, 9" x 10 1/4", 145 pages, well illustrated, Published by Hastings House, New York 22, N. Y. Cloth Bound \$6.60.

The author of this volume is a broadcast engineer for the Voice of America and has put a lot of very useful information into this book. With the advent of television, the fine art of audio has many times taken a back seat to the problem of keeping the mike out of the picture area. But with the coming of hi-fi components in many TV sets, and the general awakening of the public to what is good sound and what is not, the creative audio engineer should once more come into his own.

This is more of a how-to manual than a technical book and contains much of interest to tape recordists, especially the information on microphone placement. The author explains and shows by means of diagrams and pictures, the audio console controls, studio design and construction and goes into the tricks of voice levels and balance, cueing, remotes, program formats, etc. The book is very readable in style and even a beginner will have no difficulty following it.

Ribbons of Sound by Karl A. Barleben, 5 1/2" x 8 1/2", 126 pages, well illustrated. Published by U.S. Camera Publishing Corp., New York, N. Y. Paper bound \$2.50.

This is a book for the veriest beginner and the author did not set out to prepare a technical treatise. As he says in his preface, "No claims to completeness are made for these pages—they were prepared essentially for the beginner."

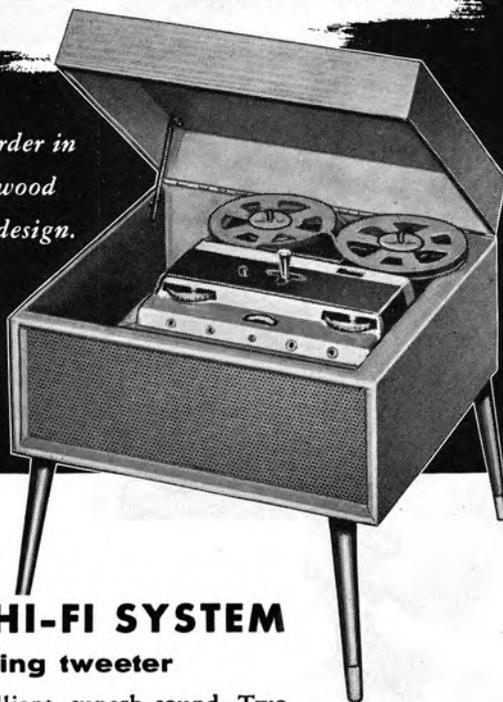
The chapters include, Some Thought on High Fidelity, Magnetic Recording Tape, How the Modern Tape Recorder Works, Magnetic Tape Recorders, The Microphone, Tape Recording and Tape Editing.

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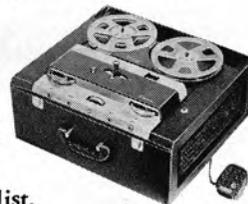
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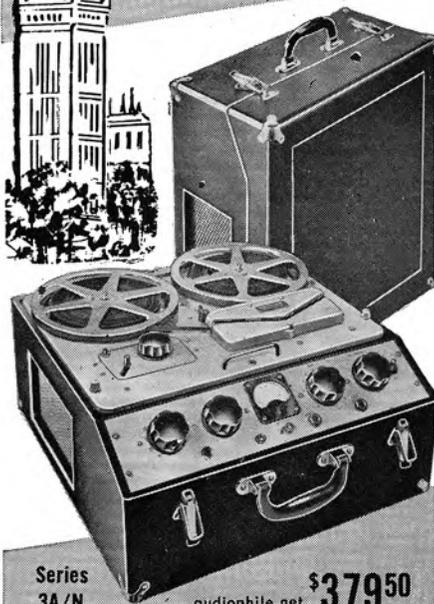
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TEEN TAPERS

By JERRY HEISLER, National President

At the time that the last issue was distributed, we had the privilege of attending the convention of the National Audio Visual Association, in Chicago. Besides looking over various new products, I had the opportunity of meeting many members of the industry, many dealers, teachers, and other interesting people. I also spoke to a group of dealers on the Teen-Tapers idea and many were very much interested in helping to get clubs started.

We saw the new stereo playback and monaural recorder being put out by Ampex, designed to provide professional quality at a price within the means of many amateurs as well as schools. Martin Mann of the Pentron Corporation spent some time with me and gave me a fine insight into the various models in that line.

The Reeves Soundcraft people told me about their new double play tape which in effect gives you the equivalent of two 7" reels of tape, all on one reel. I have a roll which I'm looking forward to trying out.

One of the most interesting items and persons I saw and met at the convention, was the new V-M stereo recorder displayed by C. J. Stevens of the V-M company. This machine, to be in production by the end of this year, provides a unit capable of recording stereo tapes as well as playing them back. The price is within the popular budget and the machine features both stacked and staggered heads so that any type of stereo tape can be recorded or played.

If I were asked to name the one element of recording that is the up and coming thing, I would name stereo. There is no way to explain the difference between a monaural and a stereo tape. You must hear it to fully appreciate it. Because of my belief that stereo will be of great interest to teens, I have arranged with the V-M Corporation, and with Concertapes, one of the producers of stereo tapes, to secure a stereophonic playback recorder plus a number of tapes for testing purposes. As soon as possible I will write an article on this activity which I know will interest you.

All in all, the NAVA convention was a very interesting one and a profitable one for us. Our materials will be mailed shortly, and the coming year promises good things. We are all set to start clubs as fast as applications are sent in. Individuals wishing to help form local clubs in schools or churches be sure to write. We are constantly expanding our file of information and are ready to offer guidance wherever we can.

Getting back to the recorded tapes, we have word from Hal Beecham, President of Recorded Tape of the Month Club, that a teen-ager has entered the recorded tape field. Brilliant pianist Linda Babits, 15, bows in as the September selection for the club. Among the items that Linda features on her tape is "Lost Rondo" by Matteo Carcassi,

Florentine composer of the early 19th century. This is the first time this selection has ever been played. Tape of the Month reports that Carcassi was on the level with Liszt, Paganini and Beethoven in that time and for some mysterious reason he was almost completely overlooked. This tape is a limited edition available to the Recorded Tape of the Month Club members first, and on a limited basis to dealers. To get this tape make a reservation with your dealer or the club. You can obtain a picture of Linda Babits by writing to me c/o Teen-Tapers, TAPE RECORDING MAGAZINE, Severna Park, Maryland. Teen-Tapers congratulates Linda Babits, who with her tape, "Linda Babits Concert" is the first teen-ager to enter the recorded tape field. Much luck Linda and Tape of the Month Club.

TEEN-TAPERS

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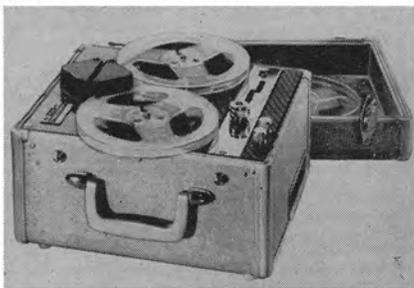
NEW PRODUCTS

TURNER MIKE



A new cardioid microphone, Model 98, has been introduced by the Turner Company, Cedar Rapids, Iowa. The single active element in the mike is a rugged moving coil type with plastic diaphragm. This mike has a frequency response of 65-11,000 cps; an output of -52 db; front-to-back ratio of 20 db; and features a 20 ft. removable cable, single conductor shielded on high impedance models, 2 conductor shielded on low impedance models. Model 98 is priced at \$59.50. The S-98 model with on-off slide switch is priced at \$63.50; and a shock mounted G-7 stand for Model 98 is priced at \$8.00. For additional details, contact the manufacturer.

EMC TAPE PLAYER



EMC Recordings Corp., 806 E. Seventh St., St. Paul 6, Minn., has announced its new Communicator tape player. This self-contained, portable player contains the following features: strict adherence to NARTB specifications for wow and flutter, frequency response, and signal to noise ratio; single lever tape control; instant start and stop braking mechanism; cathode follower output jack for direct connection to any external amplifier or public address system; auxiliary speaker jack for direct connection to any external speaker; and it is available in a light, easy to carry, genuine Samsonite luggage case. Additional information and price is obtainable by writing to EMC Recordings Corp.

(Continued on page 35)

T T H *The Tape House*

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RECOMMENDED RECORDED TAPES

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- BARTOK: Concerto For Orchestra. Chgo. Sym., Reiner, RCA (Stereo) ECS9.....\$14.95
- BRAHMS: Concerto No. 1 in D. Rubenstein, Chgo. Sym., Reiner, RCA CC-15.....\$10.95
- STRAVINSKY: Petrouchka Phil. Sym. Orch. London; Scherchen. Sonotape SW 1019.....\$ 7.95
- PROKOFIEFF: Symphonies: No. 1 in D, No. 5 in B-flat Phonotapes — Sonore. PM 131.....\$ 8.95

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When Ordering Specify brand, type and reel size.

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Sound Equipment

Although we can supply you with any recorded tape currently available, all Tape House Recommended Selections are pre-auditioned for highest quality. Each month we list our recommendations so you may have a selection of proven quality in all classes of music. In ordering by mail it is thus possible for you to have selections when you want them — without delays or back ordering. All tapes delivered POSTAGE FREE in original manufacturer's package unopened. WE PAY THE POSTAGE.

WHEN ORDERING Specify Tapes by Name and Number. Enclose Check or Money Order. Sorry, No. C.O.D.s.

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Studios the world over

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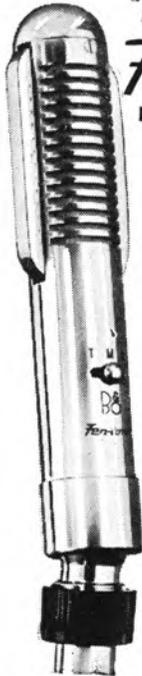
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you can choose 50 ohms-
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Frequency range: extremely flat—30-15,000 cps \pm 2½db. Hum pickup (Gh) 139.8 db at 50 ohms. Available; models with 20 feet of shielded balanced cable and connections to stand and microphone.

B&O-53 Multi-impedance
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J. GORDON HOLT (AUDIOCR AFT MARCH 1956) states: "... The mikes it was compared with cost at least 4 times as much but I was curious to see how it would stand up to some of the top microphones currently available. It does remarkably well... It is strictly a top quality unit and I still find the price a little hard to believe."



The new B&O STEREO
MICROPHONE RIG

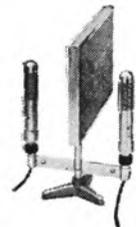
For the first time you can set up mikes for stereo recording as you would for monaural. **ONE STAND ONE POSITION.** Perfect polar pattern for large or small groups.

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And for more rugged use—indoor or outdoor, the triple blast screened

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Dual impedance 50 ohms/Hi-Z. Proper impedance selected by plugging in proper cable. With two cables and muting switch—
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FREE! 1956 Fen-tone Catalog. The above are only samples of the many terrific values in the new 1956 Fen-Tone Hi-Fi catalog including mikes, tape decks, cartridges, record changers, silent listening devices, etc.

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West of Rockies,
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QUESTIONS & ANSWERS

Questions for this department may be sent on tape or by means of a postcard or letter. Please address your queries to, "Questions and Answers," Film and TAPE RECORDING, Severna Park, Maryland. The most interesting and widely applicable questions will be used in this department and all inquiries will receive a tape or letter reply.

Q—I have been recording music from an FM radio with my recorder. I understand an FM radio does not reproduce the full sound range and that an FM tuner does. Will a tuner therefore increase the quality of my recordings? In your opinion do you think the purchase of a tuner would be worthwhile?—T. R., New York, N. Y.

A—If you have a good FM radio, there would be little point in purchasing an FM tuner. An FM radio contains an FM tuner, preamp, amplifier and speaker. If you wanted to feed the recorder with a tuner, eliminating the radio amplifier, you could make a takeoff at the preamp stage and feed it into the mike jack or other high impedance input on the recorder. This, conceivably, could provide better results especially if the amplifier in the radio was not of the highest quality. If your set is an AM-FM table model in the lower price bracket then it would probably pay you to invest in a good tuner.

Q—Two months ago the Hi-Fi bug hit me like a ton of roses. Now I have a 24" shelf space of books, magazines, etc.

I have a moderately priced tape recorder. Relative to the purpose for which I bought it (speech only) and my taste at the time, it does well. Understandably, there is a quality difference between its performance and the best. But I want to do what I can to diminish the difference for both uses and taste have changed.

This difference lies, presumably, mostly in heads, speakers and amplifier. How much improvement will result in putting in better heads? How much from a better speaker? From connecting a better amplifier? How much for any two—and all three?

Later I hope to assemble an entire quality home music system, including the best recorder. Then in a still more distant move, duplicate the amplification-speaker system and add a binaural playback for stereophonic music—and give the recorder I now own to my sister. Since I plan to buy such components later anyhow, I won't mind buying a top quality speaker, etc., now for I can still use them later. That is, of course, if I can cash in now by such alteration of my present recorder by the addition of a high quality speaker system.—W. R., New York, N. Y.

A—All three of the factors you mention, heads, amplifier and speakers, contribute to the efficiency of the recorder and if any one is short in performance the net result will suffer.

