TAPE RECORDING



NEW CARTRIDGE DEVELOPMENTS

1

February 1959

35c



...The Fine Arts Quartet gets full round sound by recording only on Audiotape

From the concert platform, on record, via radio, television and film... The Fine Arts Quartet has thrilled audiences all over the world. That's why chamber music enthusiasts were delighted when Concertapes and The Fine Arts Quartet joined forces to capture the artistry of this renowned ensemble on recorded tapes.

In addition to performing in the Fine Arts Quartet recordings, the members of the Quartet assumed an active role in overall musical supervision at Concertapes. Today, these four fine artists handle all programming, musical direction and editing of the Company's varied and constantly expanding library.

Al Freiburger, general manager of Concertapes, says, "We are continually working to get the realism and purity necessary for proper reproduction of chamber music. Because the Quartet members are artists, they have gone out of their way to get the finest instruments and equipment for making Concertapes releases. We tested all brands and decided that it would be inconsistent with our policy to compromise with tape quality. We chose Audiotape and have been using it exclusively ever since."

Concertapes is just one of the hundreds of professional recording studios which rely on Audiotape for the finest sound reproduction.

The complete line of professional quality Audiotape offers a base material and thickness to meet every recording need. And no matter which type you select, you can be sure you're getting the very finest tape that can be produced. There's a complete range of reel sizes and types, too, including the easy-threading C-Slot reel for all 5 and 7-inch Audiotapes. Why settle for less, when professional-quality Audiotape costs no more?



AUDIO DEVICES, INC., 444 Madison Ave., N. Y. 22, N. Y. In Hollywood: 840 N. Fairfax Ave. • In Chicago: 5428 Milwaukee Ave. Export Dept.: 13 East 40th St., N. Y., 16 • Cables "ARLAB" Rectlfier Division: 620 E. Dyer Rd., Santa Ana, Calif.





GUARANTEED SPECIFICATIONS—Playing time up to 4 hours, using LP tape $3\frac{3}{4}$ ips, 7" reel. Frequency Response —Upper Channel: 40-15,000 cps. $\pm 3db$. at $7\frac{1}{2}$ ips.; 40-8,000 cps. $\pm 3db$. at $3\frac{3}{4}$ ips.; Lower Channel: 40-15,000cps. $\pm 3db$. at $7\frac{1}{2}$ ips. (NARTB Standard Equalization). Wow and flutter less than 0.3%; Signal to noise ratio greater than 50 db.; Signal from lower channel pre-amp output 0.5—1.5 volts; Crosstalk—50 db. New Revere Recorders feature Automatic Stop, Matched Bass and Treble Speakers, Simple Drop-in Load and Light-weight Compactness!

For the critical stereophile ... a professional instrument that fulfills all expectations. Sound? The specifications tell the story. Operation? Easiest—electronic pushbutton keyboard control! What's more, the *in-line* Revere T-204 offers many important innovations. Notable, is Revere's exclusive "Balanced-Tone" which emphasizes both highs and lows to achieve unparalleled tone realism. The lower channel has a built-in preamplifier, permitting it to be plugged directly into hi-fi system, radio or TV. An automatic stop shuts off recorder and hi-fi components when tape runs out. Dual speeds of $7\frac{1}{2}$ and $3\frac{3}{4}$ ips, simple straight in-line drop-in loading, matched treble and bass speakers with cross-over network, two-level record indicators, bias control lamp, index counter, external speaker and auxiliary amplifier output jacks all add to the pleasure of monaural recording and stereophonic playback.

MODEL T-204 STEREOPHONIC TAPE RECORDER—Stereo playback and monaural recording—with microphone, hi-fi cable, stereo cable, radio-TV attachment cord, two reels and tape

\$23750

MODEL T-202 MONAURAL TAPE RECORDER—with microphone, hi-fi cable, radio-TV attachment cord, two reels, tape, \$207.50



HI-FIDELITY TAPE RECORDERS

REVERE T-1120 STEREO IN-LINE RECORDER



Built-in lower channel preamplifier, "Balanced-Tone", dual speakers, index counter, molded fibre-glass 360° sound distribution case, single knob control; dual speeds. Complete \$19950

T-1100-Monaural-single knob control, \$169.50

REVERE CAMERA COMPANY, CHICAGO 16, LOS ANGELES 7



HI-FI

TAPE RECORDING

VOL. 6 NO. 3

FEBRUARY 1959

MARK MOONEY, JR. Editor and Publisher

JOHN L. ALLEN Circulation Manager

JEAN COVER Assistant Editor

JAMES H. MILLS. SR.

ROBERT W. LAPHAM Art Director

ANTHONY J. MORIN. JR. National Advertising Manager 274 Madison Ave., New York 16, N. Y. Technical Consultant GEORGIE SIGSBEE

Music Editor

IN THIS ISSUE

THIS IS IMPACT Sid Dimond	16
TIPS FOR TAPISTS	21
TAPE YOUR RECORDS Jeseph J. Kramp	22
TAPE CARTRIDGE DEVELOPMENTS	28
RECORDED RIBBONS OF PEACE Charles V. Mathis	28
NEW TAPES Georgie Sigsbee	6
QUESTIONS AND ANSWERS	8
CROSSTALK	10
CLUB NEWS	11
TAPES TO THE EDITOR	12
NEW PRODUCTS	13
TEEN TAPERS Jerry Heisler	14
TAPE IN EDUCATION Joseph J. Kramp	15
NEW PRODUCT REPORT: TRUVOX STEREO TWIN	32





HI-FI TAPE RECORDING is published monthly by Mooney-Rowan Publications. Inc., Severna Park, Md. (Severna Park 548). Entered as second class matter January 7, 1954 at the Postoffice, Severna Park, Md., under the Act of March 3, 1879. National Advertising Representative: J. V. Associates, 274 Madison Ave., New York 16, N. Y. (ORegon 9.0030). Subscriptions, U. S. and Possessions, Canada and Mexico, \$3.75 for one year, all others add \$1.00 a year. Two years \$7.00. Contents copyrighted by Mooney-Rowan Publications, Inc., 1959. Printed in U. S. A. POSTMASTER—Send all address labels clipped from undeliverable copies with Form 3579 to Hi-Fi Tape Recording, Severna Park, Md.

is your BEST RECORDING TAPE BUY!

CASE:

Shatterproof plastic container for permanent protection against dirt, dust, abuse. Vertical storage eliminates reel warpage and "Wow." Easy access, flip of finger opens case-tape rolls forward

INDEXING:



Unique Sonoramic indexing system on colo ful pressure sensitive. labels is included in

every package. Applies quickly to front and side of contaiher-permits you to keep typewritten tabs on all recordings.

Sound

reasons

wh



REEL: Exclusive V-slot, self threading Selection Finder with

VIDE LATITUDE

large write-on surface for notations. Fumble proof Visiot permets liffy-quick threadicg. Easy-to-read



Selection Finder numbers permanently moulded into reel. Align's with tape time ruler.



and of course, QUALIT

Sonoramic offers music lovers and sound enthusiasts the ultimate in brilliant reproduction. For magnificent depth, unsurpassed sensitivity and rich startling realism, insist upon the best-



insist upon Sonoramic' professional recording tape.



CORPORATION:

LODI, NEW JERSEY

NEW TAPES

CLASSICAL ORCHESTRAL

RESPIGHI

The Pines of Rome The Fountains of Rome The Philadelphia Orchestra Eugene Ormandy, Conductor COLUMBIA LMB 25 \$15.95 36 mins.

These two popular pictorial musical essays by Respighi are performed with refinement and expressive artistry by the Philadelphia group.

While Ormandy's version is perhaps not as potently dynamic in certain sections as Toscanini's, it nonetheless achieves satisfactory climaxes as you will hear at the end of "The Pines of the Appian Way." "The Fountains" is most attractively accomplished with the velvet strings producing a vertiable poetry of sound. The horn calls throughout the entire recording further highlight the excellence of the engineering techniques applied to this release.

The acoustics of the Academy of Music are good and this recording shows fine balance, spread and dimensionality. I rate this as a very good recording in all respects.

STRAVINSKY

Le Sacre Du Printemps (The Rite of Spring)

New York Philharmonic

Leonard Bernstein, Conductor

COLUMBIA LMB 24

\$15.95....Approx. 35:30 mins.

I would be less than honest if I did not preface this review by saying I still get musical indigestion from this "masterpiece of modern music." Filled with shifting sounds and rhythms, dissonances, and energetic melodies, this composition still provides a challenge to modern composers,



conductors, and listeners. Perhaps what 1 need is a short course in Stravinsky from Mr. Bernstein, the teacher.

Mr. Bernstein is one of my favorite conductors, and I am happy to report that he grasps Stravinsky's score with sure, competent hands and brings forth an intensely dramatic, vital performance.

The sonic displays are captured with stereo fidelity, the surface is clear, but the bass is slightly weak.

POPULAR

MISCELLANEOUS

BOB AND RAY THROW A STEREO SPEC-TACULAR

The Melachrino Orchestra

Skitch Henderson and His Orchette Dick Schory's New Percussion Ensemble

Radio City Music Hall Organ

Lena Horne

Sauter-Finegan Orchestra RCA CPS-199

\$8.95....27 mins.

RCA obviously decided to use a fresh, and very different approach in producing their latest demo record. This particular release not only shows off samples of some of the stereo musical pop releases of RCA (excluding the "First Noel" on the organ), but it aptly shows how stereo can give realistic action to reproduction of drama, in this case, "albeit crazed" dram-mer.

This nutty pair, Bob and Ray, have captured up a twisted tale where they go visit one Dr. Ahkbar (with a voice like Peter Lorre) and his helpmate, Gore (voice a la Karloff). Sound effects of thunder, wine being poured, wine glasses smashed, footsteps going up the castle stairs and cavernous echoes . . . even a tsetse-fly which changes to a jet . . . all this is woven in and out of the musical samplers.

If you like things which are way out ... try this new-fangled "albeit crazed" demo tape.

SWING SOFTLY-JOHNNY MATHIS

To Be in Love

You Hit the Spot It's Delovely

Like Someone in Love

You'd Be So Nice to Come Home To

Love Walked In Orchestra under the direction of Percy Faith

COLUMBIA GCB 33

\$10.95.... Approx. 22:30 mins.

This is a mighty good tape which should prove very popular. Mathis has a very pleasant voice and projects both his talent and warm personality into this recording.

Percy Faith and his men provide a steady, swinging beat throughout. Even on the three slower numbers, there is a rhythmic upswing which spices up the whole thing. "You Hit the Spot" is a particularly good arrangement. The bass man does a fine job and, in passing, a mention goes to the guitarist in "Love Walked In.

The engineers have recorded Mathis close in (few S's hiss) yet there is a big room reverberance with an almost echo-like effect. Overall this is recorded with good stereo results.

FROM MY HEART-TONY PERKINS

The Kentuckian Song Taking a Chance on Love Saddle the Wind Too Marvelous for Words Ole Buttermilk Sky Boy on a Dolphin Swinging on a Star Speak Low

Urbie Green's Orchestra RCA CPS-166

\$8.75.... Approx. 26:30 mins.

This quiet-(almost sleepy)-voiced lad has a nice set of vocal chords but he doesn't impress me too much as a first-rate sellingsinger in the pop field. I think he would do better, at this point, doing slow, sad folk songs. He does pretty well on "The Kentuckian Song" and "Boy on a Dolphin." The latter is a refreshing arrangement and Urbie Green gets in some licks on the trombone which sparkle the song up a bit. Perkins sounds bored to death with "Too Marvelous" and "Ole Buttermilk Sky."

The recording is nicely engineered but the singer either is better at acting (I haven't seen him so don't know) or he should get some training and guidance if he intends to stick in the song-fest biz.

CONCERT IN RHYTHM

Rhapsody in Blue

I'm Always Chasing Rainbows

The Lamp Is Low

On the Trail

My Reverie

Schubert's Serenade

Ray Conniff and His Orchestra and Chorus COLUMBIA GCB 36

\$10.95....17 mins.

After listening to this recording several times the words "catchy rhythms and lilting arrangements" still seemed to be the most fitting. Conniff has chosen slices of classical compositions and, integrating wordless voices with his orchestral colors, comes off with a very danceable, listenable tape. The piano and guitar get in some neat work and the brass sections add some shining elements of jazz to the whole. "Schubert's Serenade" really gets quite a modern shakedown.

The recording is sharp and clear and good balance is maintained.

BELMONTE PLAYS LATIN FOR AMERI-CANS

Por Eavor

- Dansero
- I Can't Get Started

A Kiss and a Rose

Espinita

Melody in Cha-cha

Belmonte and His Orchestra

RCA APS-162 \$4.95....17 mins.

This is New Yorker Belmonte's debut on tape for RCA. Surrounding himself with five saxs, four trumpets, three drums, guitar,

Sweet Lorraine Can't Get Out of This Mood bass, piano and marimba, he proceeds to apply a slow, but rather jerky, hip-swaying beat to the above selections.

For those who prefer not to exhaust themselves to the frantic, quick tempo of many Latin American dances, this recording should provide a slower, slightly smoother, solution.

The bass is full, the brass is loud (excellent reproduction at the high end) and the drums are spread abundantly across the room. Except for what my ears tell me are a couple of boo-boos in the brass section, the outfit does a satisfying job.

JAZZ

COOTIE WILLIAMS IN STEREO

Just in Time

Summit Ridge Drive

Nevertheless, I'm in Love with You On the Street Where You Live I'll See You in My Dreams

Caravan

Cootie Williams and His Orchestra RCA BPS-173

\$6.95....22 mins.

With almost Millerish smoothness and colorful instrumental work, the orchestra joins with Williams, a masterful craftsman of the trumpet, and fashions a musical package which is entertaining.

"On the Street Where You Live" and "I'll See You in My Dreams" really showcase Williams' expressive talents and improvising ability. Although nameless, the pianist and sax man deserve special mention.

