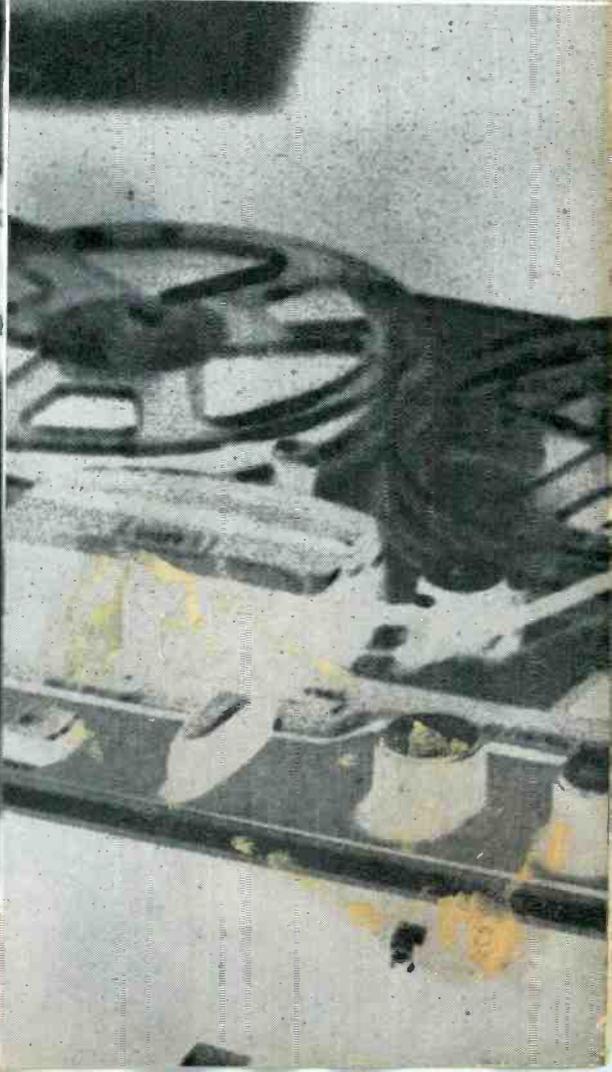
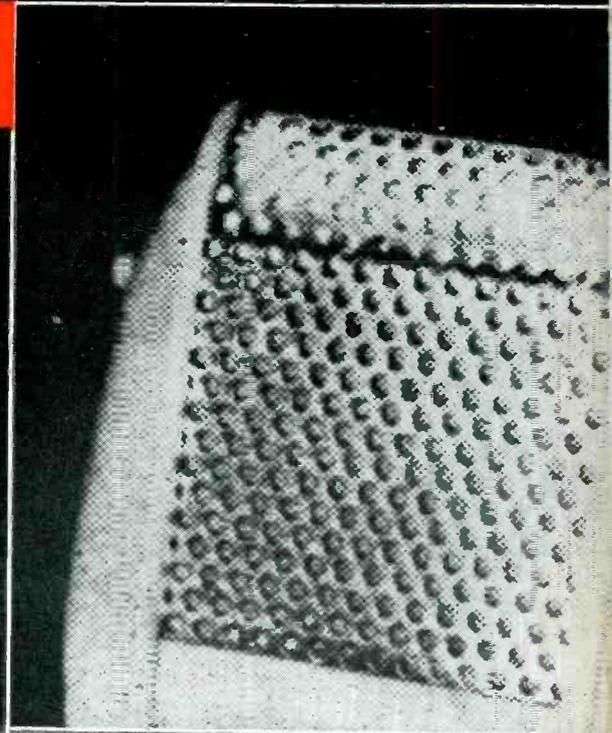