We feel that in pursuing your plan the first purchase should be a good speaker and cabinet. This alone will make a remarkable difference in the quality of the sound played back from your present recorder. Obviously,

it is impossible for the small speakers in a recorder case to do the job of a properly mounted wide range speaker.

The addition of a good amplifier would be the next step, which will provide more power and better range. This can be plugged into the amplifier output on the recorder or wired in by any competent service technician if your recorder does not have an external amplifier jack. We would suggest, in view of the fact that you plan to give the recorder away eventually, that you terminate the connection in a jack installed in the recorder case so the external amplifier can be connected or disconnected at will.

Heads would be the last step, although not the least important. By the time you reach this point, however, we feel that you will be ready to purchase your top quality recorder. As you suggest, and we heartily concur, do plan for the installation of stereo sound. We feel that anyone who likes music that gives you the "you are there" feeling will be in the ranks of the stereo users very shortly.

Q—I have a dual track tape recorder and was wondering if there were some way to play or record a tape backwards. I have tried everything I can think of, including playing the tape "inside out." If it is recorded this way the sound will come through backwards but must, of course, be recorded at a high volume and is subsequently distorted and is itself of very low volume. I am very much interested in this because I would like to experiment with different sound effects.—A. W. H., Ann Arbor, Michigan.

A—Since it is impossible to run your recorder in "reverse" the only solution is to record the sound normally and then get the reversal on playback. If you had single track heads, instead of dual, this would be easy. The only solution we can think of is the one you have hit upon, recording through the back of the tape. We would suggest that you try some of the new super-thin Mylar-base tapes which are only one-half thousandth of an inch in thickness. By recording these backward, your coated surface of the tape will be only a half-thousandth away from the head and while this will cause some drop out and loss of level, the results will be better than on the standard one-and-a-half thousandths tapes. Perhaps some of our readers may have hit upon a better scheme and will let us know about it.

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TAPES TO THE EDITOR

When sending tapes to the editor please use the 3" reel and indicate the speed at which it was recorded and whether it is dual or single track. We will listen to your tape, make notes from it for use in this column and then reply on your tape. Please keep tapes reasonably brief.

If you do not own a recorder a letter will be acceptable. Address tapes or letters to: The Editor, Film and TAPE RECORDING, Severna Park, Md.

To the Editor:

In reading your August issue, I noticed a question by one of your readers concerning tape "vibrations."

In addition to the answers you gave I should like to add a few of my own. Our experience with this situation in broadcast work was at one time of considerable frustration. After many tests and experimentation, we discovered several causes for this ruinous phenomenon.

To wit: one of the basic causes is tension of the tape—and since the pull on the machine varies with the angle of distribution from the supply reel, the closer to the end of the reel (hence the greatest angle and increased pull), the more noticeable does the condition become.

This is a basic fault. However, tape coating thickness variations will also cause tape "squeal" as will, (and very definitely), a tape which is improperly lubricated during manufacture. There have been inferior brands of recording tape on the market in which both the above defects were very pronounced—especially after several run-throughs. It follows, of course, when a tape of the above faulty characteristics is used, humidity and temperature changes cause a healthy variation in the "squeal characteristics." Unfortunately there is little, from our experience, which can be done practically to cure this condition. We have made a practice of sticking to proven brands of tape and thorough testing of new brands which come to our attention. And—have had no subsequent repeat troubles.

I hope the above very concentrated report may be of some value to your readers, if you care to pass it along. In closing may I state that your magazine is greatly appreciated in our engineering office—we are faithful readers.—*Don Creswell, Engineering, WITB, Baltimore, Md.*

Our thanks to Mr. Creswell for his thoughtfulness in providing the tape tips and also for his kind words about TAPE RECORDING.

To the Editor:

May I express my deepest sympathy to the family of Mr. Charles D. Sigsbee.

It was with absolute shock that I read your announcement of his accidental death in the August issue.

I have always turned right off to Mr. Sigsbee's "New Tapes," not because it came first in the magazine but because I believe his article alone was worth the cost of the subscription.

Never have I purchased a tape Mr. Sigsbee recommended and been disappointed. I truly feel I have lost a friend.—*Charles L. Riecke III, Johns Island, S. C.*

To Mr. Riecke and all the others who were so kind to write on Mr. Sigsbee's death, our deepest thanks. We, too, felt the same way on hearing the news. We are glad to be able to state that Mrs. Sigsbee, who worked closely with Mr. Sigsbee on the reviews, will take over the task and carry on the work so ably begun by her husband.

To the Editor:

TAPE RECORDING Magazine is one magazine that I find is the best and fills the need for the publication I have wanted. May I take this moment to congratulate you on the fine and very informative articles. The days seem so long between each publication that I find myself counting days for the next issue. Many thanks and keep up the good work.—*Ken Oyama, Montreal, Quebec.*

The days will grow shorter. Beginning with the December issue, out November 1, TAPE RECORDING will become a monthly publication. Mr. Oyama has expressed the sentiments of so many readers and the recording field is growing at such a rate that only a monthly publication can adequately serve its needs. . . Ed. See the announcement on page 33.

To the Editor:

You recently had an item under "Tapes to the Editor" in which you showed a photo and letter from Anthony Roman, Jr. of Elmhurst, N. Y., of a very complete universal set-up.

Could you persuade this gentleman and others like him to write you articles on such complete set-ups? Hi-fi record fans have plenty of such articles showing the details and capabilities of complicated phono radio tape set-ups but tape recorder owners hear very little on what can be done to make their equipment more flexible and more nearly professional.—*G. Gordon Morrill, Florence, Italy.*

We'll be doing what you request in the new monthly TAPE RECORDING. The point has now been reached where hi-fi equipment is an accessory to the tape recorder, not the other way around, and we'll be providing all the details.

To the Editor:

In the June issue you had an article on "Can You Sell Off-the-Air Recordings." It was on page 40. Then it said, "continued on page 38." It wasn't. Could you explain what happened?—*Hugh Know, New York, N. Y.*

No, we can't—except that somebody goofed. Often it is necessary to make changes in the magazine make-up at the last moment and this must have caused the slip. We're sorry that it happened and trust it won't again.

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Modern,
High Fidelity
Recordings

the new

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**PROFESSIONAL
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THE two hottest spots in the world for tape recording last month were Chicago, Illinois, and San Francisco, California, where the nation's two great political parties convened to name their choices for president and vice president of these United States.

More than a quarter of a million feet of tape—nearly 500 miles of it—rolled through hundreds of recorders, day and night, to bring to the American people a more detailed, dramatic and documented account of democracy in action.

Two of the big names in magnetic recording—Ampex Corporation, producers of recording equipment for audio, instrumentation and television applications, and Minnesota Mining and Manufacturing Company, producers of "Scotch" brand magnetic tape—pooled their products to help make

it possible.

They set up special tape recording facilities both at the Democratic convention in Chicago and at the Republican convention in San Francisco to help radio and television stations and newspapers bring their local communities convention news of special interest to their areas.

These tape recording centers enabled the newsmen to record on-the-spot interviews, news stories and special commentaries and reports, then have them specially packaged and rushed by air express to the newsmen's home stations and newsrooms all over the United States and Canada.

Together with news service and radio and television coverage, the tape recording service helped give America its best national political convention coverage in history.



TAPING THE CONVENTIONS

by
Ronald Anderson

. . . your local news angle from both conventions probably came to you via tape. Here's how it was done.

with their portable recorders plugged in and their microphones handy. Often they waited for hours before the delegation leader—usually a senator or governor—would at last appear to make a statement for their tape.

At other moments they buttonholed a state delegate, or perhaps a leading congressman, and rushed him into the magnetic recording center for an interview on the latest developments.

If they were so fortunate, they might even have sat in on a caucus of their state delegation, recording all or part of it, so that the listeners back home could learn how the big decisions were made—even in the "smoke filled rooms."

As a result, the more than 60 million Americans who can be expected to go to the polls this November will know more about the candidates, the parties and the platforms than ever before.

What's more, they heard it—reproduced on magnetic tape and carried on radio and TV—in the exact words of their friends and neighbors who were the delegates to the conventions.

Detailed reports by the hundreds flowed out of Chicago and San Francisco hourly. The taped stories were flown to all parts of the country, and rushed into waiting hands at radio and television stations for inclusion in the news shows daily.

This year the caucus rooms, committee hearings and the convention floors and galleries themselves were spotted with an array of tape recording equipment that ranged from pocket-size machines on up.

Although some of the broadcasters brought their own recorders with them—ranging from Midgetapes and Minifons up through the Cub Corders, Minitapes, Magnemites and Tapaks to the Revere's, Magnecorders and Ampex 600's, an even greater number relied on the facilities provided by Ampex and 3M.

Four special tape centers—two in Chicago and two in San Francisco—enabled the broadcasters to vastly increase their coverage by providing them with studio facilities for making their tapes and also with portable Ampex Model 600 recorders and "Scotch" brand magnetic tape with which they could easily set up taped interviews in the hotel rooms and convention halls.

The radio and television networks with their vast crews of men and vanloads of latest electronic equipment brought the "big picture" of the two conventions—as well as an amazing amount of detail—to radio and television sets in homes from coast to coast. But it was the hundreds of newsmen from independent radio stations that covered the individual delegations—the "grass roots" aspect of the big election year shows. And that's where magnetic tape was most widely used.

Through tape recorded interviews, recorded telephone reports and taped commentaries of the convention happenings, they kept the listeners at home up to date on just what their delegates to the convention did.

Newsmen kept all night vigils outside of caucus rooms



Left: Forrest Beard, Ampex, and John Verstraete of 3 M's check last minute details with page girl Barbara Templeman. Center: the youngest officially credited correspondents were Tommy Kirk, 14 and Judy Harriet, 13, of the Mickey Mouse Club who look over the big console recorders. Right: for interviewing delegates or big names at the convention, the newsmen had access to these recording booths.

At the Democratic convention in Chicago, for example, one of the recording centers was installed in the Conrad Hilton hotel, official hotel headquarters for the convention while the other was set up in the International Amphitheater just off the huge convention floor itself between the NBC and ABC convention centers.

In San Francisco, similar facilities were established. There one recording center was located at the official hotel—the Fairmont—while the other was in the North Barn of the Cow Palace.

The centers at the hotels consisted of two semi-sound-proof rooms each equipped with an Ampex Model 350 tape recorder for making the recording. In addition, registration desks were set up just outside each of the recording rooms.

The convention hall centers were more elaborate, each containing a bank of four Ampex Model 350 tape recorders plus four separate sound-proof booths where newsmen could conduct their interviews.

The magnetic recording centers were used in many ways to good advantage by the broadcasters and enabled them to provide their listeners at home with outstanding coverage

of the delegates who represented them at the conventions.

Fred Epstein, for example, president and owner of stations KSTT in Davenport and KLGK in Algona, Iowa, described one use of the tape facilities this way.

"My wife has a daily morning show called 'Coffee time with Ruth' and during the Democratic convention she sent home a 13½ minute show each day on tape. Together we would cover our Iowa and other nearby delegations, write out the script and then every afternoon Ruth would tape her show at one of the Ampex-3M centers.

"The Ampex and 3M people would then label, specially package and rush the tape by Air Express expedited service to our home stations for delivery in time for Ruth's morning show.

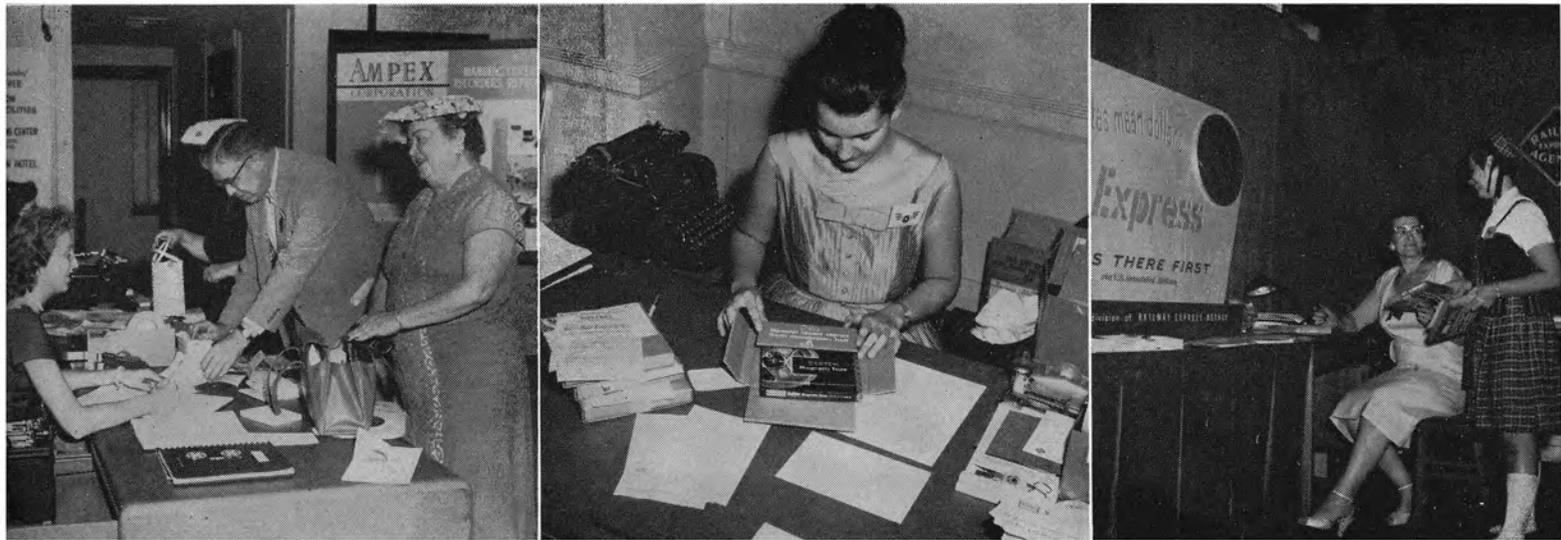
"When we learned that the special service was being provided, we left our own recorder home. This freed us from having to transport it—no easy task—and it also eliminated the problem of an engineer and a studio."