The mood is warm and mellow and the engineers have compiled in like manner. Full, wide-range reproduction with excellent pickup of the solo instrument makes this a brilliant recording.

SALUTE TO THE PEREZ PRADO ORCHES-TRA

Mangos, Mambo Jambo, Patricia, Tequila, Mambo a la Perez, Cherry Pink, Mambo #5, April in Portugal, Topaz, Rhumbolero OMEGA ST-7039, 28 mins.

SALUTE TO THE GLENN MILLER OR-CHESTRA

Saint Louis Blues-March, At Last, Sleepy Town Train, Yesterday's Gardenias, In the Mood, American Patrol, I Know Why, Tuxedo Junction, Rhapsody in Blue, Adios OMEGA ST-7037, 33 mins.

SALUTE TO THE LES BROWN ORCHESTRA Sentimental Journey, Baby, Don't 'Cha Go 'Way Mad, Stompin' At the Savoy, Twilight Time, Lover's Leap, I've Got My Love to Keep Me Warm, Coffee Time, Blue Moon, Bizet Has His Day, Leap Frog OMEGA ST-7044, 31 mins.

SALUTE TO THE TOMMY DORSEY OR-CHESTRA

Opus Number One, Daybreak, Love for Sale, This Love of Mine, Hawaiian War Chant, Not So Quiet Please, There Are Such Things, Well Git It, I'll Never Smile Again, Yes Indeed

- OMEGA ST-7035, 281/2 mins.
- SALUTE TO THE ARTIE SHAW ORCHES-TRA

Begin the Beguine, Dancing in the Dark,

Cross Your Heart, When the Quail Come Back to San Quentin, Temptation, S'Wonderful, Stardust, Frenesi, Summit Ridge Drive, Moonglow, Nightmare OMEGA ST-7040, 361/2 mins.

SALUTE TO THE BENNY GOODMAN OR-CHESTRA

Let's Dance, Jersey Bounce, Wang Wang Blues, I Found a New Baby, Benny Rides Again, And the Angels Sing, Air Mail Special, Brussels Blues, Six Flats Unfurnished, Goodbye OMEGA ST-7038, 35 mins.

SALUTE TO THE HARRY JAMES ORCHES-

Trumpet Blues, I've Heard That Song Before, Cherry, Two O'Clock Jump, Sleepy Lagoon, Strictly Instrumental, James Session, I Had the Craziest Dream, Velvet Moon, The Man with a Horn, Music Makers

OMEGA ST-7041, 36 mins.

TRA

THE TED HEATH ORCHESTRA

Kings Cross Climax, Lullaby at Birdland, Jungle Drums, Hot Toddy, I've Got the World on a String, Strike Up the Band, Blue Skies-March, Madagascar, Dig Deep, The Haw Talks, Listen to My Music OMEGA ST-7036, 29 mins,

The Bay Big Band Recorded at the Brussels World's Fair

Any way you look at it this is a terrific series of dance tapes. I received "fresh off the press" copies and therefore no notes as to this orchestra or its conductor. These chaps are so good that the entire lineup should be named . . . I only regret that the last minute receipt before our press time, did not allow for me to gather this information. The more I heard, and relistened, to these releases, the more impressed I became. The orchestra works with excellent rapport and the sections, and individuals, turn in above average performances. The whole series is as smooth as whipped cream and completely delicious. The solo work of piano, trumpet, sax, trombone, guitar, etc., throughout is neatly done. While the original orchestras such as Prado might be more dynamic, or like Goodman filled with topnotch improvisations and terrific verve, remember these are not the originals but good copies of style and arrangements for which each orchestra is noted. Filled with both current pop tunes as well as loaded with nostalgic selections. one would have a fine collection of dance/listening light music. The Miller, Dorsey, Brown and James albums are highlights.

In the Prado tape "Cherry Pink" is done to a turn with the trumpet reaching the high end smoothly.

The Miller tape is dreamy smooth and contains good solo breaks.

The relaxed version of "Stompin' at the Savoy" in the Brown tape is especially interesting. The piano, bass, sax and guitar action are very worthy. Note the depth to the recording in "Twilight Time."

The engineering techniques are tops and in the Dorsey tape, you will again be aware of the warm, close-in miking given such instruments as the trombone and clarinet.



A Genuine \$31.80 Value! See Your Dealer. Write Dept. H92 for current catalog. CONCERTAPES, INC.

> 'Sound in the Round'[®] BALANCED ACOUSTIC STEREO P.O. BOX 88, WILMETTE, ILLINOIS

The upbeat arrangement of "Hawaiian War Chant" has its share of drum work and should delight the percussive lover. Also in "Not So Quiet Please" the drummer puts in some effective displays . . . going from a very slow, soft beat to fast and loud stick work.

As I went along I knew this was a darned smooth dance orchestra but wondered if they could uptempo things suitably. In the Dorsey "Well Git It" they proved they could ring it up.

The Goodman release gives out with many selections for which Benny and his orchestra and sextet were famous. This orchestra does a good performance all told though they do not have the loose, sharp drive of the Goodman original.

The recorded sound is impressive. The stereo is "pinpoint audio," close-in and sweet in quality. I had thought that inasmuch as everything is supposed to be BIG at the Brussels Fair that these recordings would be blown-up, ultra-reverberant, "souped up" to match the Fair . . . but not so. The band is not a very large one and is recorded as though contained in an acoustically good studio. The instrumentation is rich and clear and my hat is off to Omega for some excellent engineering.

Each album is in a box which is most tasteful in design. On the front is a picture, taken at night, of the U. S. Pavilion at the Fair . . . the color scheme is black and gold with touches of white and red. Congratulations to Omega for a topnotch series of dance tapes which should be best sellers, each and every one.



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," HI-FI TAPE RECORDING, Severna Park, Maryland. The most interesting and widely applicable questions will be used in this department.

How Many Preamps

After completing my new hi-fi mon-aural system, I intend to go into stereo when time and money permit. Right now, 1 wish to add a tape transport to my system; also this will call for a record/playback amplifier. Since I have my eye on a new deck I would like to know, 1-with this stereo tape transport and my monautal system (to play and record monautal tapes) would I need one or two record-playback preamps? 2-for stereo tapes on playback, working both playback heads together, would one playback-record preamp be enough? 3-If I did play both heads on playback, would there be any print-through from one track to the other? 4-Is there anything I overlooked?- R. J. H., Racine, Wis.

-As we mentioned before in this column, A the thing to remember about stereo is the word "two" ... you need two of everything right from the mikes that made the original recording through to the speakers used to reproduce the tape. If you wish to do monaural recording and playback with the deck, then one preamp will be all that is necessary. 2-For stereo, as noted above, you will need two record/playback preamps. 3-The deck has a stacked head, with one head right atop the other and both contained in the same case. There would be some crosstalk between the two heads but nothing strong enough to matter. The words "print-through" are applied to tape. crosstalk is the word applied to leakage between heads. If you used only one preamp and you have a dual track tape, recorded on both tracks, the tape passing the lower head will induce a signal voltage in the head but inasmuch as this head will not be connected to anything, there will be no response from it. 4-We don't believe so. With the deck and one preamp you will be able to record and playback monaural material—to get stereo, you will need another preamp (and also another power amplifier and speaker for the second channel).

Converting to Stereo

Q—I have been a subscriber to your magazine for several months and find it informative and instructive in a very interesting format,

I have recently acquired a Pentron Model 255 tape recorder and wish to know the approximate age of this machine. I have written to the manufacturer for operational and service data on this machine but they apparently are not able to assist me. I would like to know if, to your knowledge, this material can be obtained in any manner.

I have a Webcor 210 tape recorder also and I would like your opinion as to converting either or both of these machines to stereo and if this is practical, would two track or four track be more suitable for them?—A. O. Brooklyn, N. Y.

-Are you sure you read the model num-A ber correctly? In 1954, Pentron put out a model 225 which had a speaker in the lid and had a dark brown deck with the recording level eye in the front center. We have checked the literature which we have but cannot locate any 255 model in the Pentron line. The only practicable way of converting the 210 to stereo is to use one of the outboard conversions put out by Nortronics, (described in a previous issue). With their unit you would be using the recorder simply as a deck. You might be able to convert the Pentron by replacing the heads. As to two track or four track, at the present moment there are practically no four track tapes on the market and the amplifiers in the machine are more suitable to two track use than four.

Market for Recorders

Q—I am an ardent tape recorder fan who enjoys your magazine very much. I have several questions which I think you could answer for me. First I would like to obtain information as to the potential market for tape recorders, taking into account the recorders that have already been purchased? I would like also to know where I could obtain a listing of all the recorders available and their special features?—W. C. S. Los Altos, Cal.

A Best estimate places the number of recorders sold since their introduction at over 2,000,000. Since about 1954 the sale of tape recorders has gone up at a steady rate of 20% per year and there is still plenty of opportunity for new, good machines. We would suggest you write to Audio Devices, 444 Madison Ave., New York 22, N. Y. and ask them for a copy of their last directory issue of the Audio Record which shows all current tape recorders.

Head Demagnetizer?

Q —I own a Webcor Stereo custom 10 recorder. There was a recent article in your magazine about a head demagnetizer. Is it necessary to use such an instrument with the tape recording outfit I own? When the set was purchased, the dealer said nothing about the necessity of doing a demagnetization.—S. R. T., Fishkill, N. Y.

A -Recorders have been run for years without ever having a demignetizer applied to the heads but this is not the best way in which to operate them. It takes quite a while for the hiss level to build but if a tape is repeatedly subjected to a magnetized head such will be the result. For securing the best results from your recorder the heads should he demagnetized about every ten hours of use. The dealer you mention probably was unaware of this fact, as are many recorder ouners.

Can Recorder be Preset?

Q—With a recorder set to "play" position and at a later date, perhaps at a predetermined time, the current is switched on with an automatic timer, is the load put on the machine—to start the mechanism and play at the same time from a cold start harmful in any way? Are there any other factors against it? The application of this, the recorder might be left with some elderly people who would not know how to operate it but they could snap on a switch and enjoy a tape chosen for their liking.— C. F. R., Seattle, Wash.

A-lt does no harm to start up the machine and the amplifier at the same time however, the recorder will not produce any sound until the amplifier warms up. Some machines, such as the Pentron Aristocrat, have a relay which will not permit the tape to move until the amplifier has warmed up. Starting both the transport and the amplifier together will mean a loss of 10 to 30 seconds of material. If a 30 second leader is put on the tape, this difficulty may be avoided.

The recorder could be left in play position but it is not advisable for any extended period of time because the pressure rollers, which in most cases are rubber-edged, will develop flats which in turn will produce wows when the machine plays. All recorders should be left in the stop position when not in use as this prevents roller flats. In fact, in some recorders, the speed lever should be turned so that it is halfway between the fast and slow speed.

Recorder operation is so simple that we feel sure old people could be taught to turn it on and then press the play button after a short interval and to press the stop button and turn it off after the reel had been played. It could be left in a ready-to-play state for them and they would not need to do any rewinding or threading.

Intermittent Trouble

-Approximately six months ago I pur-Approximately six months -ge chased a tape recorder and have been very pleased with its performance, that is, up until now. The model I have is a Virtuoso, Sr, (ST-3) made by Sound, Inc. I was told that this machine was once manufactured by Pentron. Right now my recorder is acting up. When I play back a tape it plays fine for a few minutes then it cuts out and I have no sound at all. I have to turn the machine off for a minute or so and then put it back on again for maybe two or three minutes and then it cuts out on me again. Could it be that the machine is not getting enough voltage from the house current? Or is it something more serious? I got the voltage idea from your article in your last issue. I have been enjoying your magazine every month and I think everyone who owns a tape recorder should read it. I'd say it is a must.-J. A. G., Brooklyn, N. Y.

A-Your trouble is not due to any fault of the house current but instead the difficulty is in the recorder. You have what is known as an "intermittent" or a difficulty that comes and goes. Obviously it is being caused by some part that opens a circuit once it heats up and closes it again when it cools down. We would suggest you check the wiring for any joints that might be loose although it is more likely that the trouble is in a tube or resistor that has gone bad. A good serviceman should be able to locate the trouble quickly with his test instruments. The firm of Sound, Inc. was a Pentron unit so doubtless your recorder was made by Pentron.

Synchronizing Problem

 \mathbf{Q} —l want to use a film strip with a recorded message on a tape recorder so that it can be activated automatically, and by playing the record on tape. Here are my reasons:

A regular record will soon become scratchy and wear out if used with a needle, also the record will buckle and not remain perfectly flat. If I had the same kind of arrangement that is now on an automatic film strip projector, to be a part of my tape recorder, the tape would be able to activate the film strip and move it at the proper time in the frame and all without loss of tone and without any scratching.

Perhaps you know a manufacturer who makes such a device or you may be able to tell me how to make one. I understand that there is some kind of magnetic signal, not audible, that is part of the record that activates the filmstrip as the record is played. This inaudible signal could be transferred to the tape and be made to work the same way, I imagine, in fact, I think I read of such a device in your magazine.—J. E. M., Saratoga, Fla.

A-We believe that if you copy the record on a tape and then connect the tape recorder to the automatic projector in place of the phonograph, that the unit will work the way in which you want it. The slidefilm changer is actuated by a low frequency signal.

The Synchromatic Products Co., 995 Broadway, Bayonne, N. J. makes a synchroslide unit that can be attached to any recorder. This will operate any slide or slidefilm projector capable of automatic or pushbutton operation. La Belle Industries, Oconomowoc, Wis. makes a recorder-slide changer combination in which the change signal is impressed on the lower track of the tabe. This is a 1000 cycle note but is not heard at all through the speakers because all sound is recorded on the upper track of the tape. Metallized areas placed on the tape which close a circuit by running over fingers bearing on the back of the tabe may also be used to operate a changer. The Revere Camera Co. makes a slide unit which operates and makes a change if a few seconds of silence are left on the tape between slides.