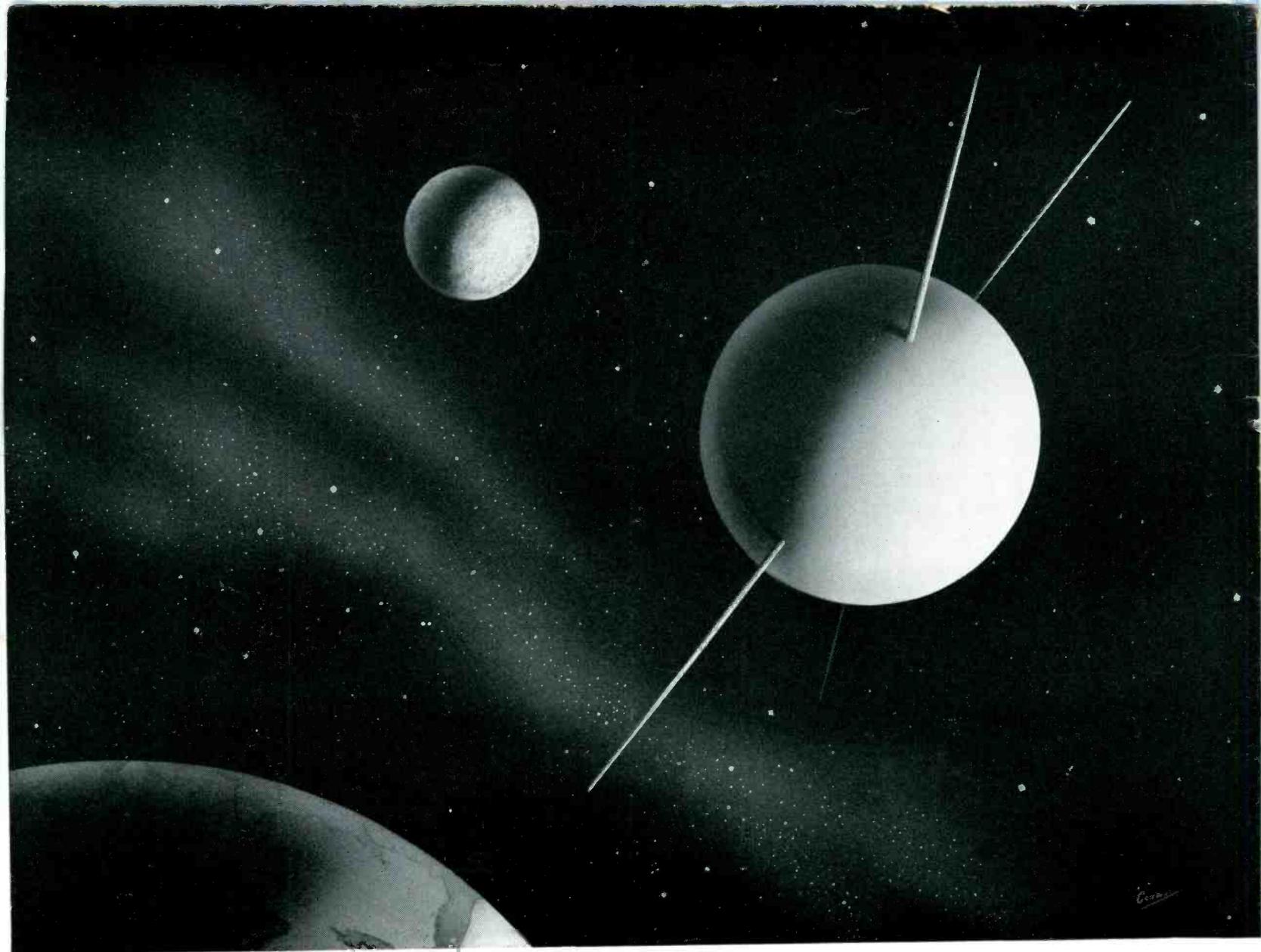
HI-FI

TAPE RECORDING



March 1957

35c



recording the "man-made moon" on extra-precision audiotape

EARLY in 1958 there will be a "new moon" in the sky — a 22-inch sphere circling the earth at a speed of 18,000 mph. Unlike our real moon, this one will be able to "talk" to Earth. And engineers from Army Ordnance Ballistic Research Laboratories at Aberdeen Proving Ground, Maryland will study these messages to learn new facts about our solar system.

This "moon-talk" — radio signals emanating from precision instruments inside the satellite — is so vital that it will be tape recorded for later analysis, interpretation and preservation.

The highest standards of reproduction must be met. There can be no distortion, voids, or other imperfections.

The tape chosen was extra-precision Type EP Audiotape.

The highest professional standards of quality and uniformity extend throughout the *entire Audiotape line*,

making it the best selection for *any* recording application.