Union technicians to operate the recorders at the Democratic convention were provided by Ampex Corporation and were employees of Electronics Engineers, Inc., of Chicago. Other personnel at the magnetic recording centers consisted of 3M and Ampex employees.

Besides the total of 12 console and 12 portable recorders supplied by Ampex and approximately a quarter of a million feet of "Scotch" brand magnetic tape supplied by 3M,



Left: Ken Hall rides gain as newsman Murray Morgan, KMO interviews Senator Warren Magnuson who was the first favorite son candidate to be nominated by the Democrats. Scene is in the Conrad Hilton Hotel in Chicago. Right: Cow Palace where the Republican Convention took place.



Left: after a tape had been made the Air Express Waybill was completed. Here, Mrs. Carla B. Keys, WFLO, Farmville, Va. gives the shipping info to Beverly Eggers after Mrs. Keys had taped an interview with Governor Stevenson's sister. Center: special imprinted cartons for shipping tapes were used. Pat Burchart wraps the tape. Right: hourly service was maintained by Air Express. Delivery time ranged from 6 to 12 hours anywhere in the U. S.

all microphones were provided by Altec Lansing, while Brush supplied headphones for use.

One broadcaster, Murray Morgan of station KMO, Tacoma, Washington, used both the Ampex-3M studio and also the portable recorders for sending tapes back to his station every day.

"I taped my 15 minute morning show on the previous night every day," he said, "and got it on Northwest Airlines out of Chicago at 11:59 p.m. This brought the tape into Seattle-Tacoma International Airport at 5:30 a.m. where it was picked up by a cab and rushed to the KMO transmitter for broadcast at 7:30 that morning. The Air Express service got every tape through on time. Didn't miss a show."

Big names were taped, too, by the independent broadcasters as well as were the delegates. Morgan, for example, taped Senators Humphrey of Minnesota, Kennedy of Massachusetts, Jackson and Magnuson of Washington and also Eleanor Roosevelt.

"Originally I taped a couple of shows on my VM-700

recorder, but accidentally plugged it into a D.C. outlet and burned it out rather badly," Morgan said. "It was fused, but the last repairman had put in the wrong fuse. That's when I really began to be thankful for the recording center."

Other big names who were taped using the Ampex-3M facilities at the Democratic convention (first of the two events) included Adlai Stevenson, Governor Averill Harriman of New York, Mrs. Perle Mesta, Senators Russell of Georgia, Neuberger of Oregon, Kefauver of Tennessee, and several others.

Even broadcasters for the BBC and Radio Free Europe, as well as other foreign countries, were sending out special tapes for their home stations.

Besides being highly pleased by the Ampex-3M facilities available to them, the radio broadcasters at the conventions invariably came back to the same big question in capital letters whenever they relaxed in the magnetic recording centers after their deadline. That was "How did we ever do it before tape?"

Left: at the receiving end tapes were aired by radio stations over the entire country. Here Mary Paul of WCCO, Minneapolis, delivers a tape from news director Jim Borman to Charles Sarjeant for the next newscast. Center: the tape is cued up on the studio recorder. Right: the proof of the pudding—the listening. Here a group hears the latest news on their office radio—news that magnetic tape made more interesting, more current.





Photo by Skyfotos, Kent.

The S.S. Thompson Lykes passing through the straits of Dover with the well known white cliffs in the background. On board, a recorder and plenty of tapes.

Tape On The North Atlantic

by Charles H. Malmstedt

. . . tape proves its usefulness on board ship.

BOUND from Norfolk to North European ports, the SS *Francis W. Parker*, an American cargo ship of the Liberty type, was six days out of the Chesapeake Bay and Cape Henry when, within a matter of minutes, the sea water temperature dropped some twenty degrees and the weather became thick and close, the visibility less than a mile.

Almost simultaneously, a problem arose in the ship's radio room: an unidentified and unlocated SOS came feebly through the static on the international watch frequency of 500 kilocycles—and it was only a matter of minutes before the iceberg-location information would be broadcast by the International Ice Patrol's station in Argentia, Newfoundland—on another frequency.

Legally a simple matter—according to regulations which give top priority to all distress messages—the situation in practice nevertheless presented a complication the wrong solution of which could bring grave consequences, for it was May and they were entering the Grand Banks.

Lying to the south and east of Newfoundland, the Grand Banks is a vast stretch of ocean where the warm Gulf Stream meets the cold, iceberg-carrying Labrador Current. Frequently in transition from humid, foggy calm to raw, biting gales fed by polar air masses in mortal combat with their tropical adversaries, it is also an area busy with both fishermen and transoceanic traffic, traffic ranging from giant superliners to rusty itinerant tramps of the seven seas—for through the Grand Banks lies the great-circle course from most of North America to England, continental Europe and the Mediterranean.

Well known to all experienced seamen, the Grand Banks in spring and early summer, when the icebergs, "growlers" and the ice field move southward, keeps the radio men on their toes.

On the *Francis W. Parker*, the immediate problem was: should the unidentified SOS—which might take a considerable time to orient—be given full precedence as per the law, or should it be left for long enough to copy the ice bulletin? In short, the law was clear enough, but—and it was a big 'but': What if the Ice Patrol transmission gave the position of a newly-located berg near their track? What if, by adhering strictly to the letter of the law, the operator would be permitting his own ship to court grief while endeavoring to locate another to possibly save it? Perhaps, after all, it would be best to leave the SOS unattended long enough to copy the bulletin. But no—for he should no longer, even now, be in the radio room, but on the bridge, in the chart room, monitoring the SOS on the radio direction-finder.

A quick check was made on 500 kilocycles. No, no ship had acknowledged the SOS as yet, which was still feebly fighting the static and other interference, but gave neither call letters nor position. An automatic sender, no doubt.

"A tape recorder," the operator had occasion to think. If only he had a tape recorder, he'd be all set. As it was, however, there was no choice but to follow through with the SOS, to the complete exclusion of all else—as the operator did not then know of the coincidence he would encounter in less than thirty seconds.

Earphones already clamped on his head, the radio opera-

tor had barely stepped from the radio room and headed toward the direction-finder, when a crewman unaware of the situation almost collided with him, speaking rapidly.

"Later," said the radio officer. "Busy!"—but then stopped suddenly, quickly removing the earphones: "What did you say?"

"A tape recorder," said the crewman. "At least that's what it says on the box . . ." and, with a little prodding, quickly told of a "gadget" he was delivering to a GI friend in Germany as a gift of the GI's parents in the States—and wouldn't it be fun to try it out sometime?

The "sometime" quickly became "now." While the radio man obtained some initial bearings on the SOS which had now been running almost a full minute, the Webcor was brought up, unpackaged and set on the radio room short-wave receiver. In the minutes remaining before the Ice Patrol broadcast, it was connected to a previously discarded vibrator power-pack. With no time to investigate the recorder's input circuits, the microphone was merely set before the receiver's loudspeaker and the *Argentia* marker signal tuned in—and one of the two reels of tape accompanying the recorder was in motion, while the radio officer returned all his attention to the SOS which, some twenty minutes later, was as near to being under control as was possible under the circumstances: the distress had been localized by cross-bearings from DFs on several ships and several of the nearest ships were converging on the position.

Meanwhile, a playback of the tape recording provided complete and up-to-the-minute information on iceberg location—which the recording vessel was later able to retransmit for the information of all those vessels which had had to forego it because of the SOS; and which information, by the way, contained the new positions of some bergs dangerously close to the transatlantic steamer tracks then in use—causing several ships, including the recording vessel, to alter course immediately for the sake of added safety.

There were occasions to think about that later, the way tape had made its entrance, its uses on that vessel and later on many others, some of them dramatic, others routine but

none the less interesting; some concerned with ships' radio work, others with new ways of solving the ever present problem of entertainment and diversion on long voyages, especially on cargo ships carrying passengers but few, if any, provisions for their entertainment.

Among the latter is the American-flag SS *Thompson Lykes* of the Lykes Lines. Plying between U.S. Gulf of Mexico ports and Europe, its one-way passages run to between 4500 and about 5000 miles, and in time two weeks or more. Here, a recent relief Captain solved the problem for himself and as well for many of the passengers, by bringing along a Revere 1200 radio equipped tape recorder, plus a comprehensive and variegated collection of recorded musical tapes, as well as a good supply of blank tape.

While the electrical supply of the *Thompson Lykes*, like that of most vessels of its class, supplies only DC, the problem of AC for the recorder was quickly solved by wiring in AC from the radio room auxiliary receiver's converter—a piece of equipment not subject to stringent inspection limitations which prohibit the unauthorized addition of any loads to main or emergency installations. The same can be done on most ships, for one recorder. On others, officers and crewmen carrying tape recorders are successfully using the better grade vibrator units. Among the latter is a crewman who always carries an Ampex portable recorder.

There are many reasons for the rapidly increasing use of tape recorders at sea. At sea the tape recorder holds, for one thing, a very definite advantage over the disc machines, particularly in that it can be used in the roughest weather while records, especially those of the microgroove variety, must be stowed away for safe keeping or be subjected to ruination by a jumping, sea-jarred needle. Because of this and other inherent advantages, and the ease with which it can be put to multiple uses, the tape recorder is slowly but surely replacing the disc machines so many seamen have been carrying round the world for many years. And here the tape recorder records perhaps a greater variety of material than anywhere else.

Along the U.S. coasts, many recorders are at work taking



The radio room of the Thompson Lykes with a Revere TR-1200 set up to record. With a recorder in the radio room the operator can meet emergencies by taping one frequency while listening on another.

down the latest of the U.S. news, to be played back later in the day, and musical and comedy programs that may be kept for some time, for playback in distant ports and seas where nostalgia is more frequent than good radio reception. Far out off Nova Scotia, the U.S. news is erased while that from the Canadian stations is recorded, on some ships for later playback to passengers, on others for crewmen who were on watch during the broadcast. On some vessels this continues far out on the Atlantic and these ships later switch their recorders from the U.S. and Canadian stations to those of Europe, comprising a galaxy of stations and services, most of them with a rich variety of music ranging from the current popular favorites of each country to symphonies and opera—with an ample sprinkling of popular American tunes.

There are vessels on the Mediterranean, the South Atlantic, the Indian Ocean and the Far East runs which carry tape recorders, some returning with exotic recordings of music ranging from that of the Levant to Chinese pieces composed perhaps centuries ago.

For a completely American program fare, even far out at sea, many recorders take down the outputs of the American Forces Network in Germany, AFN-Munich providing the most consistently good recording level, sometimes as far west as the Azores, on the homeward voyage, Radio Luxembourg with its U.S.-style programs running a close second, as do many of the French and Spanish stations, most of them with excellent musical programs.

Having made this discovery, even many of the confirmed light-traveling passengers speak of making their next voyage with a tape recorder to help bring back in sound some of the variegated color of Europe and other lands.