Remote Control

Q—For reasons of my own I find it desirable to keep our tape recorder in a room on the main floor of our house. However, I wish to use the microphone in a basement room and to turn on the recorder, previously set for record from the basement. Is is harmful to throw the entire load of running the recorder and heating up the tubes at one time. I know it is advisable to let the tubes warm up first. I would also like to work an extension speaker in the basement in the same way.—C. F. R.. Seattle, Wash. A—No harm can come to the recorder by doing what you suggest. See above.

COMING TO YOUR CITY... RIGO HIGH FIDELITY MUSIC SHOWS FEATURING EXHIBITS

AND DISPLAYS OF HUNDREDS OF HIGH FIDELITY PRODUCTS

1959 MINNEAPOLIS DENVER BALTIMORE

January 16, 17, 18 Leamington Hotel

March 6, 7, 8 Cosmopolitan Hotel

March 20, 21, 22 Lord Baltimore Hotel

ADMISSION 75c

RIGO ENTERPRISES, INC. 500 N. DEARBORN ST. CHICAGO 10, ILLINOIS

CROSSTALK

from the Editors

MAGNETIC RECORDING Industry Association has issued a definition of stereo. Written by the Association's standards committee, headed by C. J. LeBel and approved by the board of directors, the definition will be useful in determining whether or not a unit or a recording is truly stereo. This provides a yardstick for measuring advertising claims.

"Stereophonic, stereo (binaural, deprecated): A technique of transmitting sound which employs two or more complete transmission channels for the purpose of creating in the listening environment the sense of auditory perspective inherent in the source environment. Each channel must include a separate microphone, amplifier and loudspeaker, and may have one channel of a multichannel recorder and reproducer interposed as a time storage device." This engineering definition holds for all forms of stereo, from tape or records to broadcasting.

* * * * * * * * * * *

LAST ISSUE we mentioned the Bogen-Presto unit called "Homer" that cranked out 9,000 watts of audio. At the end of the piece we asked—"Now—who has a bigger one?" So we learn of a unit built some years ago by Motorola for the armed services that was a modulated air-stream type. While it only took about 100 watts of power to work the air valve operated by a voice coil, the output of the outfit could reach astronomical wattage, based on the force of the air stream. The gizmo was simply a gigantic organ pipe—we're not going to ask again does anyone have a bigger one? Enough is enough!

* * * * * * * * * * *

AMPEX CORPORATION is readying an overseas division to set up facilities in Britain and Japan. Audio Division prexy Phil Gundy is heading up the new venture. Bell Sound Systems now becomes a full division of the new Thompson Ramo Wooldridge, Inc.

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

A LOT of noise has been generated by some folks over the supposed difficulty of threading the tape on a reel. This has always been said to be too hard for John Q. Public to do and much thought and effort has gone into designing easy loading types of reels. Over the years we have developed our own system, and being basically lazy, we sought the way that was the least bother. Maybe it will work for you too. Most people express amazement at it yet it is astoundingly simple and direct. All you do is this. Drop the tape from the feed reel in the slot and allowing a foot or so extra, lay it against the center hub of the take-up reel. Place your finger through one of the reel openings and holding the tape against the center hub, rotate the reel a turn or two. Withdraw your finger and give the reel another turn to bind the tape on itself against the hub. That's all there is to it, no threading, no loops. It takes less time to do than to read this description. Try it next time.

* * * * * * * * * * *

SOME DAY we hope that standardization will reach into such items as jacks and plugs. It is exasperating to have to keep on hand all kinds of cables with different connectors on the ends just to accommodate the whims of equipment manufacturers. This would require cooperation between tuner, amplifier and recorder people. The Magnetic Recording Industry Association has established a standard jack for connection between recorders and tuners and radios. More needs to be done.

TAPE CLUB NEWS

New Club

In July, 1958 a group of folks got together and organized the Aurora Science Tape Society, a teen-age recording group. Present membership is 54. The group is primarily a science club and is affiliated with Science Clubs of America. It is different from most scientific societies, however, in that the members communicate by taping lectures for the club library and, of course, tape letter exchanging.

This group is seeking sponsorship, since at present their monetary resources are very small. Membership rates are \$1.00 for adults, and free for teen-agers. Even with limited funds, the club manages to put out a mimeographed bulletin.

Anyone interested in sponsorship or in joining may contact Walt Richard Sheasby, Jr., 215 North Baldwin Ave., Sierra Madre, Calif.

Lifetime Memberships

Stan and Ellen Crouch of Sterling, Virginia, recently received free lifetime memberships in Tape-Respondents, International when a survey of old records revealed that Stan was the "elder statesman" of T-R-I. Stan, who is only 31 years old, joined the club April 19, 1952, and holds Membership Card No. 2. Stan's wife Ellen joined to make it a family team in 1956. Other lifetime memberships were awarded to Cliff Johnson of Stanger, Natal, South Africa, who holds the lowest T-R-I number outside the United States, and Rolf Strom of Oslo,



Norway, who holds the lowest number in Europe.

T-R-I Tape Network

Lee W. Holm, St. Cloud, Minnesota, will serve as director of the T-R-I Tape Network for another year, announces Jim Greene, secretary of Tape-Respondents, International. Holm was the only candidate to file for the position for 1959, so his re-election was automatic and the annual worldwide network election was not held in November as usual. In the 1957 election, Holm nosed out his opponent, John A. Lupo, Cleveland, Ohio, by one vote. Lupo later was appointed as assistant director of the Network.

The Night Owls

California boasts an unusual group called The Night Owls, branches of which are called Roosts. Ben Hunter, disc jockey on Radio Station KFl, Los Angeles, is the active director of this organization. Through efforts of World Tape Pal, Dale Weaver of L.A., an enthusiastic Night Owl, Ben Hunter became acquainted with the ideals of WTP and the People-to-People Program. As a result, a WTP Roost was formed at a meeting of Night Owls at the Green Hotel in Pasadena on Nov. 23, which several well-known movie personalities and local civic leaders attended. More about this Roost will be forthcoming.

Voicespondence Polyglots

What's a polyglot? For those unacquainted with this unusual sounding word, it means one who knows several languages. Many members of the Voicespondence Club are able and willing to voicespond in languages other than their native tongue. The Poichet family in France, for instance, offers to voicespond in 6 languages in addition to their native French, and their list includes such tough ones as Russian and Greek. Voicespondent Conrad Fisher of Meadville, Pennsylvania is prepared to converse in five languages, including Esperanto. Erik Lindgren of Sweden and Fleming Georg Carlsen of Denmark also know five, and so it goes. Counting active members only, the total languages used by members of the club totaled 34 as of April, 1958. While English is the "official language" of the club, there are a dozen members in non-English speaking countries who do nor list it as one of their languages. You can use French to voicespond with members in 17 different countries compared with 13 countries for German, 11 for Spanish, 10 for Esperanto, and 4 for Swedish, Dutch and Italian. Eleven members list odd languages to voicespond in, which include Zulu, Bulgarian, Catalan, Welsh, Gaelic, Chinese, etc. If you want to brush up on any of these languages, these members would no doubt love to voicespond with you. Czech, Ukranian, and Arabic speakers are also a pretty exclusive group. There are two of each and they would probably welcome some company. Voicespondence is an excellent way to maintain or improve your knowledge of a foreign language, just another of the many advantages of belonging to a tapesponding club.



THIS CHURE MICROPHONE

The Shure Unidyne has achieved a position of pre-eminence that is absolutely unrivalled. It is specified by leading sound engineers; it is requested by outstanding celebrities. The Shure Development Laboratories have continued to make the Unidyne a finer and still finer microphone, creating and reflecting new advances in electronic technology.

When you select the Unidyne for any installation, you are assured of consistent dependability. The most difficult acoustic situations yield to the efficiency of the uni-directional, ultra-cardioid pickup pattern of this rugged dynamic microphone. The Unidyne suppresses feedback, cuts the pickup of random noise energy by 67% and permits maximum freedom of the performer. Its high output makes it ideal for use with low-gain tape recorders and p.a. systems.

THE UNIDYNE IS THE ACCEPTED STANDARD FOR FINE QUALITY

- public address
- theatre-stage sound systems
- recording
- remote broadcasting
- fixed-station use in police, fire, and commercial communications systems

For durability, versatility, quality and fidelity, the Unidyne is your finest microphone choice.

SHURE	The Mark of Quality

IN ELECTRONICS SINCE 1925 SHURE BROTHERS, INC., 222 HARTREY AVENUE, EVANSTON, ILL.



tape recorders

Ferrograph Stereo equipment is designed to meet traditionally exacting high quality standards.

Two superb models are available:

The Ferrograph Stereo 88 is designed for *both* recording and playback of stereo tapes. Professional quality twin-recording amplifiers and playback pre-amplifiers are inbuilt. Monaural recording/playback on both tracks is also possible.

The Ferrograph Stereo 35 is designed for the playback of stereo tapes and also offers all the features monaurally of the popular Ferrograph 3A Series. While it is possible to employ auxiliary amplifiers, the Ferrograph "Stere-ad" unit offers the ultimate in matched amplifiers resulting in superb stereo reproduction.

Conversion kits to permit storeo replay are now available in limited quantities to owners of non-storeo tape recorders.

ERCONA CORPORATION (Electronic Division)

16 W. 46 Street, Dept. 15, New York 36, N. Y. In Canada: Astral Electric Co. Ltd. 44 Danforth Road, Toronto 13

USED STEREO TAPES 1/2 PRICE

Used for broadcasting, demonstration, etc., but guaranteed good condition, or money refunded. Stacked only. Send list of tapes wanted, plus remittance for $\frac{1}{2}$ list price each tape. Shipped postpaid in U. S. & possessions only.

CAL-WESTERN STEREO 1544 Cross Way San Jose 25, Calif.

RECORDS or TAPES from your tapes or discs. Editing, dubbing and specialized services. High Quality at Reasonable Prices. Write—

MERLE ENTERPRISES Box 145 Lombard, Illinois

USED STEREO TAPE BARGAINS-GUAR-ANTEED PERFECT-ALL IN METAL STOR-AGE CANS - LARGE AND EXTENSIVE LIBRARY - SEND FOR FREE LIST -SAVE 50%!

ANGELUS TAPE SALES BOX 7195, DAYTONA BEACH, FLORIDA

TEMPJS IS STILL FUGITING and we have nothing to report from the snake pit. Bear with us. REPULSIVE RECORDINGS

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, Hi-Fi TAPE RECORDING, Severna Park, Md.

Better Diagrams

To the Editor:

May I make a small criticism? The only thing that seriously detracts from the standard of your magazine is the poor average of draughtsmanship in the diagrams in some of the articles. They're almost invariably done by the author of the article himself and some of them are well nigh unreadable. Now I know it would be an expensive proposition to employ a draughtsman (draftsman) especially for the purpose but perhaps it might be possible to find someone who would be willing to undertake this job. It would improve your diagrams and also tend to standardize them somewhat, a desirable practice. Please keep this in mind for the future.-John W. Berridge, Coventry, England.

Thanks for your suggestion. We believe we have found such a person and a decided improvement should be in evidence beginning with this issue. Ed.

Transistorized Recorders

To the Editor:

Please explain the difficulties which prevent making fully transistorized tape recorders, including final stages of amplification for speaker output. How close are these problems to solution and are there any published circuits or experimental models of fully transistorized hi-fi equipment available.—Kendall King, McAllen, Texas.

The only difficulty is one of price and that is being licked. Amplifier Corp. of America and Stancil Hoffman both have fully transistorized portables as has the Steelman Co. We believe the market for this transistorized equipment will continue to grow as people discover they can easily make snapshots in sound. There is. at present, little need for transistors in home type equipment as tubes are cheaper and the current supply readily available. We have not seen any circuits as yet.

Help Needed for Eicor Owners To the Editor:

I own three Eicor tape recorders which were purchased over a three year period and then Eicor dropped the tape recorder manufacture. I contacted them and other supply sources in an effort to obtain replacement tape heads for these recorders and they would not even reply to my letters of inquiry.

As you know, these recorders were equipped with a special plug-in type of head and were doubtless made up specially for Eicor. I purchased these recorders because I believed that such a company would be in business and I would be able to obtain replacement parts indefinitely as they are an old company.

Many thousands of these recorders were sold to the public and I feel sure that many people would be interested in a head that could be adapted to them and I feel you would be rendering a great service by coming up with a solution to this problem. I would appreciate any help or advice that you may render in this case and I feel that printing of it in your magazine would also be deeply appreciated by thousan.ls who own them.—George H. Pruitt, Sr., 109 E. Laurel Street. Florence, S. C.

As we recall, the Allied Radio Co., 100 North Western Ave., Chicago 80, 111. sold the Eicor when it was made and also had extra heads for it. While the item is no longer shown in their catalog, they just might have a few heads in stock. We would suggest that you write to them. The only other possibility is that some of our readers might have an extra head or an old Eicor that is no longer used that might be purchased for spare parts. Eicor is out of business which is why you received no reply.

Preview Tapes

To the Editor:

In your September issue a reader suggests that the tape libraries should do something about hearing a tape before buying. I have been thinking about this for months.

I have a suggestion to which I hope the tape libraries will take heed. If they took the best selection out of each tape album in their stock and put them on one tape which the dealer could use to demonstrate then the buyer could at least hear one selection out of the album he desires to buy. I think this idea could build sales for the tape companies.

As the tapes that will be used for demonstration become out-dated, it would be a good idea to donate them to one of the tape clubs to create goodwill among all the clubs. I hope this will help the tape industry sell more tapes.—*I. W. R., Middle Village, N. Y.*

Playing Off-speed Tapes

To the Editor:

Some of your readers may get the problem of receiving a tape recorded at one speed less than their recorder. I recently had this problem and this is how I licked it:

The tape I received was recorded at $17/_8$. Both of my machines have only the speeds of $33/_4$ and $71/_2$. I played the received tape at $33/_4$ simultaneously dubbing it at $71/_2$. I then simply played back the dubbed copy at $33/_4$. The result was quite acceptable.

As the tape was dubbed at four times its original speed, the dubbing process is not so long as it may sound. . . in fact with muted speakers, one is spared the unnatural sound being recorded. Sounds crazy!

May I take this opportunity in congratulating you on the highly informative contents of your magazine? I have found it to be the first in almost all branches of the still fastly growing tape recording field of science. I am most keen to tapespond with Italians and Italian speaking readers from any part of the globe.—Frank X. Micallef, R. E. M. E. HQ, Northern Command, York, England.

NEW PRODUCTS

SHUT-OFF SWITCH



A new switch not much bigger than a paper clip which automatically shuts off a tape recorder if the tape should break, is being marketed by the Acro Division, Robertshaw-Fulton Controls Co., P. O. Box 449, Columbus 16, Ohio. The device incorporates a non-magnetic nylon leaf with rounded surfaces, over which the tape passes. In the event of tape breakage, pressure upon the leaf is released, shutting off the recorder. The main body of the switch is less than $1\frac{1}{2}^{m}$ in length. It is UL approved at 3 amperes, 250 V.A.C. For price and details, contact the manufacturer.

MIDGETAPE 500



Mohawk Business Machines Corporation, 944 Halsey Street, Brooklyn 33, N. Y., has introduced the "Midgetape Professional 500," a palm size, all transistorized, one battery operated pocket tape recorder. This instrument features a speed of 33/4 ips, and has an exclusive VU meter. It weighs only 3 lbs. and is equipped with a 45 minute automatic tape cartridge, a T-12 battery and a patchcord for patching into the mike input of the unit from another tape recorder, radio, record player or microphone. It also has another patchcord with two control leads and an output cord used for feeding "500" recordings directly into broadcast equipment or other kinds of amplifiers. A single and double earphone kit, for monitoring and playing back recordings on the spot, is also part of the basic instrument, and optional accessories are available. It is priced at \$329.50. Write to the manufacturer for additional information.

CROWN-O-MATIC



International Radio & Electronics Corp. of Elkhart, Indiana, is marketing a new automatic tape player designed for versatility. The machine will play up to 16 hours of unrepeated time with a 14" reel at 33/4 ips, and 8 hours at 71/2 ips. Other features include: silver satin anodized aluminum construction, synchronous motor, fast forward and reverse, automatic release with power failure, remote reversing controls, forced air cooling, magnetic brakes, and playback preamplifier. This machine is the Crown-O-Matic, and it sells for \$495. This company also has available the Stereo-Matic, which plays stereo automatically both ways. It includes a Crown-O-Matic transport with four-track heads and two output amplifiers, and is priced at \$617. Complete details are available from the manufacturer.

SCOTT AMPLIFIER



H. H. Scott, Inc., has announced a new power amplifier, Model 250. This new amplifier features a new development called Power-Balance Circuitry, which assures the music-lover of virtually unmeasurable distortion whether operating his system at low levels or at full room volume. The model 250 delivers 40 watts of power, 80 watts instantaneous peak power. There is less than 0.1% distortion and harmonic distortion of less than 0.5% at full power output. Frequency response is flat from 12 cps to 40 thousand cps. Price east of the Rockies is \$119.95-West of the Rockies \$122.95. For complete technical specifications write to H. H. Scott, Inc., 111 Powdermill Road, Maynard, Mass.

A SOUND INVESTMENT

When we find one we don't hesitate. Hi-Fi TAPE RECORDING magazine will pay many future dividends in recording and listening pleasure. What's more you'll profit from the many tips on recording, money saving ideas, and up-to-date information from the "World's Leading Recording Magazine."

Last, but not least, where else can you invest at no risk. TAPE RECORDING's time honored "money-back guarantee" makes this investment the bluest of blue chips.

This practical magazine will bring you each month:

- Up-to-the-minute reviews of the latest tape releases
- Consumer new product reports of recorders and equipment tested by our staff
- New products
- Newest developments in techniques which will improve your results
- The experience of recordists from all over the world.
- Plus—questions & answers tapes to the editor—tape club news—classified section, etc.

Fill out the coupon below and drop it in the mail today. If your check book isn't handy we'll be glad to bill you later.

2 Years\$7.00
1 Year\$3.75
HI-FI TAPE RECORDING Severna Park, Md.
Please enter 🗌 or renew 🗍 my sub- scription as indicated below:
2 years\$7.00
1 year 3.75
Payment enclosed. Bill me later.
Name
Address
CityState



fidelity . . . only Tandberg s preserves the original fidelity . . . only Tandberg meets the test of the most critical car. So versatile, so economical, so simple to operate. No complicated wiring. Just plug in and you're ready to record or playback.

- 4-track stereo recording at all 3 speeds
- · Four mix or match "record" imputs,
- 2 Amplifiers built-in for Portable storeo
- 2 Cathode Follower outputs for talle deck stereo
 Slow-Speed Quality cuts talle costs 75%
- Exclusive tape motion provides professional performance at 1% i.p.s. and 3% i.p.s.



Input to output, see, hear, own the Tandherk 5 We specialize in Trade-Ins. Highest Allowances.

For the finest in sound from

OYNTON Studio 10 Pennsylvania Ave., Dept. HT Tuckahoe, N. Y. SP 9-5278

TEEN TAPERS

BY JERRY HEISLER

CHRISTMAS has come and gone and I hope many of you were lucky enough to get new tape recorders, a new microphone, or maybe just a roll of fresh tape.

Don't regard the tape as being insignificant, incidentally, as that is the most important part of the entire recording process. Remember that the development of tape made this medium possible since the principles of microphones and tape mechanisms had already existed.

What about tape, now that we've mentioned it? I have always recognized teens as being interested in finding out the "innards" of the various processes they come into contact with, so with this thought in mind let me delve into tape a bit.

I can remember the time when you would go into a store and ask for a roll of recording tape and you had your choice of two types. The plastic backed or the paper backed tape. Now there are a great number of tapes on the market and a goodly number of manufacturers in the field.

Tapes have come a long way in the last five years and the average teen recordist entering a store to purchase tape may well be puzzled as to just what kind of tape he needs.

We now have extended play tapes of varying lengths of "extension," tapes for high output, low print through, and on varying types of backings. What then do we want?

It would be well for me to start out by saying that the plain old plastic backed 1,200 foot reel of tape that was the standard several years ago is still the standard today. For nine out of ten recording jobs this tape will suffice.

However, there are times when you will need the more advanced tapes. Every recordist has run into the situation of having to record an hour presentation at 7.5 inches per second with the problem of having to turn the reel over in the middle. And sure as anything the point at which the tape runs out is exactly the most important point in the entire recording. For reasons of size. and physical transport of the tape, it was not feasible to make larger reels of tape, so the manufacturers turned to the problem of getting more tape on the same sized reel. They went to thinner tapes to accomplish this. All the major manufacturers now have the thin base tapes available on 1 mil acetate base which provides one half again as much recording time as standard tape.

The thinness of these tapes, however, does have a disadvantage in that they break more easily and must be handled with extreme care.

Manufacturers turned to making these extra play tapes on DuPont Mylar film which gives them a much stronger breaking point. These tapes are suggested only where the extra length is of much importance since the average user might find them hard to handle.

The problem of print through often occurs when these tapes are recorded at high volume. For those of you teens who aren't fully aware of what print through is permit a brief explanation.

Print through occurs with high volume and very thin tape and means that the electrical recording impulse is so strong that it passes through the tape, when it is stored, to the next underlying layer on the reel. Thus in effect, you are making a carbon copy on the tape and you will hear it in the form of an echo. This occurs, as I said, during storage.

However, these tapes when used properly are very satisfactory and are made with exceptionally high quality. They are more costly than the regular tape and thus are only really needed for special jobs.

Other special tapes you are apt to find at your dealers are high output varieties, which are made to more exact specifications and will reproduce critical sounds a bit more faithfully. This quality is required primarily by broadcasting stations or for the very critical music fan. The average untrained ear would not notice any appreciable difference.

Tensilized tape is a super strength extra play tape which is virtually impossible to sever except with scissors. This is used in conditions of extreme "hard use" and rough handling of the recording.

These then are the main types of tape available today and you will find that each of the principal manufacturers offers a tape in each class.

In addition you will find tapes available in various colors and in varying sizes of reels to accommodate varying lengths of program material.

Get acquainted with the usage for each type of tape so that you can select the one best suited to your needs.

Also learn what leader and timing tape is and what splicing tape is. You can learn right now as a matter of fact.

Leader and timing tape is used for leader on a tape and to provide spacing. It is a plain white, non magnetic tape with a marking on it every few feet so that timing can be accomplished. It is inexpensive and very useful.

Splicing tape is used to correct those accidents we all have when playing our tapes as well as to edit tapes.

So you see that even if you didn't get a new recorder, but merely a roll of tape, there is more to it than meets the eye.

As more new tapes hit the market you can be sure that we will advise you of them.

As up and coming recordists, know your medium just like the photographer knows the difference in his films. Let us hear from you and keep 'em spinning.

TAPE IN EDUCATION

BY MAJOR JOSEPH J. KRAMP, USAF, RET.

A LTHOUGH many schools and colleges are using magnetic tape in teaching, relatively few have made a determined effort to exploit this medium fully. Goucher College, a college for young ladies in Towson, Md., however, is making such an effort. The soundness of their approach is indicated by their winning of the first award in the competition sponsored by Audio Devices, Inc., in 1957.

The first serious application of tape at Goucher started in the fall of 1952 under the direction of Mr. Brownlee Sands Corrin, director of the Field Politics Center, Mr. Corrin had become acquainted with tape while he was an instructor at the Armed Forces Language School and realized its potentiality in other fields of teaching. As an instructor of Political Science. Mr. Corrin first applied himself to the development of techniques for the application of tape in his classes, and started recording and cataloging items of political significance. These recordings were made from off the air radio and TV broadcasts, other tapes, discs, on the spot recordings and dramatization of historical events. From this library, Mr. Corrin then prepared special tapes to meet the particular lesson requirements in the classroom.

Other departments at Goucher soon became interested in tape and started to develop techniques to meet their own requirements. Eventually, thirteen departments were using tape in varying degrees. The actual use of tape has been somewhat hampered by a shortage of equipment for all departments but this has been minimized by careful planning and scheduling of equipment by the A/V section of the library. Most departments are using tape to record student discussion groups for later analysis and to edit and preserve material which had previously been recorded on discs. Many discs available in the Goucher Library are rare or unobtainable and taping them allows the material to be used many times without the inevitable destruction inherent to discs.

The Department of Education and Child Development teaches the operation and application of tape recording in the classroom and in the home. It is used in the presentation of children's stories, songs, dramatizations, sounds, events, reading with expression, etc. Tape has also been found to be very useful in the analysis and improvement of presentations and discussion techniques.

The Department of English has found tape to be invaluable in the sharpening of critical senses of students and for study and comparison of notable oral presentations by various great artists.

The playback of voice and events of historical significance is used by the History Department to emphasize and give lifelike quality to the men and events which have shaped our present living patterns. The tapes recroded by the Field Politics Center are available for reference and contain many speeches and events that are of interest to the history student.

A new language laboratory will be installed for operation this autumn. This language laboratory will be used for the teaching of Spanish, French, Italian, and German. Material will be prepared from existing discs and original material will be prepared by the faculty.

The Music Department has found tape to be very useful in the teaching of applied music and in the demonstration of compositional techniques. Tape has also proved useful in the rehearsal of choral and instrumental performances.

In Physical Education, the use of tape in classes on dance techniques and body mechanics has proved more satisfactory than either discs or a part-time accompanist.

The use of tape in the teaching of science at Goucher has been confined to the field of sound in the physics course. Goucher has some disc recordings of some original experimentation with various musical instruments which are used in this course. This excellent work is not likely to be repeated, but can be preserved and used indefinitely on tape. Tape is also used to record experiments and examples of sound which are too expensive for constant laboratory use.

In Sociology and Anthropology tape will be used in community studies with recorded interviews as the primary technique.

The speech department uses tape in its speech clinic to teach the correct production of sounds for foreign students or students with special speech problems or defects. Tape is used in the speech classroom to analyze and comment on student deliveries.

The Political Science and Field Politics Center in addition to recording the vast amount of material being broadcast also conducts surveys and interviews on civic problems and prepares material for a weekly radio program on public affairs.

The faculty of Goucher considers that magnetic tape is a teaching and research tool with great flexibility in modern educational situations and an important factor in student attainment of the objectives which underlie their curriculum, namely:

To establish and maintain physical and mental health.

- To comprehend and communicate ideas both in English and in foreign languages.
- To understand the scientific method in theory and application.
- To understand the heritage of the past in its relation to the present.
- To establish satisfying relations with individuals and with groups.

To utilize resources with economic and aesthetic satisfaction.

To enjoy literature and the other arts. To appreciate religious and philosophical values.

We congratulate Goucher College on the fine work that they have accomplished and will follow their progress with much interest.



Science does not know what effect magnetization has en the electrical impulses of the brain. BUT WE DD KNOW THAT MAGNETIZATION OF YOUR RECORD-ING HEAD WILL GIVE YOU A HI FI "HEADACHE". That is why most recording heads. Head magnetization is caused by many factors inherent in normal recorder use. It causes high noise level and harmonie distortion and sometimes ruins precious recordings. Use ROBINS MEAD DEMAGNETIZER HD-6 to get rid of these "headaches". At dealers everywhere. S10 List-Write for free accessories catalogue.





Impact! in production at the studios of Boston University's WBUR. At console, Woody Sloan, director; at Ampex, Bill Bagg; in taping studio, narrator, Bob Walsb.

This Is Impact!

by Sid Dimond President, Creative Associates, Inc. Yet another use for magnetic tape—saving lives on the highway.