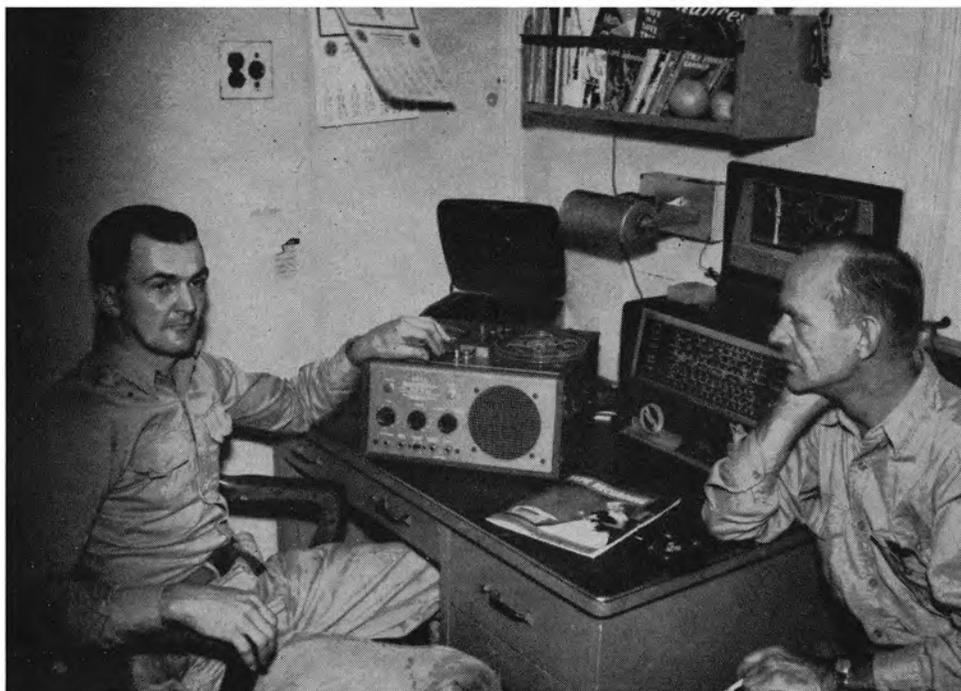
On far distant seas where radio reception is often intermittent and marred by interference, and when the available stock of recordings has been heard too often, the recorders are sometimes engaged in pranks—some of which may even have a social-improvement value. There is the case of "Joe the Blaster," whose addiction to incessant criticism of his shipmates had been pronounced absolutely incurable—until

a tape recorder came along. After hearing a surreptitiously recorded session of his blasting, Joe's reaction was, "Gee, I say all that?"—after which Joe was soon pronounced an improved character. Another case is that of a cabin argument in the wake of which a dozen crewmen were avowed enemies. The next afternoon, a recording of the session was played back in the ship's recreation room—to the consternation of a number of rapidly-reddening faces. As the playback came to an end, the first reaction was, of course, to summarily execute the owner of the recorder. The infeasibility of that, however, soon led to a restoration of friendships, and a busier-than-ever time for the recorder.

But it is in the ships' radio rooms where the tape recorders are proving of greatest professional value. While to the best of our knowledge all the tape recorders in the radio rooms are the operators' personal property, they have in many cases become invaluable adjuncts to the standard installations and their multiple functions. Because all American cargo vessels, and as well most foreign vessels of the same type, carry only one radio officer, the tape recorder often comes in for yeoman service as auxiliary operator.

A few cases in point on the North Atlantic:

A European traffic list ran over its customary time, thus conflicting with an American list: the operator copied one—an Ampro recorded the other; interference blotted out a weather report, and the next one conflicted with an urgent navigational warning: the warning was copied—a Pentron recorded the weather broadcast; a main generator and auto alarm became defective at the same time: the operator went to the remote generator compartment and repaired the machine—while a Bell recorded everything taking place on the watch frequency (here the $1\frac{7}{8}$ i.p.s. speed comes in economically handy, since in the recording of code tone quality is of no importance). Another: Some urgent "medico" traffic on 425 kilocycles conflicted with a fog-watch on 500 kilocycles: the operator copied the medico traffic and relayed it—while a tape recorder stood by on 500 for possible signals from any vessel which might indicate its position in the fog and report that it was one of those unfortunate



Electricians Stock and Dalton listen to some red hot news taped by the radioman and which they otherwise would have missed as they were on watch. The Bell recorder was hooked into the receiver shown at the right.

The author and electrician Dalton relaxing on deck to the music of recorded tape. Tape plays as well at sea as on land. Disc records, on the other hand are almost impossible to play on a rolling ship as the pickup arm swings off the record and scratches it.



ships still without radar.

But perhaps the most outstanding of all the known cases of tape recorder use in an emergency was that in connection with Captain Kurt Carlsen's vigil on the ill-fated *Flying Enterprise* a few years ago. It was not known that tape had played any part in this now-famous episode of men and the sea until a group of newsmen from England descended upon a radio officer of the U. S. Navy Transport *Golden Eagle* and pressed him for what he, as one of the operators in the distress area, had heard from the stricken vessel in one particularly critical period.

"Just a moment," said the radio operator, and switched on a tape recorder. "He had recorded twenty-five minutes of Carlsen's voice transmissions," said Gerry Dempsey of Kemsley's, one of the correspondents covering the *Golden Eagle*. "He had it all right there, that radio officer." Quite a delight for the newsmen, we can be sure.

On the high seas, there are still other uses for the tape recorder. It frequently happens that, in some ocean areas and under unfavorable conditions, only the radio room short-wave receiver, with its greater sensitivity and resonated antenna, can receive a particular program or newscast. This receiver, however, is seldom equipped with feed-connections to the ship's loudspeaker system. Here, again, the tape recorder solves the problem, permitting an uninterrupted recording of the program and a later playback anywhere on the ship, even out on deck where, generally, no other loudspeaker connections are available, and where most people prefer to congregate in warm weather.

There is, of course, also a way of making the output of any recorder in any cabin (even in an all-metal one) available for tuning-in on all the radios on board. This is done by feeding the tape recorder output into one of the low-power, nonlicense-requiring phono-oscillators, and connecting the oscillator's short antenna wire to the radio antenna lead-in of that cabin. Advising all interested parties of the

oscillator's frequency in the broadcast band will soon have every radio on board tuned-in on the tape recorder—including the battery radios on deck.

Tape recorder use on ships is, however, not limited to the high seas. In foreign relations, our shipboard recorders seem to be doing their bit. Not long ago, a Neapolitan stevedore found it impossible to believe that the ribbon shown him would "make music." Upon being assured that it would indeed, the stevedore burst into song.

"Santa Luci-i-aa—," the recorder played back a few minutes later, filling the cabin with a voice of almost professional quality.

"That's a nothing," said the stevedore upon being complimented. "Is a nothing, but I'm a got a friend who's a with a voice that . . ."

Within the hour, the small cabin fairly burst with melodies emanating from four men, two guitars, one violin and an accordion—providing one American seaman with a taped repertoire of Neapolitan songs that might well be the envy of greater collectors, and creating an atmosphere of good fellowship that, later in the voyage, suffused not only the Mediterranean but as well the stormswept reaches of the North Atlantic, where the stevedores' songs were played over and over again, to the enjoyment of both passengers and crew.

It was pleasant to recall that when, a few months ago, the *Thompson Lykes* steamed slowly up England's Manchester ship canal one evening, a tape recorder on her afterdeck playing the entire score of the *Student Prince*, Mario Lanza leading, the people ashore following the ship on both sides of the canal, increasing rapidly from a handful to droves, music and voices filling the night that otherwise was silent, had been on the verge of gloom, but was now a jubilant thing. . . . It made you feel pleasant about the men whose creativeness, scientific and artistic, has made these things possible.

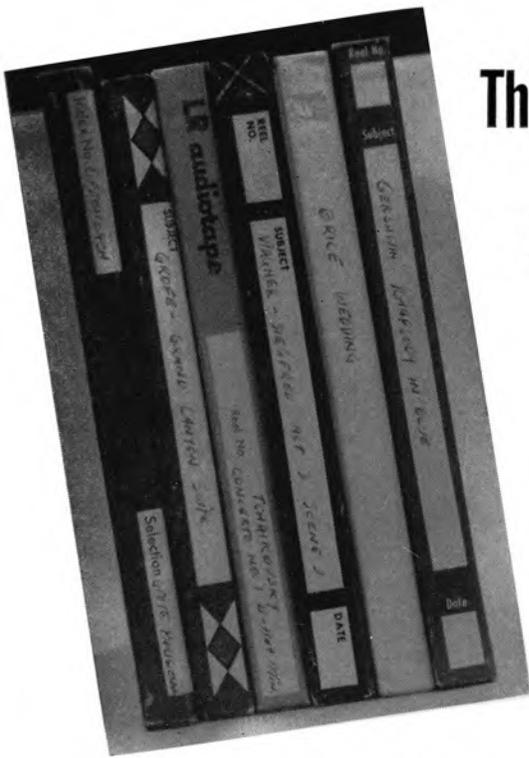
This → or This?

SHOW OFF YOUR TAPES

by
Sheldon O'Connell

... with the new plastic covering materials making your tape boxes attractive is quick and easy.

Photos by Sam Chambliss



WHEN you began building your collection of tapes, or had amassed more than five reels of tape, it probably became a problem to keep them looking presentable on your book or record shelf. Though we can thank the manufacturers of recording tape for the research that has made possible newer and better methods of producing the all important ribbons; extended play, non-tearing, high output, still the brand names, trademarks, or vari-colored boxes which contain that tape are hardly an asset to the appearance of a living room or recording alcove. Experimenting with the different types of tape has meant, of course, a great variety of tape boxes from plaids to plain and black to brown. The best a recordist could do, one who likes "a place for everything and everything in its place" was to store the tapes carefully away in a closet or drawer.

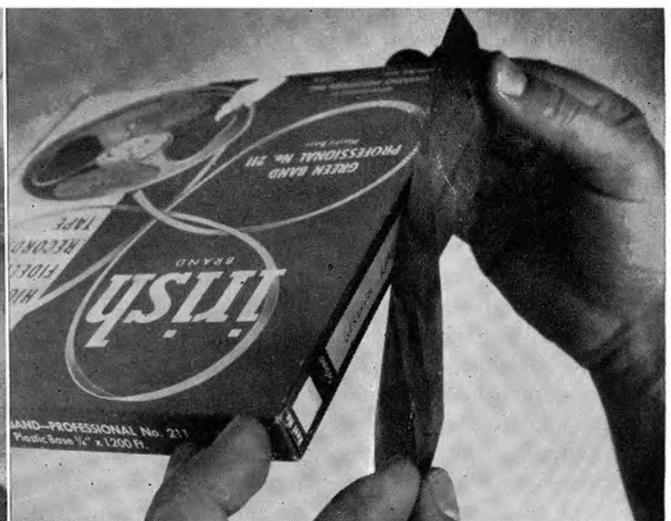
Now, however, you can display your tape boxes proudly and somewhat grandly because of the variety of simulated

leather paper or leatherette available. Complete chaos can be contained on your tapes, editing work still undone, important cataloguing of those recorded moments waiting for that quiet time you've promised, but to the eye all can be in handsome order. There are four different methods you can employ to make your tape container boxes add a note of luxury to their surroundings. First picture a library of tapes, to which has been added to only one edge of each tape box a strip of simulated maroon leather binding, gold stamped, not unlike the false fronts of today's movie lots, where the aristocratic facade of a mansion, only six inches deep, hides the clutter of a studio lot.

A shopping tour to the stationers or printing shops in your city will provide you with all the materials you'll need, and perhaps give you a few more ideas to personalize your own library. Tools you'll require are usually standard in any household. A pair of scissors, small ruler, glue con-



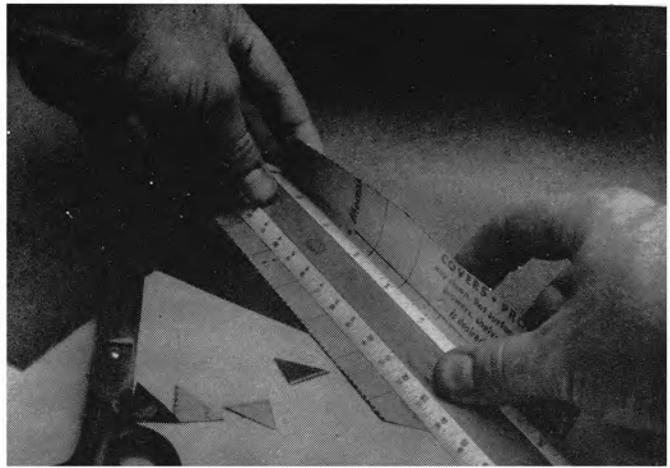
The plastic binding material is adhered to a piece of glass then the gold embossing paper and lettering taped over it so they cannot shift. After tracing the lettering they are removed as shown.



The binding material is applied to the hinged side of the tape box as shown. It should be marked after lettering so you will have a guide to put it on the box straight.



First do your lettering on a piece of tracing paper. The binding material, gold foil and tracing paper are then taped in position on a piece of glass and the lettering traced with a ball-point pen.



The binding material is cut as shown, allowing one inch lap on each side of the box. To guide the placement, it is wise to crease the material along the edge of the ruler so that it will fold easily.

tainer and some spare time on a quiet evening. It's disastrous to wield the scissors and follow the adventures of your favorite TV thriller simultaneously.

For one method you will need a large sheet of leatherette. It is most popular in maroon or brown, but can be had in any color, black, grey, green, or blue. On the underside of this sheet you can lay out the markings to be followed when you scissor out the fronts. Assuming that your boxes are for 7-inch reels, you simply measure out height and box width, adding two inches to the width cut-out, since you'll want an overlap of one inch on each face of the box. There's no danger of sealing the box, since most of them have a hinged side anyway; if yours do not, the tape can still be taken out and replaced easily. It's a good plan to have adhesive applied to the decorative strip just where it's to grip the sides of the box and not have it cling fast or flush to the edge proper, since you may prefer a slightly rolled effect. The work can be further ornamented with gold embossed design, your initials or the words "Tape Library" appearing on each strip. While a bookbinder can do the stamping for you, you can make a close match at little expense. Typewriters usually have three ribbon adjustments, black, red, and stencil. Just insert a fairly wide sheet of leatherette into the machine and throw the ribbon lever to stencil. A wide sheet of the thin leatherette is to be preferred over narrow widths to ensure evenness of lettering on the finished product. Once you're "set up," you may type whatever lettering you wish entered on each "volume," remembering that the identification must be brief; anyone named Rumpelstiltskin may have to settle for an "R". When you've typed the impressions you're ready for the next step. Art stores and stationers stock two products which you may use for your gold or silver embossing. One vial contains a metal powder, together with a container of fluid, when these are mixed you have the approximate of metal ink. Using a straight pen, apply this mixture carefully to the indentations on the material. You may also purchase those four-inch square sheets of gold leaf paper which have been specially treated. These packets which include complete instructions for gold writing or stamping are marketed for those people who like to dress up or personalize their greeting cards, but they can be used effectively for your purpose.

Another way you may stylize your tape container boxes, matching them one to another, requires only an investment in a roll of Mystic Tape, (not to be confused with the recording variety), Mystic Tape made of either cloth or shiny plastic has a strong adhesive backing, and of course presents no problems in either applying or trimming. The cloth tape of course will allow you to apply the stamp or trim outlined for the first method. There are two other ways you can give your tape library the appearance of a matched volume of recordings.

Many used-books stores have handsome old sets of books whose only saving grace lies in their fine bindings, since much of the material is either outdated, unread or just unsold. Though many aesthetes might wring their hands at such waste of dusty knowledge, the Audiophile made of sterner stuff could use them to his own advantage simply by removing the "innards," and leaving the covering and back in one sound piece, affix one full side of the box directly to the inside of the hard binding. Since dealers will occasionally display slow-moving sets to clear, and with patience it's possible to come across something that can be adapted to your use.

Finally, you can now buy 7" albums nicely trimmed, which were manufactured originally for record storage of 45's, that will accommodate a full 7" reel of tape, perhaps more. Now is the time to make a few inroads into the Dagwood closet of prized recordings and leaving them in their boxes add the trimming that will win them a welcome spot in the scheme of things!

Of the methods outlined, the easiest by far is the use of the gold embossing papers. It takes a very steady hand to fill in typewriter letters with gold ink but it can be done.

In using the embossing material, it is a good idea to first do your lettering on thin tracing paper. The binding material is placed on a sheet of glass. Over this is placed the embossing material and on top your paper with the lettering on it. The lettering is then traced with a ball point pen or stylus to transfer the gold to the binding material. The whole should be taped down with masking tape to assure that no movement occurs when making the tracing.

Materials of all sorts are available at both hardware and stationery stores. Most of them are very attractive and easy to use to make your library neat and useful.

Recording Brass Instruments

by L. L. Farkas

BRASS instrument solos have been popular for a long time on radio and television shows, and there also have been some very fine commercial recordings of brass instrumentalists. But it is only during the last few years that brass instruments have been recorded in the homes and local halls.

Such recordings present pick-up problems. The method used to pick up a muted trumpet solo differs from that used for the full tones of the tuba. And while at times the set-up variations are not great, they may still spell the difference between an excellent and a poor recording.

Let us first consider the trumpet. One of the most popular and at the same time one of the earliest known forms of wind instruments, it consists of a long convoluted tube with a bell at one end and a cupped mouthpiece at the other. Its tones are produced by forcing the breath through the lips as they are pressed against the mouthpiece. The result-

ing tone is amplified by the air chamber in the tube and finally emerges from the bell of the trumpet.

Originally tones of different pitch were produced by varying the position or pressure of the lips against the cupped mouthpiece. But while this method is still used, the range of the trumpet has been increased by the addition of three small pistons working up and down in three small tubes connected to the main chamber. Thus by varying the position of the piston, the overall air space of the trumpet is changed and hence the frequency of the tone.

Since the tones emerge from the bell of the trumpet the most direct pick-up position is with the microphone facing directly toward this bell. By holding the trumpet close to a horizontal position, about five to six feet away from the microphone, you will be free to vary the volume of the instrument yet be sufficiently far from the microphone to



Louis Armstrong giving forth with an open trumpet solo in the old days of the Leith Stevens "Saturday Night Swing Club." Note how a side pick-up is being made by playing across the face of the mike rather than into it to get a reduced volume.

prevent the strongest tones from overloading the recorder. However, don't go too far back or the effect of room echo will distort the tones and dispel the definition.

The side pick-up method can also be used for trumpet solos. Here you stand on the side of the microphone, about two feet away, and instead of blowing directly toward the microphone, you turn the horn so that the sound waves pass across its face. Since the tones thus hit the microphone indirectly, their intensity is reduced and hence also their effect upon both microphone and recorder. Tones recorded with a side pick-up are fairly good though they do not have quite the fullness obtained with the more direct method. Nevertheless this type of pick-up is often used for trick effects or when space is lacking.

On distant pick-ups, in a room which is not too live, you can pick up a trumpet playing full tone with good tonal definition from quite a way off. Distances up to 75 feet have been used in symphonic pick-ups with excellent results. But when the recording room contains many unbroken reflecting surfaces, the tape will be marred by excessive distortion, known as brassiness. The remedy is either to bring the trumpet closer to the microphone, to a position 10 to 15 feet away, and play it more softly; or to hang draperies, lay down rugs, and place other sound absorbents about to prevent the tones from echoing between the walls, floor, and ceiling of the room.

Pick-ups of muted trumpet passages are slightly different. Since the original tone of the trumpet is changed by inserting a metal or composition mute in the bell of the horn, the sound waves which would naturally emerge freely from the horn are almost entirely blocked. However, they do come into contact with the mute and set it vibrating. The result is a combination of the tone introduced by the mute plus what little of the original tone is allowed to escape.

There are various types of mutes available, each having different tones and volume, but all producing sound of a greatly reduced intensity. This makes it necessary to play the trumpet very close to the microphone. With the horn facing directly toward the microphone, you can stand about two feet away, but when you play across the beam, then the distance should be about six inches. The indirect method is generally preferred because it permits wide variations in volume without appreciable differences in quality.

At such close range there is one point to watch: perspective. Since a muted solo is so low in volume, very little distortion will occur when the trumpet is brought too close to the microphone. But the perspective change will be immediately obvious: the tones when played back will seem to originate from a spot directly in front of your face. Should this condition occur, push the trumpet back one or two inches. Once the correct position is found, you have very little freedom of motion, for while a position too close to the microphone will cause a perspective change, if you move too far away you will also lose the tones of the trumpet. This means that you have to keep the instrument fairly still in order to obtain a good recording of a muted trumpet solo. The optimum position will vary of course with the composition of the mute and how tightly it is pushed into the horn, but if you have any doubts about it a quick trial recording should indicate the quality and the perspective of the trumpet tones so that you can make the necessary adjustments in position.

Another important instrument of the brass section is the trombone. Constructed so that the curved tube which forms its air column can be varied in length by sliding one-half

of its loop within the other, it produces tonal variations encompassing two and a half octaves.

Now while the tones of the trombone are slightly broader than those of the trumpet, their volume is not quite as high. Therefore, for a satisfactory recording, the trombone must be brought closer to the microphone. The usual distance for solos is from three to four feet. There you hold the trombone up so that its bell faces directly toward the center of the microphone beam.

While the trombone tones are picked up quite easily, you must watch the notes in the lower register, for these have a tendency to boom when played with the instrument too close to the microphone. If this occurs you can either move back slightly or change the position of the trombone so that its tones hit the microphone off the center of its beam.

When the trombone is muted its tones will have roughly the same proportionate decrease in volume as evidenced with the trumpet. For this reason such muted passages should also be performed at close range. With the trombone at a 45-degree angle from the microphone, you should try to maintain the mute from six to twelve inches from the microphone.

Perhaps one of the strangest brass instruments is the French horn. Like the trumpet, it has a cup mouthpiece and small pistons to control the pitch of its tones, but its larger circular pipe flares out down and toward the rear, so that when it is being played, the sound will normally go away from the front of the orchestra. For that reason, when a French horn solo is picked up, you must make sure that the microphone is not in front of the musician, but facing the horn. A distance of six to seven feet is used since bringing the horn closer would decrease its fullness of tone on the recording.

If the French horn is played with other instruments, then you can place it on the side of the orchestra and ask the musician to turn his horn so that part of the sound is projected across the microphone beam. Another method is to use a small wooden screen—making sure first that it does not obstruct other instruments nor affect their tones. Or you can place the horn near a smooth wall so that its tones can be reflected forward, toward the microphone. In most cases, however, it is placed in the forepart of the brass section, at times even next to the woodwinds, so that the reduction in distance can compensate for the lack of volume caused by its indirect projection of tones.

An instrument often used to replace the French horn in a band is the mellophone. This large brass horn, resembling the trumpet in shape, produces tones that combine the characteristics of the trumpet and the trombone. These can be heard at a great distance so that even when a close perspective is desired, the instrument should be located at a distance of not less than six or seven feet from the microphone.

Too close a pick-up with the mellophone produces a peculiar effect. No change in quality nor any noticeable shift in perspective is experienced, but the intensity of the tones is increased so that, if the mellophone is being played with other instruments, its tones will quickly predominate. The remedy is obvious: the instrument must be moved back. To compensate for this tone-carrying quality, the mellophone, while set next to the trombone in the orchestral set-up, is generally set farther back, thus lowering its volume.

The largest of the orchestral brass horns is the tuba. Like the bass viol in the string section, its main role in the past has been that of accompaniment. With modern music, however, the tuba often steps in for solos; so it is im-

portant that its tones be picked up correctly for recording.

The construction of the tuba resembles that of the French horn, with the exception that its air pipe flares up and forward. The tones it produces are very deep and full, and while its short notes sometimes have a greater intensity and body than those of the bass viol, they do not introduce any booming effect.

For solos the tuba should be placed from five to six feet from the microphone, with the bell turned so that it faces across the microphone beam. Should distortion occur, you can move the tuba farther back or turn it still further away from the microphone.

In the full orchestral tone, the sound of the tuba should

be felt rather than heard. By this I mean that the tone should be there as background, but it should not be noticed as a distinct tone. Here, too close a pick-up will cause the tones of the tuba to blanket those of other instruments; too distant a pick-up will produce a thin orchestral tone, without the body and fullness it would normally have with the presence of the tuba tones.

There are of course less common brass instruments, such as the cornet, the bugle, and the helicon; but since these are no more than variations of the types described, the pick-up methods are relatively the same. With slight adjustments of distance and angle, you should encounter no difficulty in making the pick-up and obtaining a good recording.

TAPE IN EDUCATION

BY JOHN J. GRADY, JR.



THIS school year, many more educators—instructors and administrators—will become interested in the installation of tape recording into classroom routine. In some cases there will be budget difficulties, which will delay or prevent installation. Teachers confronted with such a problem are invited to write to TAPE IN EDUCATION, TAPE RECORDING, Severna Park, Maryland. Just explain the nature of your problem, and we may have some satisfactory formula which will aid you in securing a tape recorder for your school.

For instance: At Lynwood, California, High School, the first purchase of a tape recorder was a student body experimental project with student body funds. This portable tape recorder was so satisfying to the teachers, who incorporated tape recording into their instruction routine; and so interesting and inspiring to students, that other tape recorders were later approved and acquired.

Finally, as a result of the Principal's recommendation and the approval and authorization of the School Board, there was an institutional installation of tape recording which operates in conjunction with a public address system having five sources—principal's office, auditorium, gymnasium, cafeteria and central studio—where programs, lectures, announcements, etc. may be recorded. There are 96 outlets for the dissemination of the tape recorded material. So, at Lynwood High, an experimental tape recorder developed into a splendid modern audio system.

As an illustration of usage, Miss Christina Hardy, commercial arts instructor at Lynwood Hi, reports a happy success as a result of using a school tape recorder in her classes. She terms the giving of dictation to beginners in shorthand was formerly a monotonous task. But now, with her library of pre-recorded tapes of varied dictation material, she is able to give more personal instruction to her students.

Using a stopwatch, she carefully recorded a variety of material at different speeds.

Leader strips spliced between each selection were used in the preparation of the reels in her library. Notations on each reel container permits her to quickly identify the material suitable for her classes as they progress.

Miss Hardy states that there is a double advantage in her use of the tape recorder. Her students benefit from carefully planned material and the added time she has to devote to helping them. Her benefits are derived from the satisfaction of knowing definitely that her pupils are progressing, and that the tape recorder has minimized the constant repetition of material, and consequently, eased the daily vocal strain.

Any teacher of commercial courses will derive benefits from the use of tape recording. The adoption of instructional technique similar to that developed by Miss Hardy permits wide amplification. And all over the nation inventive teachers are experimenting with tape recording, in the effort to apply this versatile instructional tool to all types of subjects and courses. For that reason TAPE IN EDUCATION is ready to assist educators who have problems in securing a tape recorder as educational equipment in their schools.

EDUCATIONAL NOTES

School districts providing the service of home teachers for students, who are absent from classes because of extended illness, are finding tape recorders an invaluable aid. Such students have the opportunity of keeping up with their classes through the medium of tape instructions. Class assignments are issued by teachers for study. And answers are taped for return to the school. Intimate tapes from schoolmates give a boost to the morale, and summaries of school doings, humorous incidents, etc., help to maintain contact with classmates.