Courtery Lyman Ficher, Caristian Science Monies

Chasing speeders in the back of a police cruiser. Left, Sid Dimond; right, Woody Sloan. Pencil mike is picking up radio crosstalk between officer and headquarters. **T**HE beam from the state trooper's flashlight sliced cleanly through the rain and darkness; focused on the ghastly scene. It wasn't pretty. The car had left a New Hampshire road at a sharp turn, struck a pole-supporting cable, at high speed. The cable had acted as a giant sling-shot, hurling the car and its occupants through the air, into a stone wall. Now there was just a mass of crushed and twisted wreckage, human and automotive. The story I filed for Associated Press merited only two transient inches of space in the morning papers: "Four Die, One Injured, in Crash." That's all. Two inches of black type: four lives. A poor exchange, at best.

Out of that tragedy a basic idea was born: a radio series selling the message that *every* accident is a personal experience to somebody; that you are the other fellow, to the other fellow; that your very survival constantly and continually depends upon you.

It took over fifteen years to translate the raw idea into reality.

Many things had to happen. First, we had to have the proper equipment and technique; find out how competently to present the message. George "Woody" Sloan, Bill Bagg, Bob Walsh and I had met at the Boston U. School of Public Relations and Communications. Had formed a tape documentary team. Had studied and made mistakes (and progress) together. There had to be sympathetic contacts with radio stations, for program airings. We built that gradually with our previous "New England Adventure" series. There had to be an effective, flexible way of handling the financing of our work; our constant tape technique experiments; of distributing our tapes. We set up Creative Associates, Incorporated, to do this. And, mentally, Impact! began to take form.

The overall idea and approach became crystallized.



Courtesy Photo Service, Boston University



The Basic Idea

Impact! would be a digest of "humanized statistics": five hundred and fifty-five killed in Massachusetts; over 86,000 injured, in one year. Almost 80% of the accidents occurring on dry roads in clear weather. More than 81% of the casualties resulting from driver error. We decided to underplay the blood and gore angle; concentrate on the long lasting effects of accidents, to those involved. Use a clipped, modified "Dragnet" approach in the narrative. We would concentrate on material from police files and officers, emergency ward doctors, accident victims and victims' survivors, witnesses to accidents; safety officials. In short, those people directly involved. No panel dicussions. No sermons. Just let the story tell itself by sound reporting. Then release the series to a specially selected network of stations throughout Massachusetts so no driver could drive in any direction for any length of time with his radio on without hearing one or more of the Impact! shows. That was the idea.

Courtesy Robert Roma



Courtes. Photo Service, Boston University

Top: The mother of a child killed by a drunken driver: "I miss her terribly. I never go to bed at night but that I don't talk to her picture; pray to her. I never sleep without wishing and wondering why." Middle: An elderly couple was instantly killed when this late model Ford, speeding in the wrong lane, and going the wrong way on a superhighway, collided head on with a truck loaded with steel. The impact! team interviewed the photographer who took this picture; officers who investigated the accident. Bottom: A driver arrested for intoxication: "Anybody can get confused on these here roads nowadays, you know? I'm a citizen. I pay taxes. I know my rights. Hey, whassamatter? I went down the road in the wrong lane. I

didn't hurt anybody.---



Courtesy Photo Service, Boston University

Above: Impact! editor and engineer Bill Bagg records conversation and reaction in driver training class, as Newton (Mass.) high school student adjusts the glareometer. Audio-visual aids used for high school driver training provided fine material for Impact!

Financing and Outlining

The best—and often only—way to sell an idea is to translate it into tangible form. We arranged tape interviews with a young doctor in the accident ward of Boston City Hospital. ("People are quite upset when they get into an auto accident. Some people come here in shock. Some have no emotions at all. Others come in dead. Most of them regret that they allowed it to happen to themselves.")

A woman hit and run victim. ("I knew when I heard the roar of the motor and the screeching of the brakes he had to hit me. I put up my hand to stop him. He hit my leg; turned me around, and threw me into the air. I thought that was the end. I dragged myself toward the gutter so's another car wouldn't hit me. Crawled to the side of the road. A man on his top floor piazza came to me. He'd heard the impact on his top piazza.")

We taped a newspaperman who'd covered accidents; teen-aged drag racers; a garage mechanic who towed away the wrecks; the manager of the Massachusetts Safety Council. We framed their comments in authentic ambulance sirens, skidding tires, a tow truck hoist. Then we took this pilot show to the Casualty Insurance Companies Serving Massachusetts. Played it for their executive committee. The organization agreed to underwrite production and distribution of thirteen quarter hour shows, shows which took eight months to produce.

Several weeks of intensive research and study with our advisors followed. Using the publications of the National Safety Council, the Massachusetts Safety Council, the Massachusetts Department of Motor Vehicles, and various other materials we slowly forged the content outline for the thirteen shows: an intro show; to set the scene; ("Macadam Madness"). A show on ticket fixing; another on "Guardians of the Lifelines," one on causes of crash injuries; two on highway engineering, and two more on drunken driving. One each on community concern for the problem and safety education in action; programs on "The Perilous Pedestrian"; major types of accidents, and the final show, "And Now, Tomorrow," a forecast and resume. This accomplished, we solicited from our safety and insurance friends suggestions as to specific subjects and sounds for each show. We let Below: A woman shopper, struck at high speed by a hit and rum driver: "I thought that was the end. I dragged myself toward the curb. I was afraid another car would strike me. I crawled to the side of the road—. The driver, he kept right on traveling."



Courtesy Photo Service, Boston University

them be the experts on highway safety. Our job was technique.

Before we even touched an "on" switch we knew precisely where we were going with each show; what we were going to record. This made for economical travel and editing later, fewer raw nerve ends at the beginning. On one trip to Worcester, Mass., for example, we taped material for shows 3, 5, 8, and 12.

Then came the easy part. The field work.

Field Work

Using for our interviews an Ampex 600 and RCA junior velocity mike, we set up appointments throughout Massachusetts. Prior to each interview we determined precisely where the particular subject fit into our pattern. Kept our questions to the point; our visits brief. (To facilitate editing later.) For situations where there was no power supply we utilized a Tapak Newscaster, and Shure 777 Slim X crystal mike. We used Audiotape.

I did most of the interviewing. (As the series writer I could often "angle" comments and materials for inclusion in the script.) Woody Sloan and Bill Bragg engineered. Tape recorders like them; perform well for them. Besides, since they were to edit the tape, it gave them a chance to become familiar with its contents. Helped them efficiently to chop.

Local police departments, state and regional police, cooperated beautifully, as did judges, safety organizations, and other groups. Soon we were chasing speeders at 90 mph along the Worcester Turnpike, recording impressions and radio chatter; secretly taping comments of speeding motorists, trapped by radar. We were allowed to "rig" a courtroom with hidden mikes during a drunken driving case. We concealed equipment near a jail cell to catch the verbal meanderings of intoxicated operators and pedestrians. We taped sessions in a driver training course at Newton High School, and the parents' comments concerning a 14-year-old girl who had been slaughtered by an inebriated driver. In police stations the mike eavesdropped on accident recollections of officers—often touching in their tragedy. We secured written permission to use all voices, anonymously. We taped sounds, too. Jail doors clanging; cruiser loudspeakers directed at pedestrians; doctor's calls on hospital PA systems; the moans of ambulances from various perspectives. Many others. Each show opened with a short quote from a subject, or a sound. Pacing throughout was terse. The narrative to the point.

We talked to drivers who'd been involved in accidents. But mostly to victims. Like this 6-year-old girl:

NARR: How old are you, Kathie?

GIRL: Six years old.

NARR: Go to school, Kathie? What grade you in? GIRL: First.

NARR: Tell me. You cross any streets on your way to school?

GIRL: Yah.

NARR: You do?

GIRL: Yup.

NARR: You always look to see if any cars are coming? GIRL: Nope. Once on a Sunday I got hit by the car. NARR: Hit by the car? What happened?

GIRL: I got hit by the car and had to go to the hospital. NARR: How'd the car happen to hit you?

GIRL: Well, uh, there was another car in the way and I thought the cars were all cleared so I ran and the, uh, car hit me.

NARR: Did it hurt like anything?

GIRL: Yah. Bumped my head.

NARR: You're going to be more careful from now on, aren't you, Kathie?

GIRL: Yah.

Friends of accident victims became articulate. Our barber gave us this bit. His partner recently had been killed by a housewife doing 50 mph in a 20 mph zone.

"Of course life has become so valueless now. We hear so much about so many accidents. It's a common occurrence. A dead pigeon; a dead cat, makes more of an impression than somebody struck. We read in the paper where seven or eight have been killed and then we go on to something else immediately. It's made no impression. No impression at all. An accident strikes home when it hits us *personally*. I know it impressed my partner's friends who had known him for years, and I never got over it myself."

Production, Promotion, Distribution

Within eight weeks we had material on some 200 tapes. All carefully labelled on both reels and boxes; a different tape for each subject or sound. Over 60 hours of material. From this we had to cull about three and a half hours for integration with narrative. The listening started; the notes were made; the midnight oil burned; the coffee pot perked; the scripts shaped up. And Woody and Bill started the tedious job of editing the basic material into usable form. They worked with a Skila Model KL and a Gibson Girl. Scrupulously powdered all splices. Ers and ahs were amputated, except when they added to the drama. Sighs were transplanted into more compelling spots. Each show was rough scripted; gruellingly cleared for accuracy and possibility of legal incrimination by a special committee from the Casualty Insurance Companies and the Massachusetts Safety Council.

Bob Walsh, our narrator, was called in. As rapidly as the scripts were ready and approved they were produced in the studios of WBUR, Boston University's FM station. The completed master tapes were flown to Ched Smiley's Livingston Audio Products Corporation in Livingston, New Jersey, for duplication. While Woody, Bill, and Bob produced the shows I lined up the best stations in 25 markets to carry Impact! They were given the series free, provided they programmed it in Class A time.

There was a great deal of publicity and promotion to produce. Literally hundreds of details, including personal notes of thanks to all who helped; twenty organizations, scores of individuals.

We produced a reel of one minute spot announcements to precede air release. Provided copy to newspapers; had a press and radio editor's preview. (Which nobody but us attended.) Soon the sounds of Impact! were scattered all over the cial. Anonymous phone calls came into stations. One man had heard Kathie's voice, the little girl mentioned earlier. He was going much too fast in a residential section. Kathie's voice made him think of his own daughter. He slowed down. Just in time to avoid hitting a tiny tot who



Courtesy Lyman Fisher, Christian Science Monitor Above: Impact! writer Sid Dimond at his content fact source, the files of the Needham, Mass., Police Department. In center, Chief of Police Thomas Welch; right, Sgt. Louis Roman. Dimond and Bagg travelled with Roman to secure much of their material in the field.

Below: Writer Sid Dimond (extreme right) tapes answers of high school student to questions on driver's insurance, in Newton High School driver training course. Note stand mike at left to pick up class reaction.



Courtesy Photo Service, Boston University

dashed into his path from behind a parked car. There were half a dozen similar stories. The show pulled good mail. Is now being repeated on several stations, even though it is nearly a year old.

And, Finally . . .

Early in April we learned that the National Headliners' Club had awarded Impact! and WBUR its silver medallion as and for "the best local station public service series of the year," the first tape documentary ever to be so honored. Shortly thereafter Governor Furcolo of Massachusetts presented Creative Associates, Incorporated, with the National Safety Council Public Interest Award "for exceptional service to safety" in the category of syndicated highway safety shows.

All this was fine and rewarding, and our heads swelled a bit, for awhile. But the real satisfactions of Impact! encompass more than just awards. They involve rewards. Rewards having to do with human lives and limbs, and the recurring thought that Impact! may have saved some of them.

We spent nearly a year, several thousands of dollars, and 39 miles of tape to prove, or attempt to prove, that this marvelous electronic development has a new and challenging use. Everywhere. The saving of lives on America's highways. For this reason we hope to revive Impact! some day soon. All we need is another interested group to pick up the tab.

The need for this type of thing is there. And will continue to be, for a long, long time. At this writing over



Toastmaster Al Owen presents the coveted National Headliners' Award for Impact! to writer Sid Dimond, producer Woody Sloan, and tape editor Bill Bagg. The award was the tenth to be won in tape documentaries by this team.

25,000 already have needlessly died on our highways since the end of last year; over three quarters of a million battered, punctured, lacerated.

And the tool—if utilized with imagination and know-how —is there, too.

Let's all use it as often as possible; as efficiently as we can.

WORLD FESTIVAL MUSIC AT HI-FI SHOW

THE International High Fidelity Music Festival, to be held at the Shoreham Hotel in Washington, D. C. February 5th through 8th, is going to "put music back into Hi-Fi shows," according to l'estival Di-

rector M. Robert Rogers. For the first time a Hi-Fi show is being produced as a benefit event for a major symphony orchestra—the National Symphony Orchestra of Washington. It will include live and taped music



Scene of April 1958 stereo recording session at Hotel Des Invalides in Paris where Westminster-Vega recorded the Berlioz "Requiem" which was featured by the French government exhibit in the Festival Music Hall at the Washington Hi Fi Show. events in addition to the more than 60 exhibit rooms showing the latest products in high fidelity electronics.

The unique new feature of this show will be a Festival Music Hall. The main ballroom of the Shoreham will be turned into a stereo theatre, where audiences of 1,000 at a time will hear a show every fifteen minutes featuring high fidelity taped excerpts of the music of many of the world's music festivals, accompanied by color slides. In addition to the festival tapes, there will be a special and exclusive showing of the Bach Toccata and Fugue from the 1938 multi-channel stereophonic film of Walt Disney's "Fantasia." When Leopold Stokowski recorded the score to "Fantasia" at the Philadelphia Academy of Music in Philadelphia with the Philadelphia Orchestra. it was the hallmark of early stereophonic recording.