Spelling is another subject which lends itself to modernization through tape recording. Correct spelling and pronunciation is of vital importance in the development of a sound vocabulary; the use of tape permits

a teacher to circulate among students to find out if they are absorbing her instructions. As the words are slowly repeated from the tape, she can check if the individual is pronouncing them correctly. High interest can be injected into the lesson by use of taped student sentences using the words. The examination consists of a tape using the words in sentences. Most teachers devise their own successful method of teaching spelling. Tape recording can amplify their efforts.

I would like to take this opportunity to urge all school officials to participate in the Audio Devices' Educational Awards contest now being conducted. This contest, sponsored by Audio Devices, Inc., 444 Madison Avenue, New York 22, N. Y., has been organized to encourage the use of magnetic tape and recording discs in the audiovisual education program of secondary schools and colleges throughout the country.

Eligible contestants include all public Jr. and Sr. high schools (7th-12th grade), and all private or parochial schools of the same level in Class I, and all Jr. colleges, Sr. colleges or universities in Class II. Awards consisting of up to \$2000 worth of sound recording equipment and \$750 worth of tape or discs will be given in each of the two classes.

In order to qualify for an award, all entries must be accompanied by an official Entry Blank, obtainable from your local Audiotape distributor or by writing directly to Audio Devices. The blanks must be completely filled out and signed by a faculty member or officer of the school.

The question asked on the Entry Blank is as follows: If your school or college were given \$2000 worth of tape or disc recording equipment of your own choice, plus \$500 worth of recording tape or recording discs . . .

- 1) What would you get with it?
- 2) How would it be used?
- 3) How would your school benefit from it?

Each entry should include a complete description of the equipment and materials that would be selected should you win, how this equipment would be used in your school, how it would supplement any existing recording facilities in your school, and a description of benefits your school would derive from it. The deciding factor in choosing a winner will be the most effective and beneficial use of the new equipment offered under the terms of the award.

Write today for your official Entry Blank—good luck to everyone.

You Asked for it **HERE IT IS!**

Beginning with the December 1956 Issue

TAPE RECORDING MAGAZINE WILL BE PUBLISHED MONTHLY

Because of the continued requests of you, our readers, because of the swift growth of the tape recording industry and because the introduction of stereo sound for the home now makes the tape recorder the *key* to fine sound and music reproduction, we felt that only by monthly publication could adequate service to readers and industry be maintained—

SO HERE WE GROW AGAIN

All current subscriptions *will be honored to their expiration dates*. New subscription rates: 1 year \$3.75, 2 years \$7.00. Canada add 50 cents a year, foreign add \$1.00 a year.

FREE WITH NEW OR RENEWAL SUBSCRIPTIONS

THE TAPE RECORDING CATALOG OF RECORDED TAPE
The most complete and detailed catalog ever published. Available separately at 50 cents. Get yours FREE by subscribing or extending your subscription and save.

USE THIS COUPON TODAY

FREE Tape Catalog worth 50¢ with each new or renewal subscription.

**OFFER IS
LIMITED
ACT NOW**

Tape Recording Severna Park, Md.

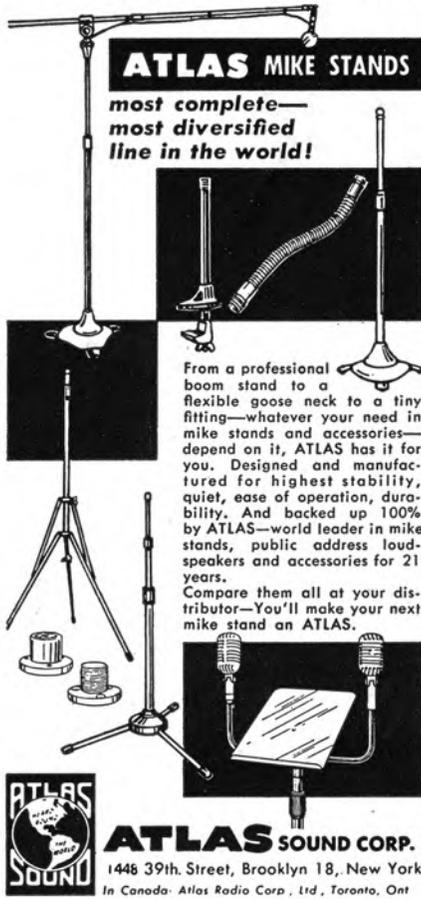
- Enter my subscription for year(s). I enclose
Send FREE Tape Catalog.
- Extend my subscription for year(s). I enclose
Send my FREE Tape Catalog.
- Send the Tape Recording Catalog of Recorded Tapes. I enclose 50 cents.

Name

Address

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for every application...



ATLAS MIKE STANDS
most complete—most diversified line in the world!

From a professional boom stand to a flexible goose neck to a tiny fitting—whatever your need in mike stands and accessories—depend on it, ATLAS has it for you. Designed and manufactured for highest stability, quiet, ease of operation, durability. And backed up 100% by ATLAS—world leader in mike stands, public address loudspeakers and accessories for 21 years. Compare them all at your distributor—You'll make your next mike stand an ATLAS.

ATLAS SOUND CORP.
 1448 39th Street, Brooklyn 18, New York
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USE 'MAJOR' PRODUCTION AIDS, APPLAUSE RECORDS, FANFARES AND MANY MORE... MAKE YOUR HOME A PROFESSIONAL BROADCASTING STUDIO!

Record your own dramatic productions at home... Bring up the theme... fade in the mood music for the opening scene. Turn on the rain... bring up the thunder and lightning.

Crowd noises, animal sounds, train whistles... all at your fingertips with "Major" Production aids. Your friends will enjoy your broadcasting party when they hear how they sound "ON THE AIR"!

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PLEASE SEND ME FREE (Check Boxes)

Major Sound Effects Catalogue plus Tips On Turntables

Mood Music Catalogue

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City..... Zone..... State.....

TAPE CLUB NEWS

Members of Tape Respondents, International are presently engaged in establishing an organized tapecasting system. Call signs will be adopted and participating members may present organized programs using the format of radio broadcasts. For several months now, ideas concerning this system have been twirling across the nation via tape-response. Chairman of the planning committee for this "organization within an organization" is T-R-I member Nolan Porterfield of Lamesa, Texas. To help determine the system's format, a straw ballot of interested club members will be conducted through the facilities of the club's paper, Talking Letters.

A People-to-People Partnership program was outlined recently by President Eisenhower, which is scheduled soon for a White House conference. The program is designed in the hope of making more friends everywhere, not only in the U.S., but among people of all countries.

Quick to recognize the aid to world peace of this movement, World Tape Pals offered its executive assistance. When a meeting of top communications officials is held regarding this program, WTP will be discussed. The Club urges its members to write their views on how WTP is operating and how it can aid in the President's program. Letters should be addressed to Theodore C. Streibert, Director, U.S. Information Agency, Washington, D. C.

A keep-up-the-good-work salute goes to the Blind Activities Committee of the Voicesspondence Club. A 5" tape containing the names, addresses and interest of all blind club members has been made up and is available to any sightless member.

Many sightless members wish to have material read to them on tape. They supply the necessary tape, return postage, and material, too, if the reader does not have access to what is wanted. While some club members have volunteered to read, there is still a need for more. If there are any other members who would like to do some reading on tape, drop a 3" tape to Melba and Tony Peters, 15618 Myrtle Avenue, Harvey, Illinois.

JOIN A CLUB

- TAPE RESPONDENTS INTERNATIONAL
 Jim Greene, Secretary
 P. O. Box 125, Dept. T., Little Rock, Ark.
- THE VOICESPONDENCE CLUB
 Charles Owen, Secretary
 Noel, Virginia
- WORLD TAPE PALS
 Harry Matthews, Secretary
 P. O. Box 9211, Dallas, Texas
- INTERNATIONAL TAPE WORMS
 Art Rubin, National Chairman
 P. O. Box 215, Cedarhurst, L. I., N. Y.
- AUSTRALIAN TAPE RECORDISTS ASSOC.
 Jack A. Ferry, Federal President
 Springbank Rd., Clapham, S. Australia
- UNITED RECORDING CLUB
 Richard L. Marshall, President
 2516 S. Austin Boulevard
 Chicago 50, Ill.
- THE NATIONAL TAPESPINNERS
 Carl Lotz, Secretary
 Box 148, Paoli, Pa.

ALLIED has the BEST BUY IN A QUALITY TAPE RECORDER!



only **\$89.95**

THE KNIGHT PUSH-BUTTON AUTOMATIC TAPE RECORDER

Judged "Best Buy" among recording experts. Features Push-Button keyboard for instant recording with remarkably faithful reproduction. Has 2-speed dual-track recording mechanism and efficient erase system. Records up to 2 hours on standard tape (3 hours on long play). For instant playback, just push a button; also push-button control of forward, reverse and stop functions. Records from mike, radio or phono. Built-in quality amplifier and speaker. Simple to operate. Compact—only 23 lbs. With microphone; 600-ft. reel of tape and take-up reel. **96 RZ 675. Only \$89.95**

FREE 356-PAGE 1957 ALLIED CATALOG

Buying guide to everything in electronics, including all equipment for the tape recorder: complete recorders, basic mechanisms, amplifiers, mixers, microphones, head demagnetizers, telephone pickups, recording tape, splicers, leader and timing tape, identification labels and accessories. Write for your Free copy.

ALLIED RADIO
 100 N. Western Ave., Dept. 83-J-6, Chicago 80, Ill.



LETTERS REPORTS SURVEYS INTERVIEWS RECORDS INSTRUCTIONS

WHEN YOU'RE "On-the-Road"

TAKE A "RECORDER" and a **Carter CONVERTER** in your CAR

Don't leave your recorder idle when you're "on the road." Thousands of progressive salesmen, executives, adjusters, lecturers, newscasters and others working "in the field" find they can make more calls, cover more ground, work more efficiently with a RECORDER or DICTATING MACHINE in the car.

Operated by a CARTER ROTARY CONVERTER from your car battery, you can easily DOUBLE the usefulness of your recorder if you take it along.

Carter Converters are used in cars, boats, planes, supplying 110 v. AC from storage battery power. Sold by radio parts distributors everywhere. Mail Coupon for full details and nearest distributor. Carter Motor Co., Chicago 18.

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Please send illustrated circular and full information on Carter Converters.

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The Amazing New Feature-Packed

TANDBERG

TAPE RECORDER and PLAYBACK

Combines HiFi Quality With the Long-Play Advantage of Slow Speeds

RECORDS MUSIC, EVEN AT 1 7/8 IN/SEC, WITH NO AUDIBLE WOW OR FLUTTER

We challenge any other recorder now on the market to outperform the precision-built TANDBERG

TANDBERG HI-FI 3-SPEED TAPE RECORDER

The Instrument for the Most Demanding Hi-Fi Enthusiast

Here, in one machine, you get everything: High speed (7 1/2 in/sec) that gives brilliance and presence to music reproduction. Low speed (1 7/8 in/sec) for the long-play continuity you need for monitoring, dictating, etc. Medium speed (3 3/4 in/sec) for combined tone quality and long play. No audible wow or flutter at any speed. Mike and radio inputs that can be mixed. Outputs to built-in speaker, a separate speaker, and headphones. Frequency response of 30-15,000 cycles. The Tandberg Model 3 is ideal as the central sound source of a hi-fi system of any dimension. Weight, in carrying case, 27 lbs.

Price (complete with case, mike, cord and 7" reel of tape) Model 3 \$349.50

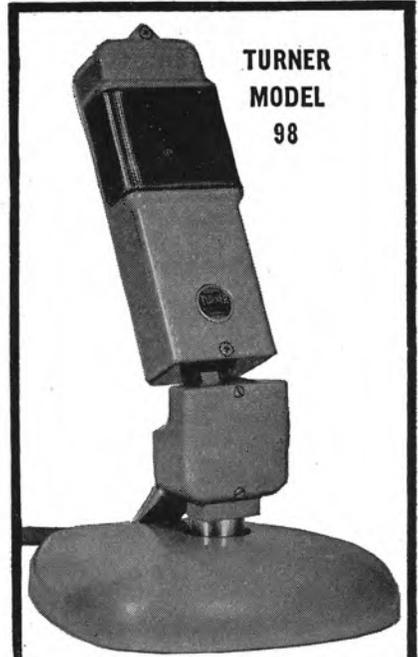
TANDBERG 2-SPEED TAPE RECORDER

The Ideal Instrument for Education and Business

For dictation, monitoring, detective work, courtroom, conferences, school and classroom use . . . for a combination of long playing and excellent sound reproduction . . . the TANDBERG Model 2 is unsurpassed. At its top speed of 3 3/4 in/sec its response is 30-8,500 cycles, no audible wow or flutter. The fidelity, clarity and brilliance of its performance prove that tape speed and frequency response are no longer valid criteria by which to judge reproduction quality. At its slow speed (1 7/8 in/sec) you get 8 1/4 hours of continuous recording. Available with footpedal control as Tandberg Model 2F.