Among the nations who are lending special tapes, many of them made especially for this Festival, are Great Britain, Norway, France, Sweden, Yugoslavia, Austria, Holland, Germany, the Philippines, Canada, Italy, Belgium, the Union of South Africa, Thailand, India, and from the United States tapes from the Aspen Music Festival in Colorado.

The entire Festival event will open with a special "Soundorama" concert in stereo by the National Symphony Orchestra under the baton of Howard Mitchell. The concert will take place January 31st at Constitution Hall in Washington and will feature a special commentary entitled "An Old People's Guide to the Orchestra" by M. Robert Rogers.

Tips For Tapists

by John A. Comstock



,

Dust particles are hostile enemies of microphones. To keep dust from entering a mike's housing, keep it covered with a plastic bowl cover when it isn't in use.



Store reels of recording tape in plastic food bags. This will keep static electricity accumulated on the tape from attracting dust particles which eat away at a recorder's head and wear it out rapidly.



Below: It's annoying to have recording tape unravel from its spool while you handle it. This can be prevented by wedging a rubber wire feedthrough grommet between the spool's flanges as shown.





Above: Plug a male connector, like the one shown, into a hole drilled in a large cork when it isn't in use and there's less danger that it will be broken if stepped on. Ordinary electric plugs can be protected the same way.

Left: To time tape recordings, wind quarter, half, and hour quantities of tape on spool and paint red indexing marks on spokes of spool with nailpolish. Use two separate color shades if you have a dual-speed machine.



Tape Your Records

by Major Joseph J. Kramp. USAF-Ret.

.... preserve your old records on long-lasting tape.

THE dubbing of your disc recordings on tape, offers several attractive benefits. First, your discs will not be exposed to the risk of damage every time you want to play them. You can eliminate the rumble which may be inherent to your turntable as well as any surface noise on the discs. You can select just the part of the disc that you want to record. And, you can, to a certain extent, adjust the tonal balance of the recording. You will find it advantageous to tape your new discs before the high frequencies have started to deteriorate, as they will with repeated playing. You can, in effect, "eat your cake and have it too."

You can dub your records on tape with a minimum of equipment. However, if you want to adjust the tonal balance or remove scratch and rumble, you will need some additional equipment. There are several suitable devices available in various price ranges, or you can build the simple device that I have described later in this article.

In the simplest case, where we have a quiet turntable and a modern disc in excellent condition, we need only to plug the tone arm pickup into the appropriate input jack of the tape recorder, adjust the recording level and start recording. This is the way that I tape my stereo discs and I find that the results are very satisfactory.

To achieve satisfactory playback of a disc, several conditions must first be met. The disc must not be warped and must not have any dirt or dust on its surface. The tone arm must be properly adjusted, the stylus must be in good condition, and the turntable used should be reasonably free of rumble, wow and flutter.

First examine your discs carefully for warpage. Any warpage of the disc introduces distortion, so we must flatten the warped discs as much as possible before we tape them. To flatten a warped disc, place it on a *flat* surface in a fairly warm place for a while. It may be necessary to place a weight on the disc if it is badly warped. I use a piece of heavy sheet aluminum which I place on a radiator or under a heat lamp. Use great care with a heat lamp though or you may damage the disc beyond repair. Keep the lamp four or five feet away and be sure that you do not soften the disc too much or heat it so rapidly that you soften one surface more than the other. Let the disc cool to room temperature in contact with the flat surface and it should remain flat enough to play satisfactorily.

If you have to tape a disc with a crack in it, you can tape the crack on the back side of the record before playing it. You will, of course, hear a tick each time the stylus passes the crack, but in many cases this will be reduced enough to get a usable tape from an otherwise ruined disc.



Thorough cleaning of every disc is a must. Here a soft brush is being used with warm water and detergent. Scrub with the grooves to get out the dust that clings deep in the grooves. Be sure to use a soft brush and be sure that the water is only lukewarm.



The Audio Baton introduced by Blonder-Tongue is a very versatile instrument which can boost or attenuate any of nine segments of the audio range. The indicators for each control show graphically what the resultant response curve of the instrument looks like at each setting. The control available is 14db above and below the center reference level.

I recommend that every disc be thoroughly cleaned before you tape it. I use a very fine bristle "complexion brush" which you can get at a cosmetic counter and scrub the disc thoroughly with lukewarm water and one of the new liquid detergents. You can get an amazing amount of dirt from even a clean appearing record. Rinse off the detergent and let the discs drain on edge. Do not use water that is more than lukewarm or you may warp the disc.

The amount of correction that you can apply in the taping of your discs will of course depend upon the equipment you have available. A high-low filter such as the Fisher Model 50F is excellent for removing rumble, hum, and scratch. Unfortunately, this excellent unit is no longer produced but if you can get your hands on one, by all means use it. Excellent filters are also made by G.E. and others.

For tone compensation, many of the pre-amplifiers in use will give a satisfactory range. Play the record through your system and adjust the bass and treble to suit you. If you would like more or less bass or treble, you can achieve it by the use of equipment such as the "Audio Baton" now being produced by the Blonder-Tongue Laboratories, Newark, N. J. The Audio Baton has been announced as a



Warped discs may be flattened by placing on a warm flat surface. You must be careful not to get the disc too warm or it will soften to the point where the grooves will become distorted. Badly warped discs may need a weight to flatten them but be very careful not to get them too warm or the fragile grooves will be crushed.

low cost, nine channel comb filter for the high fidelity market. It consists of nine parallel band pass filters, each with variable amplitude control. The audio signal is passed through the filter and mixed in an output stage allowing the user an infinite selection of system frequency responses. To cover the entire audio spectrum, the center frequencies of the filters are pre-set an octave apart, starting at 40 cps for the extreme lows to 10,240 cps for the extreme highs. Changing any octave control setting allows its frequency range to be boosted or cut 14db with respect to the rest of the audio signal.

The Audio Baton has a zero db insertion loss and thus gives complete control over response without decreasing the available signal or overloading the input of the following component.

You can also use the Audio Baton to add presence to the recording by boosting the range of frequencies in which the soloist is playing or to increase the clarity of voice by adjustment of the octave controls. Many special effects arc also possible with this equipment.

If you like to roll your own equipment, as I do, you may want to try the simple tone control amplifier shown in Figs. 4, 5, 6 and 7. This is the familiar Baxendall circuit which has been with us for several years. This circuit gives 15 db boost or attenuation at 50 cps and 10,000 cps with a crossover at 800 cps. This unit is simple and inexpensive to build. The heart of the unit is the senior compentrol, C3-300 by Centralab which comprises all of the network enclosed by the dotted lines on the schematic.

If you are not satisfied with your present tone control, you can install this circuit in your preamp in its stead. I wanted to use this circuit for several applications so I built mine as a separate unit with its own power supply. You can build this unit complete with power supply for about \$15.00.

The C3-300 control consists of a dual concentric potentiometer and a printed circuit plate, PC-190. This plus the tube, 5 capacitors, and 5 resistors comprise the circuit. The power supply that I used as shown on the schematic is adequate if you are operating the unit behind a preamp. The only precautions against hum were the wrapping of a band of copper foil around the power transformer and shielding the tube and input leads.

This little Baxendall amplifier is also useful as a rumble and scratch filter but it is not as effective for this purpose as the sharp cutting Fisher HF50.

For a typical disc to tape dubbing set up we will use a



turntable with a high level cartridge, or a low level cartridge and preamp, connected to the input of the Audio Baton or other frequency control. The output of the Audio Baton goes to the input of the tape recorder. Start playing the disc and adjust the scratch and rumble filters and tone compensators of the Audio Baton for the most pleasing result as heard on your monitor speaker. When everything is to your liking, start the disc over and commence your taping. After you have heard the play back of the tape you may want to adjust the response a bit and retape the disc. After you have done several discs, you will be able to produce very uniform results.

The taping of old scratchy 78 shellac discs presents many formidable problems. The surface noise on these can be terrific when you play them with your present hi-fi equipment. There are numerous things that can be done to make





Top: The complete tone control amplifier housed in a slope front cabinet. The unit can also be built in to your present preamplifier. Center, left: The chassis of the tone control. The Compentrol unit here is not fastened to the chassis but is to be secured to the panel of the cabinet after the chassis is installed. Note the copper foil around the transformer winding. Center, right: Underside of the chassis shows the placement of parts. Shielded wires were used to the Compentrol unit, and input was placed as far from power supply as allowed, to avoid hum. Bottom: The schematic for the familiar Baxendall Circuit. The dotted line encloses all of the parts included in the Centralab Compentrol. Values for the network are given for those who may want to try this circuit without using the Centralab unit or who would like to modify the present tone control circuit in their pre-amps.



Monaural recording of a disc using the tone control amplifier described in this article. If you have a low output magnetic cartridge on your turntable you will have to use a preamplifier between the pickup and the tone control. You can add a scratch and rumble filter between pickup and tone control.

reasonable tapes from these old discs if you really want to preserve them. I will cover some of these in a later article. In the meanwhile, if you feel that you really must tape one of these old records, I suggest the following: Use an old type low-fi crystal cartridge and weight the tone arm to a pressure of 1 to 2 ounces. The response of these old type cartridges falls off very rapidly at the high frequencies and so acts as a very sharp scratch filter. The low frequencies are also sharply attenuated in the rumble range. Of course any sharp filter removes all frequencies above its cutoff point but it is better to sacrifice these and remove the scratch.

The taping of stereo discs is quite simple. Generally, you will not be bothered by scratch on these discs unless they have been mistreated badly. Any tone compensation for stereo, of course, will require duplicate equipment for each channel. To record stereo you must, of course, have a machine that is capable of stereo recording as well as playback.

When recording stereo, it is necessary, of course, to re-

cord the channels on the proper side. If you are not sure which is the right and left of your phono pickup, you may have to experiment or ask your hi-fi dealer for information on your particular equipment. Getting the proper level for each side of a stereo recording may be a bit tricky but with a bit of practice you will find the settings that give equal level on the two tracks. I have found that you cannot rely too much on the eye indicators of stereo recorders because at any one instant the level on one chanel will normally differ from that on the other channel. A stereo test disc can be used to balance the recording input if you have one or you can experiment with various settings for several discs and arrive at a calibration for your recorder that will give a balanced recording.

By placing your favorite disc selections on tape you will have added much flexibility to your system. You can combine and edit programs, add explanatory and introductory comments, improve the indexing of your library, minimize your storage problem, and protect your discs from the inev:table wear and deterioration of repeated playings.



The Audio Baton is very useful in the taping of records. You can use it to attenuate scratch and rumble and to give complete control over the entire audio range. By proper manipulation of the controls you can make a soloist stand out from the background or recede into it. Many special effects are also possible with this instrument.



Tape Cartridge Developments

.... can the tape recorder be made simpler to operate than a phonograph? Some believe cartridges provide the answer.

THE idea of a cartridge or magazine to hold the tape instead of the more familiar open reel, is not a new one. For a number of years such magazines as the Fidelipac, developed by George Eash, and the Echomatic and Audio Vendor made by Bernard Cousino have done fine service in many specialized applications. Neither will play on a regular machine (except the Audio Vendor which is made for continuous play on any recorder.)

Some manufacturers have reasoned that to reach the "mass market" and to increase the popularity of tape far beyond its present status, the tape must be in an easily handled package. The tape recorder must be simplified to the point where it is easier to use than a phonograph, produce superior results at equal or less cost and, in addition to being able to play music from recorded tape, also provide recording facilities which no disc phonograph has.

If this is achieved, and there is no reason to believe it cannot be done, then the tape recorder will become the dominant home entertainment instrument. It is possible that it will be so within the next five years, according to some industry thinking.

Despite the cartridges on the market today, and the ones to come, the reel to reel type of recorder will not disappear. While the cartridge is ideal for the person who is all thumbs, or the "mass-market" type of individual, it is felt that the serious hobbyist will prefer the reels. Most certainly professional recording will continue to be done on reels of tape and the serious tape recordist will likewise continue to use them.

The latest cartridge, or magazine, to make a bow is the RCA type which features reversing of the tape. Excepting pocket recorder units, all other cartridges so far have been of the continuous loop type which cannot be rewound but must be played in one direction only.

The development of this type of cartridge had to await the development of a tough tape which could withstand the friction engendered by the guides and not break or tear.

Which brings up the question that invariably arises— "What do I do if the tape breaks?" The answer is the same as for reel tape—simply splice the ends together again using splicing tape. Most cartridges come apart easily and if care is taken not to disturb the tape on the spools it can be spliced as readily as tape on reels.

The continuous type cartridges are loaded with a special friction-free tape as the tape rubs against itself as the reel revolves. Tape is fed from the middle of the spool, and, in pulling away from the reel hub, imparts to the hub a rotating motion which winds the tape up on the outside of



Left: the Fidelipac cartridge which is played on a special machine. It is of the continuous loop type. Center: the new type Cousino Audio Vendor, which will fit any recorder. Right: the Armour Research Foundation cartridge which has a wide Mylar leader that binds on the reel edge and holds the tape in place. A hook on the end of the leader engages a pre-threaded Mylar strip and pulls the tape through the machine.

the reel. As the tape is continually pulled from the center and wound up on the outside, any one spot on it will gradually work its way from the outside to the center where it leaves the reel, passes across the heads and is again wound on the reel. This continues endlessly.

The RCA type cartridge has two small spools, the tape feeding from one to the other and then back again on rewind or play in the opposite direction.

A locking device is incorporated to prevent tape movement while the unit is off the recorder. The Fidelipac cartridge also locks the tape in place with a spring wire which is released when the pressure roller is swung into position. The Cousino cartridge has a lifting device which lifts the tape behind a protective shield when out of the machine. The player has two pins which bring the tape down into playing position when the cartridge is inserted into the recorder.

Several types of cartridges, such as the Norelco, have been designed for their respective dictating machines and pocket type recorders such as the Dictet and Mohawk. These are not intended for use on regular recorders.

These developments will be interesting to watch in the future.



Above: the Cousino Echomatic cartridge is available in two sizes. It requires a machine built to take it. Lower: the Norelco cartridge is made for the Norelco dictating machine and is reversible.



The RCA type cartridge as made by Minnesota Mining and Manufacturing. The tape is spooled on two small hubs held in position in the case. The holes along the edge fit the heads and the capstans and rollers, one at each end which pull the tape. The locking device may be seen in the center which releases when the cartridge is inserted in the special player.



John Pollock (left) of Red Deer, Alberta, Canada welcomes new immigrant Fritz Van Son, of Holland. John sent tapes to Fritz telling him about Canada before he came to that country.

R ECORDED ribbons of peace are getting people together over miles of tape.

The human voice is the organ destined to convey feeling, thought and emotion. Our handwriting can only be a substitute for the voice. Therefore, listening to another man's voice is to know him. And if we know each other we understand each other.

From coast to coast, round the world and back again, the mails are now carrying small, flat boxes. Inside the boxes are voices. And the voices are spoken letters on magnetic tape.



Walt White, World Tape Pal of Newfane, N. Y., poses with tape pals Tonny and Ben Verhorst in their home in Veenedaal, Holland. Walt and Ben met through World Tape Pals, and have been good friends since.

Recorded Ribbons of Peace

by Charles V. Mathis

.... clubs such as World Tape Pals continue to promote world understanding.



Erik and Ulla Johnsson, of Gothenburg, Sweden, spent a vacation visiting their tape pals, the Blake family in Tunbridge Wells, England. Left to right: Erik, Ulla, Mary and Fred. Front: Susan Blake.



Members of Tape Pal Club, units A and B, in Kyoto, Japan. A variety of occupations and hobbies are represented by these members.

Tape recording helps form friendships through World Tape Pals. Instead of being "pen pals," the members of these organizations talk with each other on tape. They have found it a fascinating and deeply rewarding hobby. Magnetic tape brings friendship to the lonely, knowledge to those eager to learn, reading to the blind, and adventure to armchair travellers.

Often the narrow strip of tape forms a firm bridge between people of different countries and continents. It acts as an emissary of better international relations, carrying the human voice, warm and convincing, across all geographic and political barriers.

Harry Matthews, a Dallas, Texas printing company employee and founder of World Tape Pals, contends that "the better we know each other, the better we'll understand each other."

World Tape Pals (WTP) is but six years old, and has a membership of more than 2,500 tape recording enthusiasts in 56 countries, besides every state in the United States, and all its territories and possessions. A non-profit corporation, it has neither political nor religious affiliations.

These members exchange tapes according to their personal likes and dislikes, and their linkage of common interest, to cement firm friendships and understanding between people who have never seen each other.

And through the medium of tape, their scattered voices, national accents, their likes and dislikes become as familiar as those of members of the family. They have long intimate talks across thousands of miles.

The members spend time, expense and infinite care and thought on their letters in sound.

These seven-league boots transcriptions are even better than direct radio or telephone repartee. It's because the letter in sound is one-sided and lasts from 15 minutes to an hour or more. It may take a month to compose, another month to arrive at its destination. So it's got to be timeless, and it bears the well-considered thought of the transcriber and contains no ill-advised spur-of-the-moment thoughts.

Here's the way it works. For a modest membership fee, each member gets a complete roster, with name, sex, occupation, mailing address, type of equipment used, type of tape that can be reproduced and personal interests of each member. Each member goes ahead from there.

All it takes to participate is a recorder and a few stamps to mail letters in sound to listeners far away.

World Tape Pals consider "talking" letters infinitely superior to written ones because they can add a background



Members of the Warwick International Club, a youth group sponsored by radio station 4WK, Warwick, Australia.

of authentic sound effects. For example, it is exciting to listen to tapes from a friend in Beirut or Calcutta, recorded against a background of the exotic sounds from the street.

WTP founder Matthews says, "We trade a lot of music —since it is the international language. But where there is no language barrier, we hope to start off more long-distance conversations on such subjects as freedom."

Matthews still looks youthful despite a sprinkle of gray in his dark hair. He has many ways of approaching World Tape Pal members. "When I don't have names in a foreign country, I just write to its government, saying I am a printer—someone who wants to know my fellow man a little better—and there are many more like me," he explains.

Since what World Tape Pals wants is an exchange of information and music—"we have no political platform nothing to sell"—Matthews saw no reason why Iron Currain countries would not be interested.

This kind of interchange creates more goodwill at the grass roots level (where it counts) than other plans.

One Australian Tape Pal said, "I have never experienced more joy than when I leaf through the pages of the WTP roster and read the names of people whom I shall never see, but know that they are all concerned with one objective—contacting and befriending other people no matter how different their race, color or creed."

Many of the tapes start off with a signature tune. One English Tape Pal always uses "The Whispering Waltz" played by a music box. A Wildwood-by-the-Sea, N. J. commercial fisherman starts off his tape with songs of the sea. A fellow in Edinburgh starts off with a skirl on the



Robert Barnett, of Gore, New Zealand, helps students make recordings to be sent to other lands. Many recordings are exchanged between schools.







pipes. And Ed Tweed in Arizona plays a tune on an electric organ and sings a cowboy song.

Aside from the primary objective of world understanding, World Tape Pals have traced long-lost relatives and schools have had on-the-spot talks from members in foreign lands.

The thin strip of magnetic tape, about a fourth of an inch wide, is threatening to change the method of learning geography and social studies in the classrooms of today. Not just in America, but in classrooms the world over. Students are quickly learning that the recorded voice can convey far more of his personality and culture than the penned word ever did.

This student interest caused Matthews to set up an offshoot organization, World Tape Pals for Education, to promote inter-nation exchange of such tapes. Educational taped programs from all over the world are made available from the club library to educational groups everywhere.

Edward Bush, of Indianapolis, a World Tape Pal, comments: "Honest tape-recorded sound is, I think, the best instrument of world good will I ever thought of or could imagine. By means of it, I know more about my foreign neighbors than I could find by any other source. I know it is the same with them. They'd go all out for me, and I know I would for them. We've proved it to each other." If world peace will ever take place . . . it may well come about partly through the efforts of such organizations as World Tape Pals and individuals who have given us this opportunity to form lasting friendships with those who not too long ago were strangers.



Left, top: Rev. Harlan Kishpaugh, of Olive Bridge, New York, is a collector of Edison phonograph records and has a wide circle of tape pals in many countries. Middle: Juvenal Dias da Costa Vital, of Brazil, teacher of math, chemistry, and physics, exchanges recordings with many high school and college students in other countries. Bottom: Russell Dixson-Bordoll (left), formerly of Peru with World Tape Pal George Townsend, of Hamilton, Ontario, Canada. Above: Ed Bush and daughter Gloria offered this World Tape Pal exhibit at the Indianapolis Hobby Show. Some 8,000 persons listened to tape excerpts from twenty countries.



SUCCESS IS WONDERFUL—BUT CAN YOU QUALIFY?

THERE is no monopoly on success. You have within you the power to be successful if you will unleash it. When your golden opportunity comes, as it will, are you going to be able to qualify?

Hundreds of thousands of men have become successful. You'll find them in all walks of life, successful teachers, successful businessmen, successful lawyers, machinists, doctors, designers, production men, engineers—you name it.

Their race, religion or nationality has had nothing to do with their success. There are successful men in every nation the world over.

All of them have one trait in common. They know how to speak well, dynamically, positively and with sincerity.

They are the ones who head committees, have a full life, fine possessions, who enjoy prestige in their communities, who are admired—and envied by those who could be every bit as effective themselves.

THERE IS NO SECRET

Theirs is no occult or mysterious power. It is something that can be learned by those who *want* success in life.

To bring this vital knowledge to the greatest number is the work of the Institute of Human Communication. With all the lessons on tape, there is no need to attend inconvenient classroom sessions. You can learn, at home, and in your spare time how to speak effectively. You'll be amazed how simple and easy it is. You learn to speak by speaking, you learn by hearing actual speakers and our instructors coach you to achieve the results you want. The methods have been developed by people with years of experience in teaching public speaking and voice, and experience in radio, TV

SEND FOR FREE SPEECH TEST

Di	rector

ns	ti	tu	te	01	E.	Hu	mar	1	Col	nm	uni	cat	ti	on	ł
				-											

Severna Park 1, Maryland

MAKE AND MODEL OF RECORDER

Please rush me the FR no salesman will call.		l will be under	no obligation and
NAME			
ADDRESS			•••••
CITY	ZONE	STATE	

and on the platform,

There is no need to envy those who have the "gift of gab." Frequently those who have the most reticence turn out to be better speakers than the so-called "natural speakers."

TAILORED TO FIT YOUR NEEDS

Because all instruction is on tape, it is possible to give individualized, *private instruction* to every student. The assignments will be tailored to fit your needs and interests, to help you accomplish what you want to do. Sympathetic helpful instructors will guide your progress and work with you to develop your abilities to the fullest. You will suffer no embarrassment such as you might in a group.

HERE IS WHAT YOU'LL LEARN

The Art of Communication, How to Develop Your Hi-Fi Voice, How to Organize Material, Effective Communication, How to Prove What You Say, How to Dramatize Ideas, How to Sell Your Ideas, How to Make a Speech of Introduction, Making a Speech to Inform, How to Hold an Audience in the Palm of Your Hand, How to Handle a Controversial Subject, How to Read a Radio Script, How to Stir Your Audience, etc.

FREE SPEECH TEST

Get set to grasp your opportunity when it comes. Use the coupon at left to get your free speech test. We will give you an honest appraisal without obligation and tell you frankly how much this course can help you. Do it today—your big chance may be closer than you think.

Institute of Human Communication, Inc. Box 35, Severna Park, Md.

NEW PRODUCT REPORT



TRUVOX STEREO TWIN

.... records and plays back stereo, three motors, push button controls, electrical brake.

THE Truvox is a British machine which embodies a new approach to stereo playback and recording insofar as construction is concerned.

Equipped with a two track stacked head, the machine may be used to play stereo tapes in the conventional manner or to record stereo if virgin tape is used, as there is no erase head for the lower track.

The unit comes in two cases which are identical in appearance. One unit is a standard Truvox recorder with the stereo head. The second unit contains an amplifier and speaker identical with those in the tape recorder but it lacks the tape moving mechanism. The two units are interconnected by cables furnished with the machine.

For stereo playback a long cable is used so that the units may be spaced widely enough apart for best stereo effect. For recording, a shorter cable is employed which allows more convenient operation and viewing of the magic eye volume meters.

One of the items we enjoyed most about this recorder is the instruction book that comes with it. It is complete, for one thing and has some humor for another. We especially liked the quip on the fly leaf of the booklet—"When all else has failed—please read this instruction manual."

The tape recorder unit is a small package measuring $1534'' \times 858'' \times 14''$ deep but it is relatively heavy because it is so solidly built. The weight is 37 pounds. This is due to the presence of three motors, heavy transformers and a good solid case that adds to the sound quality of the speakers. The matching speaker-amplifier unit is considerably lighter.

Controls are conveniently grouped on the deck and on the side of the case. The deck controls the tape motion



Product: Truvox Stereo Twin

Distributor: Truvox, U. S. A., 275 Seventh Ave., New York 1, N. Y.

Price: \$495 less microphones

with buttons for Off, Record, Playback, Fast Forward, Fast Reverse and Brake. A tape control lever puts the tape in motion. On the right side of the case are the volume, tone and record switch recessed in a well on the lower side of the case. The radio and microphone input jacks are on this side also. On the left side of the case are the output jacks. One may be used for external speaker or headphones, the other is an output to an amplifier which is independent of the volume setting of the recorder. This permits using the recorder speaker as monitor. This is a high impedance line.

To change speeds, the head cover is lifted off and the capstan roller changed. Each roller has a small hole which fits over a pin on the capstan. The roller not in use is kept on a pin located on the tape deck.

Recording level is indicated by the magic eye which is in a recessed well on the front of the machine. This well is lighted with diffused white light when the recorder is on and the brightness of the eye is sufficient to use in daylight.

Operation of the machine is simple



Left: the recorder unit showing the reels in position. Feed reel is on the right. Right: to change speed the head cover is removed and the capstan roller changed.



The Truvox features an odometer-type counter (upper left of photo). On right can be seen the push button controls, from top down, off, record/play, fast forward, fast reverse and brake. The tape release lever controls the tape motion.

and the controls are interlocked to prevent accidental erasure. To record, the record switch is thrown to record position, the tape release lever put in play position and the record/play button depressed. To stop the tape, the brake button is held down until the reel motion stops and then the off button is depressed while holding down the brake. Each time the brake button is used, the amplifier is automatically thrown into the play position to prevent accidental erasure.

To play a tape, the play/record button is pressed and the tape release lever engaged to move the tape.

For fast forward or reverse, the appropriate button is pressed and when the desired spot is reached, the brake is pressed, followed by the off while still holding the brake down.

For stereo recording the two units are hooked together using the shorter cables. Sockets for the two ends of the cables are found in the small compartment in each case. Both units should be in play position. Then each unit is turned on and their switches thrown to record when the magic eyes will light up. The volume controls should be adjusted so that each eye operates with the same intensity. Actuate the tape lever and the recording will be made.

At the end of the recording stop the tape by pressing the brake button and then the off and then immediately press the brake button on the speaker unit. This will insure both units being in play and prevent accidental erasure.

The recorder is quiet in operation. The frequency response claimed is 50 to 12,000 cps plus or minus 3 db and this was met in the tests. Power output is four watts.



Upper: right side of recorder showing volume, record switch and tone control in well at lower side of case, input jacks for mike and phono and compartment for housing mike. Stereo connection is in this compartment. Lower: The units may be quickly adapted to a number of different line voltages by changing position of plug shown.



ALL ABOUT TAPE ON TAPE

Will give yes the information yes need is sound, not is the written word. A new first is publishing history.