Price (complete with case, mike, cord and reel of tape) Model 2—\$249.50; Model 2F—\$279.50

TANDBERG 10 East 52nd Street New York 22, N. Y. Plaza 9-7190

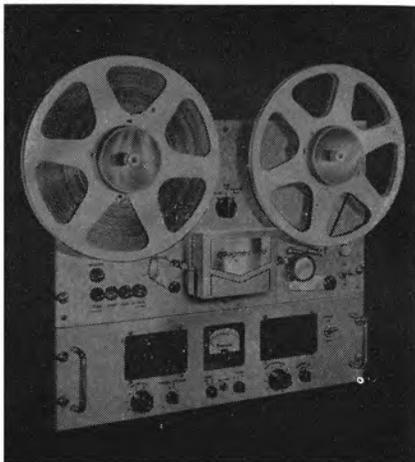


TURNER
MODEL
98

A Quality Cardioid

at a low price

(Continued from page 17)
MAGNECORD EDITOR



Magnecord, Inc., 1101 S. Kilbourn Ave., Chicago 24, Illinois, has introduced the P-60-ACX tape recorder, called the "Editor," which contains highly advanced facilities for instantaneous editing and cueing. This rack-mount recorder is powered by 3-motor direct drive with two-speed hysteresis synchronous drive motor and operates instantly from push button controls; it has speeds of 7 1/2 and 15 ips, and a frequency response of 40 to 12,000 cps, plus or minus 2 db at 7 1/2 and 40 to 15,000 cps, plus or minus 2 db at 15 up. For editing, the operator merely opens the head cover and moves the tape for marking or cutting. Perfect cueing is guaranteed at all times by the single operation of grasping each

reel and gliding the tape over the heads with the tape lifter knob in manual cueing position. The cost of this recorder is \$680; in carrying case, \$765. For additional information, contact Magnecord.

ERASING PENCIL

Cinema Engineering Company, Division Aerovox Corporation, Burbank, California, is marketing a practical device for tape recordists—a magnetic-erasing pencil, Type 8905. This recording accessory is for erasing limited small areas when it is necessary to erase a syllable or part of a word. Its dimensions are similar to a king-size fountain pen, it operates on 115 volts AC, 60 cycles at 10 watts, comes complete with press-to-operate switch and six feet of cord, and it is finished in a black phenolic material. For additional information and price, write to Cinema, above address.

CORRECTIONS

The New Product referred to as the "Revere 888" in the last issue was incorrectly titled. Actually, the "Revere 888" is an automatic slide projector. The device mentioned in the column is an instrument which synchronizes audio commentary from a tape recorder with a slide picture.

The price of the George Koch Sons, Inc. hi-fi stand was erroneously quoted in the New Products column in the last issue. This stand retails for \$17.95, and not \$10.50 as indicated.

The Turner model 98 is a directional microphone ideal for use in broadcasting, recording and public address applications. Directional characteristics make it "live" to sounds in front, "dead" to sounds from the rear. Reduces unwanted audience, mechanical equipment, and background noises. Eliminates acoustical feedback in public address work. Check the specifications, compare the prices. You'll see for yourself why the Turner Model 98 is such an outstanding value in cardioid microphones.

SPECIFICATIONS:

Frequency response—65 to 11,000 c.p.s.; Output level—52 db; Impedance—Specify 50, 200 ohm or high; Dimensions—6 1/4 x 1 1/2 x 1; Cable—Detachable 20 ft. single conductor (high impedance) or two conductor (50, 200 ohm) shielded.

LIST PRICES:

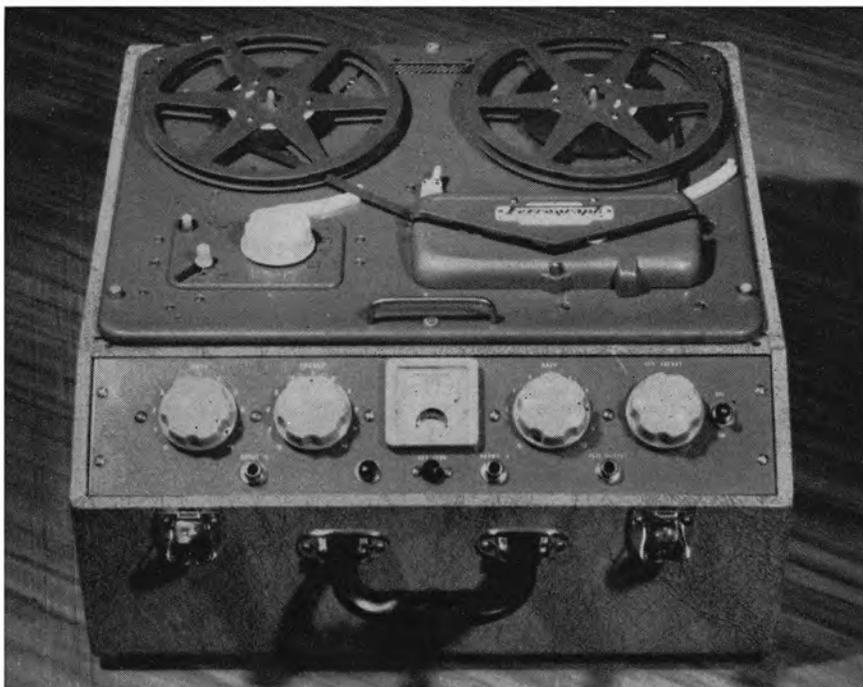
Model 98 ----- \$59.50
Model S-98 (with on-off slide switch) ----- 63.50
Matching G-7 Shockmount stand ----- 8.00
Models 98 or S-98 with chrome finish add \$10.00 to list prices and specify "chrome finish".
Matching C-7 chrome Shockmount stand \$9.50.

THE TURNER COMPANY
948 17th St., N. E.,
Cedar Rapids, Iowa

IN CANADA:
Canadian Marconi Co.,
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Ad Auriema, Inc.
89 Broad St., New York 4, N. Y.

NEW PRODUCT REPORT



FERROGRAPH MODEL 3A/N

... 3 motors, VU meter, mixer, power takeoffs, automatic shutoff, lock-on reels

THE Ferrograph 3A/N is, as stated in the instruction book a "very versatile instrument" and our tests showed it to be a definitely superior equipment.

The advantages of this English-made machine lie strictly in the careful attention to users requirements, careful engineering and excellent circuitry and component selection. It has many refinements including metered modulation, lock-on reels, large convenient knobs, easily operated controls and even a tape starting attachment built into the reel hub. It also has a built-in head demagnetization feature.

More technical items, such as controlled erase for fading editing and additions, flatness of response within limits (or as they call it "levelness of response") add to its value. Further, the amplifier complement has not been skimmed as to "valves" or tubes. It has good equalization, transformers and speaker.

Many other machines have one or more of these items, such as the tape

end or break shut-off switch but I know of none which even approaches the complete complement included here, such as filament and plate supply take-offs, spare octal connecting blocks containing various input and output arrangements, 2.5 ohm, 15 ohm and high impedance outputs are available up to about 2.5 watts for extension speakers or about $\frac{3}{4}$ volt high-impedance output for connection to a home hi-fi system or PA system.

Applications of these features allow the users to work out their own circuitry or needs.

The instruction booklet is a 56 page cloth-bound volume and is thorough and comprehensive and contains much additional technical information. Some of this may actually be superfluous but it is so well done that it holds the reader's attention to the end.

Mechanically the machine is excellent. It has individual motors for each portion of the tape transport (3 in all), a deep, firm chassis designed to hinge up for ready access for mainte-

STAF TESTED

Product: Ferrograph Model 3/AN
Distributed by: Ercona Corporation
551 Fifth Avenue
New York 17, N. Y.

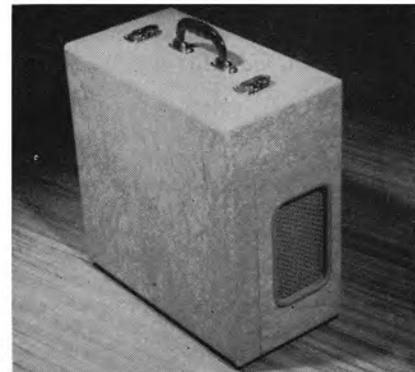
Price; \$379.50

nance. Lubrication by the user is practically eliminated through the use of ball and roller packed-lubricated and hi-metal bearings.

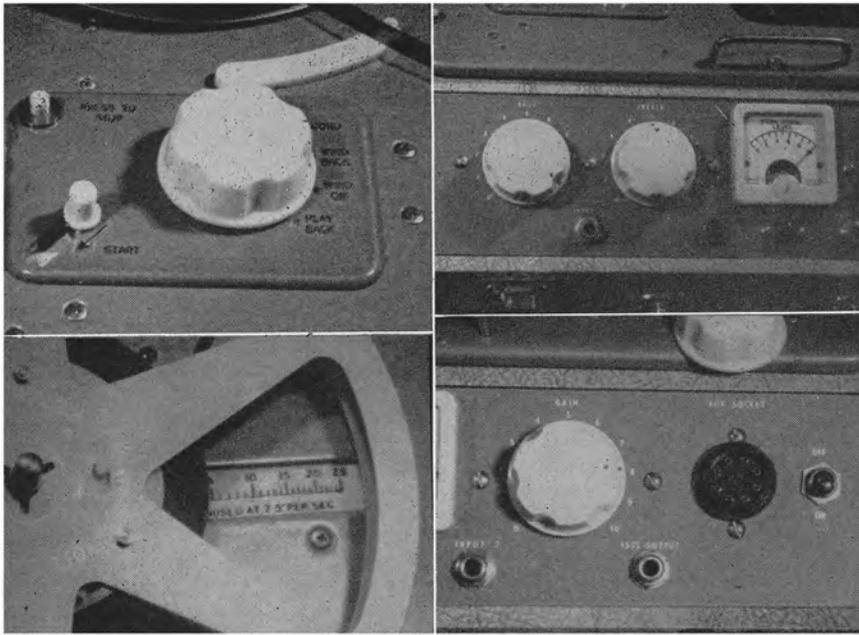
Dual track and two speeds are provided on this model— $3\frac{3}{4}$ and $7\frac{1}{2}$ ips, or $1\frac{7}{8}$ and $3\frac{3}{4}$ or $7\frac{1}{2}$ and 15 ips. Rewind and fast forward speeds handle seven inch reels in approximately one minute. The controls are easily operated and convenient and the reel control shows no tendency to overthrow or snarl the tape.

Electronically the $7\frac{1}{2}$ speed shows essentially flat response from 70 to 12,000 cycles with less than $1\frac{1}{2}$ db deviation from 1000 cycles per second with the bass control at 10 and the treble control at 5. Although this is contrary to the operating instructions we found that if both controls were set at 10, on this particular machine, it then went to 15,000 cycles per second top but had an ascending gain from 2,000 to 10,000 cps which emphasized the highs beyond normal linearity. The manufacturer's specifications of 50 to 10,000 cycles with 2 db variation were met or exceeded in the tests.

One unusual feature is that the tone controls are used to attenuate the highs or lows. With both controls full on the



The recorder with the case closed. The unit weighs about 50 pounds and is finished in tan and gold.



Top left: control panel showing function selector knob and stop and start buttons. Lower left: lock-on reel and timing scale. Top right: bass and treble control knobs and VU meter. Jack at left is mike input. Lower right: gain control and octal socket. Jack at left is radio input, at right 15 ohm output. On-off switch is at far right.

response curve is flat, rather than having a boost of from 6 to 15 db which is common to American machines. This, I think, is a logical approach to hi-fi in that you take away highs or lows from a flat response rather than adding them. The signal to noise ratio from normal program to erased tape measured in excess of 45 db—an excellent range.

The audio section of the recorder is fine with less than .5% wow or flutter and less than 5% distortion at the full audio level of 2.35 watts.

Threading is simple and easy, being of the drop-in-the-slot type and the start and stop operations are positive. The start lever is held in by a solenoid and unless the machine is warmed-up and ready to record it will not lock in. Stopping of any function, fast, forward, rewind, play or record is accomplished merely by pushing a button.

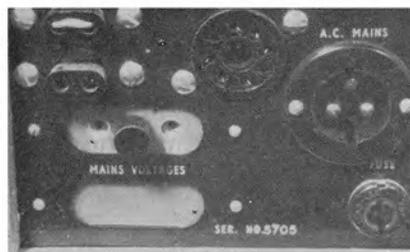
To demagnetize the head, the main selector switch is turned slowly from "record" to "wind-back." This allows the bias current to die away slowly and eradicate any permanent magnetism that may be in the head. The erase and bias frequency is 53 KC.

In appearance the machine is tastily encased and finished in brown and gold with ivory knobs. There is sufficient room in the case for cords and the reels may be left in place with the cover on. The machine is fairly heavy—about 50 pounds—but this weight is the result of using three motors and

high quality transformers and power supply components.

This same unit, less case and speakers is available for custom installation. This version has no jacks on the front, all connections being made on a rear panel.

As a result of our tests we feel that the machine is excellent. Its price, which is greater than the ordinary type of home recorder, is still lower than the so-called professional type machines which, in many points, it equals or exceeds in features. As one of our fellow engineers put it, "This recorder is a 'doll'."



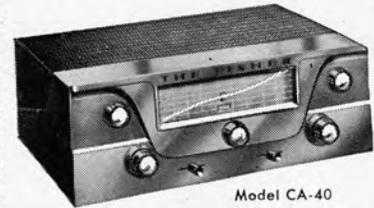
Upper: showing cover removed. Automatic cutoff is at left then two heads and capstan and roller at right. Lower: back panel with power input, octal socket output, erase link and fuses.

Complete Mixing AND Fading Facilities!

THE WORLD-FAMOUS

FISHER

High Fidelity Components



Model CA-40

FISHER Master Control-Amplifier WITH DIRECT TAPE-HEAD PLAYBACK

■ Model CA-40 combines the most advanced audio control with a powerful 25-watt amplifier on one compact chassis. Less than 1% distortion at 25 watts! Handles 50 watts peak. *Exclusive FISHER TONESCOPE*—a graphic indicator of control settings. Direct tape-head playback and microphone preamplifier. Six equalization settings. Frequency response ± 0.5 db, 10 to 90,000 cycles! Hum and noise better than 90 db below full output. Cathode-follower, tape recorder output. 4, 8 and 16-ohm outputs. Ten tubes. CONTROLS: Volume/Loudness Balance (4-position). Selector/Equalization, AC On-Off, Bass, Treble, Rumble Filter, Noise Filter, Input Level. SIZE: 12 $\frac{3}{4}$ " wide x 10 $\frac{3}{8}$ " deep x 5" high. WEIGHT: 24 pounds. **\$139.50**



Model 80-C

FISHER Master Audio Control WITH DIRECT TAPE-HEAD PLAYBACK

■ "Breathtaking!"—Edward Tatnall Canby. Professional phono and tape-head equalization. Full mixing and fading facilities on 2 to 5 channels. 7 inputs, including two Phono, Mic and Tape. Two cathode follower outputs. Separate equalization and preamplification *directly* from tape head. Inherent hum virtually non-measurable! Frequency response ± 0.25 db, 20 to 20,000 cycles; ± 2 db, 10 to 100,000 cycles. CONTROLS: Bass, Treble, Master Volume, Two Phono/Tape Equalization, Calibrated Loudness Balance, Line Switch, Five Channel Selector Push Buttons, Five Input Mixer/Level. SIZE: 12 $\frac{3}{4}$ " wide x 7 $\frac{3}{4}$ " deep x 4 $\frac{1}{4}$ " high. WEIGHT: 10 pounds. **\$99.50**
Blonde or Mahogany Cabinet \$99.50

FISHER Mixer-Fader • Model 50-M



■ Electronic mixing and fading of any two signal sources. *No insertion loss!* Extremely low hum and noise level. **\$19.95**

Write for Complete Specifications
Prices Slightly Higher in The Far West

FISHER RADIO CORP.

21-27 44th DRIVE • L.I. CITY 1, N.Y.

SHOP OR SWAP

Advertising in this section is open to both amateur and commercial ads. TAPE RECORDING does not guarantee any offer advertised in this column and all swaps, etc., are strictly between individuals.

RATES: Commercial ads, \$.30 per word. Individual ads, non-commercial, \$.05 a word.

Remittances in full should accompany copy. Ads will be inserted in next available issue. Please print or type your copy to avoid error. Address ad to: Shop or Swap, Tape Recording Magazine, Severna Park, Md.

VM-700 TAPE RECORDER, six months old. Recent authorized service checkup. Cost, \$179.95; asking, \$105. Guaranteed like new, Chandler Hopper, 90 Elsie Avenue, Merrick, New York.

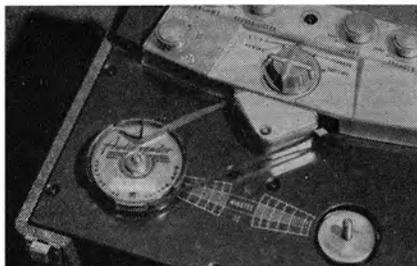
LEARN RADIO Announcing — better tape-sponding! Inexpensive. Write Stone, Lunenburg 22, Mass.

SALE: Webcor, exc. cond. "Electric memory" like Royal with double track, 2 heads, 2 motors, etc. \$105 instead of \$220. Ampro #731, almost new, with 5 reels of 7" Scotch tape \$67.50. Hurry: Mayer, 2315 Lincoln Rd., Washington 2, D. C.

WANTED: Good, Used tape recorder. For Hi-Fi installation. J. Rosano, 439 Ridge St., Newark, N. J.

ADD SOUND TO MOVIES! Complete synchronizing attachment \$10. Equipment not marred! Unger, 362 Forest, Buffalo.

DISCS MADE from your tapes — 78, 45 or L.P. Standard studio quality discs. Prices reasonable. Garrison's Recording Service, 534 Granby St., Lakeland, Fla.



AUDIO VENDOR

MODEL U-300- or U-300-CC
Loaded with 180 ft. Cousino
Friction-Free Tape
\$12.50 Postpaid

Satisfaction Guaranteed

The AUDIO VENDOR will convert your tape recorder into a continuously repeating mechanism. Successfully used to teach, sell, announce, dictate and for sleep learning. Plays from 5 to 10 minutes. Double time with a MOBIUS LOOP. No rewinding necessary. Repeats message or music continuously hour after hour. Send for literature on our longer playing models and accessories. Advise make and model of your recorder.

*If not available at your Dealer,
 order from*

COUSINO, INC.

2107 Ashland Ave., Toledo 2, Ohio

HI-FI recording tape. Timpani brand. State make of your recorder—receive free sample. Bob Freund, 56-L Bennett Avenue, New York 33, N. Y.

LEARN HYPNOTISM from tape. Complete course, \$4.00. Free information. Drawer 697, Ruidoso, New Mexico.

RECORDS FROM TAPES. Finest equipment. Low prices. Free information. Valentine Sound, 4253 Farmdale, North Hollywood 2, California.

NEEDED IMMEDIATELY! Readers for the blind on tape. If interested, write Vic Torrey, P.O. Box 136, Phoenix, Arizona. Please no tapes unless you are blind and desire a reader.

LEARN WHILE ASLEEP with your recorder. Amazing book gives full instructions. \$2.00. Guaranteed. Research Association, Box 610, Omaha.

BEST OFFER: will sell two brand new VM tape recorders, one is a 710 and the other is a 711 stereophonic sound, both are new and have never been used. They will come to you complete with mike, tape, reel, jacks, patch cord, and in original factory carton with 90 day guarantee. Will sell separate. Jack Fives, 2916 Rockrose Avenue, Baltimore 15, Maryland.

FOR SALE: Collaro 3531 changer with GE cartridge \$30; McIntosh c108 control \$55; Tech-Master TM15A amplifier, 20 watts \$40; Collins FM11C tuner \$40. A-1 condition. Walter Briggs, 158 North Maple Ave., East Orange, N. J.

WISH to tape-respond with persons having a Working Knowledge of Hypnosis or Sleep-Learning, give details. Herman Bargy, 11116-1/4 Camarillo St., North Hollywood, Calif.

MUST SELL — Used Wilcox-Gay radio, phono, disc recorder combination, with mike and new dual cutting and playback needle. Best offer. Jack Fives, 2916 Rockrose Avenue, Baltimore 15, Maryland.

WANTED: Recorded tape of the Mummies String Band, Philadelphia, Pa., 3 3/4 or 7 1/2 ips. Write Charles Huseman, 4702 Greenlee Ave., St. Bernard 17, Ohio.

REWARD! \$100 WEEKLY in spare time earnings with your tape recorder. Instructions 25c, refundable. Valentine Sound, 4253 Farmdale, North Hollywood 2, California.

PICTAPE: "a true picture fidelity" recording tape. Pictape Products Corporation, 152 West 42nd St., New York 36.

RECORDS FROM YOUR TAPES. Professional equipment and materials used. Patmor Sound Systems, 92 Pinehurst Ave. 3K, New York 33, N. Y.

CONCERTONE 20-20, Model TWR2, with case. Cost \$525. P.N. bench tested. Firm \$350. Interested in Model STW4 stereo Will trade and pay difference. J. J. Dobosh, Lansford, Penna.

FOR SALE: Midgetape battery operated pocket size, tape recorder complete, brand new, never used. Original cost \$250 — Will sacrifice for \$159. Mr. Leslie Lee, 102-25-67th Road, Forest Hills, N. Y.

WANTED: To tapespond with anyone interested in old time fiddle music. Can handle 3 3/4, 7 1/2 and 15 ips tapes. Karl Byarski, Kinde, Michigan.

TAPE RECORDERS, Hi-Fi, Sound Movie Projectors. Get yours now without spending one penny! Sell famous brands to friends, easily make enough to buy your own. Highest commissions paid on your very first sale. No investment, no experience required. We need salesmen, so here's the chance of a lifetime. Write for details today. GREENWICH SPECIALTY, Greenwich, N. J.

SYNCHRONIZER HOOKUP: Make sound movies with your tape recorder, \$10.00. Anderson, 2424 Phelps Street, Stockton, Calif.

ONE MAGNEMITE Flyweight tape recorder complete with 110 volt power pack and push button mike. Used only few hours. Original price \$370. — now \$300 For information write Craig McLanahan, 42 Glen Este Pl., Cincinnati 17, Ohio.

SERIOUS STUDENTS (D. C. & Vicinity) —Scientific investigation of trance state and related phenomena—no nonsense—Futuran Era Research (an independent project—not an organization). Write: Stan & Ellen Crouch, 7700 Alpine-4, Wash. 28, D. C.

RENTEX TAPES: Yes, rent or exchange tapes in good condition. For further details write John Clayton, 6905 Gleason Ave., Dayton 7, Ohio.

FOR SALE: Scott 210D dynural amplifier with case; will ship express collect in original carton; a real bargain at \$110. Robert Garrett, 201 Murray St., Binghamton, N. Y.

RECORDS FROM YOUR TAPES

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The 7 Old-Fashioned Villains of Tape Recording

...and How

irish FERRO-SHEEN
BRAND

Foiled Them All

Once upon a time, 7 Old-Fashioned Villains like this  were wreaking endless woe on Decent People with Tape Recorders. The 1st Villain was Oxenscheid the Oxide Shedder.

He scraped away at the crumbly oxide coating of old-fashioned tape and gummed up tape recorders with the shedding particles. The 2nd Villain was Wearhead the Head Wearer.

He filed down the magnetic heads with the abrasive coating of old-fashioned tape. The 3rd Villain was Frickenshaw the Frequency Discriminator.

He dragged down the high-frequency response of old-fashioned tape through inadequate contact between the "grainy" coating and the head. The 4th Villain was Noysenhiss the Noise Generator.

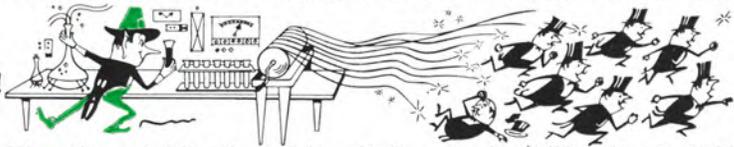
He generated tape hiss and modulation noise  as a result of the random vibrations and irregular flux variations caused by the uneven magnetic coating of old-fashioned tape. The 5th and 6th Villains

were Dropofsky the Drop-Out Artist and Pringlethorpe the Print-Through Bug. They put nodules and agglomerates into the oxide emulsion of old-fashioned coated tape, causing "drop-outs" whenever

these trouble spots lost contact with the record or playback head, and inducing "print-through" on the recorded tape when the extra flux at the trouble spots cut through adjacent layers on the reel. The 7th Villain was Brattleby the Embrittler.

He dried out the plasticizers in old-fashioned coated tape and embrittled irreplaceable recordings. Then: OCTOBER, 1954! That's when a very un-old-fashioned little man by the name of

F. R. O'Sheen  announced that he had developed the revolutionary new **irish FERRO-SHEEN** process of tape manufacture and presto!

 the 7 Old-Fashioned Villains were sent a-scurrying with cries of "Confound it - Foiled again!" Yes, F. R. O'Sheen had made the new magnetic oxide lamination of **irish FERRO-SHEEN** tape so smooth-surfaced and non-abrasive, so firmly anchored

and homogeneously bonded to the base, so free from nodules and agglomerates, that the 7 Villains were evicted - for good!

Moral: Don't let Old-Fashioned Villains do you out of your hi-fi rights! Just say "No, thanks" to ordinary coated tape and ask for F. R. O'Sheen  **irish FERRO-SHEEN**, that is! ORRadio Industries, Inc., Opelika, Alabama.



Only "Scotch" Magnetic Tape was qualified to record the

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In a monumental three-year project, Westminster Records has begun recording the complete organ works of Bach on the Varfrukyrka organ at Skanninge, Sweden.

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Discs, of course, are made from magnetic tape masters. Westminster found only *one* magnetic tape sensitive enough to capture the subtle overtones and baroque beauty of the Varfrukyrka organ—"SCOTCH" Magnetic Tape. In fact, "SCOTCH" Brand has been used by Westminster to make all master recordings for their distinguished "Lab" series. And no wonder. "SCOTCH" Brand offers superior frequency response . . . reel-to-reel uniformity and complete dependability.

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ORGANIST CARL WEINRICH (right) and Westminister Musical Director Kurt List study the Varfrukyrka organ at Skanninge, Sweden.