. . authored by Jack Bayha . . . a book to which you listen . . . the first book specifically designed and produced on tape instead of the printed page. . . . Now you can actually HEAR what good recording, overrecording, wow, flutter, distortion, wrong mike placement, etc., sound like. A test section allows you to adjust the head of your recorder for best results. Chapters include: How a Tape Recorder Works, A Demonstrated Glossary, Recorder Operation, Home Recording, Field Recording, Low Impedance, Microphones, Recorder Maintenance and Testing. . . . Playing time of the Tapebook is one hour. Accompanying each reel is a 28 page booklet containing 80 illustrations to supplement the spoken word. It is unique, enjoyable and instructive.

7½ IPS, 7" Reel, Dual Track S6.95 postpaid

3³/₄ IPS, 5" Reel, Dual Track \$5.95 postpaid

Including a 28 page manual of illustrations

Ask your dealer or order direct

TAPE BOOK DEPT. MOONEY-ROWAN PUBLICATIONS SEVERNA PARK, MD.

Record Anything, Anywhere with "The Magnemite*"



Battery-operated, spring-mator tope recorder designed for professional field use. Assures complete independence from AC power. Meets National Association of Radia and Television Broadcasters standards. 60 Models available. and direct factory prices to Dept, TB

AMPLIFIER CORP. of AMERICA 398 Broadway • New York I3, N. Y.

NEW EDITION complete catalogue of STEREO MUSIC

Lists more than 1260 Stereo Tapes -all available stereo discs and cartridges. 50c a copy—\$2.00 a year

Mooney-Rowan Publications

Severna Park, Md.

HAVE FUN AT YOUR NEXT PARTY

Tape record this old fashioned melodrama and Tape feora this old tashioned melodrama and play it back. Good for a hundred laughs. Five parts, three male, two female... and a donkey. Full directions for sound effects. Complete set of scripts (six copies) as presented on air—only \$2.95 postpaid.

HI-FI TAPE RECORDING Severna Park, Md.

SHOP OR SWAP

Advertising in this section is open to both amateur and commercial ads. HI-FI 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. Bemittances 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, HI-FI Tape Recording Magazine, Severna Park, Md.

BRAND NEW. 4-octave Organ, 32 " wide x 30" high, easy movability, true organ tone. Sell tor \$99 or trade for tape recorder, speaker. amplifier, etc. S. Saltzman, 1221 So. 17th Street, Las Vegas, Numde Nevada.

SELL: Garrard RC-80 three-speed record-changer. GE cartridge, \$20: Approved A-800 preamplifier. \$20: two-station intercom, \$10: Astatic AT-1 TV booster, \$7.50. Carolyn Bargen, 3007 Rice Avenue, Rockford, Illinois.

WANTED: Ampex 600 or 601 Half Track and 620 Speaker. Quote lowest prices and condition. Hannold, 6618 Plainfield, Cincinnati, Ohio.

FOR SALE: Pentron NL-3S stereo tape recorder. Perfect condition. Used about 10 hours, \$165. J. Sherman, Box 449, Palatka, Florida.

TAPESPONDENT'S WANTED by Texas School Social Worker to exchange views on casework practices and problems and to discuss organization of school social work programs. James R. W. Harper, 1018 N. 15. Waco, Texas.

FOR SALE: E. M. C. Tape Players. New - Factory Stock, limited number available. Stereo Player, \$79.50; Monaural Player, \$69.50; Stereo Deck, \$39.50. Freight prepaid when check accompanies order. P.O. Box 391, Oconomowoc, Wisconsin.

LEARN HYPNOTISM, SELF-HYPNOSIS from recorded tapes! Other helpful "Mind-Power" Tapes, Books, Recordings! Free Catalog. Write Philan-thropic Library, Drawer TR697, Ruidoso, New Mexico.

Tapebook #2

HOW'S YOUR HEARING?

by James M. Laing, M. Ed.

Are You Getting The Most Out of Your HI-FI or Stereo? Can You Understand Speakers? Hear Lyrics Plainly?

Protected hearing is the key to your listening enjoyment.

Hearing is one of your most precious human possessions. It, however, like every other precious possession, requires protective care. Without proper protection your hearing can leave you completely, and without warning.

To properly protect your hearing there are two things you must do: (1.) test your hearing periodically, and (2.) seek early medical guidance as soon as a hearing test indicates a possible hearing loss.

Periodical hearing tests are important because, unlike most other ailments, a hearing loss gives you little positive warning. A hearing loss can creep into your life so gradually that you can be completely unaware of its presence.

Test your hearing . . . and be sure!

To help you check your hearing periodically is the purpose of this 'hearing check recording.'

TAPE CONTAINS

30 minutes of music by the famous Lenny Herman Orchestra — good for listening or dancing as well as screen testing of hearing. Specially monitored.

33 tone pairs to test musical discrimination

75 word pairs to test speech discrimination

Full 7" 71/2 IPS dual track ree full direction booklet Only \$9.95 Postpaid ASK YOUR DEALER OR ORDER FROM TAPEBOOK DEPT. Mooney-Rowan Publications

Severna Park, Md.

COMPLETE CHURCH SERVICES in stereo. Large Baptist choirs and stirring Evangelistic messages Southern-style. Full beauty and realism only stereophonic tapes can render. 30 minute, stacked. Loaned free. List sent. Charley Summers, Box 986, Mobile, Alabama,

TAPE DUPLICATION. Any quantity. Write for information. Musichron, 325 W. Huron, Chicago 10, Illinois,

LEARN WHILE ASLEEP with your recorder. Amazing 100 page book gives full instructions. \$2.00. Satisfaction guaranteed. Sleep-Learning Re-search Association, Box 24-TR, Olympia, Washington.

STUDY ANNOUNCING BY TAPE. Many jobs now available. National Academy of Broadcasting, Inc., 3338 - 16th St., N.W., Washington 10, D.C.

HI-FI TAPE BUY. Splice free. First quality. 40/15.000 cps. Permanently lubricated. Money-back guarantee. 7" boxed reels. Acetate 1½ mil. 1200', 4/\$5.20. 1800', 1 mil. 4/\$6.76. Mylar 1800', 1 mil. 4/\$9.00: 2400', ½ mil. 4/\$13.00. Postage 15¢ per reel. Hi-Sonic, Box 86BB, New York 63, N. Y.

TAPE RECORDER: Berlant Concertone with matching preamp and case. Also, Rek-O-Kut disc recorder. Both like new condition, privately owned. \$300 apiece. Write Melvin McLean, 117 E. Ridge St., Lansford, Pa.

FOR SALE: Revere T-11 Tape Recorder, portable case, stereo playback head, new condition, \$175; Acrosound 60-watt amplifier, \$75; General Electric RPX-052-A Diamond/Sapphire Cartridge, never used, \$15. V. R. Hein, 418 Gregory Street, Rockford, Illinois.

ORIGINAL, UNUSUAL, TAPES. Will sell or trade or ?1/2U. Please write for info. Expect something different Dizzy Greer. 2018 10th Ave., Lewiston, Idaho.

CHRISTIAN TAPE LIBRARY. For shut-ins and others interested. For further information write to Samuel G. Fry, Box 500, Selinsgrove. Pa.

UNUSUAL VALUES. Hi-Fi components, tapes and tape recorders. Free catalogue TR. Stereo Center, 51 W. 35 St., NYC 1.

BERLANT CONCERTONE Model 22ST - Regular price \$804 with cases. Five months old. Will sacri-fice, take first offer of \$495. Arthur J. Rogers, 59 Colonial Avenue, Trenton 10, N. J., Phone EXport 24834.

BARGAIN IN TAPE RECORDERS: DeJur, Tandberg, Crestwood, Wilcox Gay. New Years Resolu-tion: Keep two recorders-sell all others. Write for description. Box 48, Lewisburg, Tenn.

SACRIFICING PENTRON STEREO "ARISTO-CRAT." Cost \$309.50 last March. \$175 takes it, Lloyd Herman, 2523 Columbia, Eugene, Oregon.

FOR SALE: BRAND NEW, never used Penrton TM-4 Stereo Tape Mech. and CA-24 Stereo pre-amp. In original cartons with factory guarantee. Save S64.90 catalog net price \$209.90. Our price \$145.00 shipped prepaid. 5235 West North Avenue, Chicago 39, 111.

RECORD CUTTING SERVICE: Tape to disc. All sizes & speeds. Highest quality, Low cost, Quantity discounts, Write for literature and prices. Electronic Associates. Box 91, Merion Station, Pa.

VIKING Semi-Pro and Roberts recorders. Both stereo and like new. Best offer over \$175 and \$275. FOB. Prof. Petersen, Wilmington College, Wilmington, Ohio.

MAIL ORDER HI-FI You can now purchase all your Hi-Fi from one reliable source and be assured of perfect de-livery. Carston makes delivery from NY stock on most Hi-Fi, Recorders and Tape within 24 hours. SEND US A LIST OF YOUR MI-FI RE-QUIREMENTS FOR OUR WHOLESALE QUO-TATION and our FREE wholesale catalogue. **CARSTON STUDIOS** 215-C East 88 St. New York 28. N. Y.

FOR YOUR AUDIO BOOKSHELF



5 3/8" x 8", cloth

bound, 288 pp.

\$4.95

Illustrated.

YOUR TAPE RECORDER

by Robert and Mary Marshall

This is the first book for nonprofessional users and includes the photographs and specifications of 55 recorders as a guide to selecting the proper machine for various uses. The boo does not deal with technicalities. It was ten after some 2500 experiments had been ducted, using recorders in the fields of education, camps, meetings, business and the home. Part of the book is devoted to an explanation of hi-fi principles and terminology.

TAPE RECORDERS AND TAPE RECORDING

by Harold D. Weiler

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

51/2 x 81/4 — 190 pages — \$2.95 illustrated — paper bound......



\$2.50

HIGH FIDELITY SIMPLIFIED

by Harold D. Weiler

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

TECHNIQUES OF MAGNETIC RECORDING

by Joel Tall

trated.

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

8½" x 5½", 472 pp., cloth bound, C705	Antennas, Detectors and Mixers, TRF Receivers, Superhets. 6" x 9", 128 pp. Each Volume \$2.25. Complete set, 5 volumes
BOOK DEPARTMENT HI-FI TAPE RECORDING MAGAZINE	Tape Recorders and Tape Recording
Severna Park, Md.	Techniques of Magnetic Recording
Please ship immediately the books checked.	How To Make Good Tape Recordings
I enclose	🔲 High Fidelity Simplified
NAME	🦳 Your Tape Recorder
CITY	Basic Electricity Yols Set
All books shipped postpaid from stock same day order is receive satisfied return books within 5 days and money will be refunded	

HOW TO MAKE GOOD TAPE RECORDINGS by C. J. Le Bel. Vice President Audio Devices, Inc.

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

Sections include: How A Tape Recorder Works, Characteristics of a Tape Recorder, Selecting A Tape Re-corder, Selecting A Recording Tape, Using the Tape Recorder, Making A Microphone Recording, Acoustically Treating the Studio, Tape Editing, Binaural or Stereo-phonic Recording, Putting Together A Recording Show, and a Glossary of Tape Recording Terms.

illustrated \$1.50 51/4" x 8", 150 pp., paper bound,

BASIC ELECTRICITY

by Van Velkenburgh, Nooger and Neville, Inc.
These five volumes, and the five listed below on Basic Elec-
tronics are the texts of those subjects as currently taught
at Navy Specialty Schools. They are simplified, clearly illus-
trated and one basic concept is explained at a time without
the use of complicated mathematics.
Vol. 1-Where Electricity Comes From, Electricity in Ac-
tion Current Flow, Voltage and Resistance, Magnetism, DC
Meters. Vol. 2-DC Circuits, Ohm's and Kirchoff's Laws,
Electric Power, Vol. 3-Alternating Current, AC Resistance,
Capacitance and Inductance, Reactance, AC Meters. Vol. 4-
Impedance, AC Circuits, Resonance, Transformers, Vol. 5-
DC Generators and Motors, Alternators,

BASIC ELECTRONICS Vol. 1—Introduction to Electronics, Diode Vacuum Tubes. Dry Metal Rectifiers, Power Suppliers, Filters, Voltage Reg-ulators, Vol. 2—Introduction to Amplifiers, Triode Tubes, Tetrodes and Pentrodes, Audio Voltage and Power Ampli-fiers. Vol. 3—Video Amplifiers, RF Amplifiers, Oscillators. Vol. 4—Transmitters, Transmission Lines & Antennas, CW Transmission and Amplitude Modulation. Vol. 5—Receiver

1955

195

The recording tape industry introduces the new "double play" tapes, made on ½ mil Mylar* polyester film base, making available twice the normal length of tape on any given reel size and effectively doubling the normal playing time. *Problem*. The new tape is "twice as long," to be sure, but quite fragile, requiring special care in handling.

The recording tape industry introduces the new "tensilized" or "fortified" double play tapes; now made on a special type of reinforced ½-mil Mylar* base that is twice as resistant to stretching and breaking as the 1955 kind. *Problem:* The new tape is indeed "twice as long and twice as strong" now (just as strong as normal tape, in fact), but the price is astronomical.

Since November 1, 1958, all **irish** Double Play" recording tape on the market has been of the reinforced, 1957 kind – *but* at the moderate price of the older, 1955 kind. *End of Problem:* This latest **irish** "Double Play" tape has the *length* (2400 feet on a standard 7-inch reel); it has the *strength* (6 lbs. tensile force) – and you can afford it!



1958

recording tapes

are made by the exclusive FERRO-SHEEN[®] process and are available wherever quality tape is sold.

manufactured by ORRADIO INDUSTRIES, INC. OPELIKA, ALABAMA, U. S. A. Export: Morhan Exporting Corp., New York, N.Y. Canada: Atlas Radio Corp., Ltd., Toronto, Ontario



*DuPont's registered trademark