Whether you are an engineer recording highly technical information or a neophyte placing his first reel on a tape recorder, Audiotape will speak for itself. It is now available in *five different types* to meet every recording need and every tape budget. *trademark

For complete information on the earth satellite recording project write us for a free copy of the December issue of Audio Record.

AUDIO DEVICES, Inc.

444 Madison Avenue, New York 22, N.Y.

Offices in Hollywood — Chicago

Export Dept., 13 E. 40th St., New York, N.Y.

Listen: never before all this Webcor quality in a tape recorder at such a low price!

THE SENSATIONAL NEW
WEBCOR
HIGH FIDELITY
VISCOUNT
ONLY

\$149⁹⁵



This is hot news! The new Webcor Viscount High Fidelity Tape Recorder has all the wanted features of most top priced sets—yet it retails for only \$149.95!

Check these WEBCOR-quality features!

- Twin track single direction.
- Two speeds— $3\frac{3}{4}$ and $7\frac{1}{2}$ ips.
- Veeder Root type counter.
- Three-watt amplifier.
- Frequency response—50 to 12,000 cycles.
- Output jacks for external speaker and amplifier.
- High fidelity recording head.
- Full-range PM speaker.
- Edit switch.
- Safety Record Button.

See your local Webcor dealer soon. He has a full line of 1957 Webcor Tape Recorders from \$149.95 to \$289.95.

**ROYAL HIGH FIDELITY
TAPE RECORDER**

Has two motors and two recording heads—also exclusive "no reel turnover" feature. Wide-range 6" speaker—8 watts power output. Automatic shut-off 3 position output select or switch. \$199.95.*



**ROYAL CORONET HIGH
FIDELITY TAPE RECORDER-
RADIO**

Has two motors and two recording heads—also exclusive "no reel turnover" feature. Three speakers—8 watts power output. Frequency range 50 to 8,000 at $3\frac{3}{4}$ ips, 50 to 12,000 at $7\frac{1}{2}$ ips. Supersensitive AM radio tuner. \$289.95*

*Prices slightly higher West and Southwest



ALL MUSIC SOUNDS BETTER ON A
WEBCOR[®]

Chicago 39, Illinois.



**JOIN THE
STEREOPHONIC
MUSIC SOCIETY
and enjoy these
benefits:**

- SAVINGS ON STEREOPHONIC TAPES
RCA, HMV, Hi-Fi, AV, Livingston, Concert Hall, Sony Stereocord and others.
- SAVINGS ON MONAURAL TAPES
- FREE MUSIC MAGAZINE SUBSCRIPTION
- NO MINIMUM PURCHASE REQUIREMENT
- ONE CENTRAL SOURCE FOR EVERY RECORDED TAPE; EVERY STEREO TAPE AVAILABLE IMMEDIATELY

**FREE MEMBERSHIP
BONUS TAPE NOW!**

Limited Edition Stereotape
by CONCERTAPE
...containing highlights from every stereophonic tape in the Concertape catalogue along with a short description of the particular aspect of stereo recording best heard in this reel.

**\$6.00—Half year membership
\$9.00—Full year membership**

**USE THIS HANDY
MEMBERSHIP
APPLICATION
FORM**

TO: STEREOPHONIC MUSIC SOCIETY, Inc.
303 Grand Avenue, Palisades Park, N. J.

GENTLEMEN: Please enroll me for a
 6 month
 1 year period as a member of the

Stereophonic Music Society. I understand that I am under no obligation to purchase any specified minimum of tapes under the Society's group purchase plan. As part of my membership I am entitled to a free one-year subscription to Hi-Fi Tape Recording magazine, as well as quarterly listings of all recorded stereophonic and monaural tapes currently on the market.

My Check. for \$6.00
 Money Order for \$9.00 is
enclosed herewith (payable to the Stereo-
phonic Music Soc., Inc.)

NAME.....
ADDRESS.....
CITY..... ZONE..... STATE.....

MAKE OF RECORDER
 Stereophonic Staggered
 Stacked Monaural

Please send additional information
concerning the Society.

HI-FI

TAPE RECORDING

VOL. 4 No. 4

MARCH, 1957

MARK MOONEY, JR.
Editor and Publisher

JOHN L. ALLEN
Circulation Manager

JEAN COVER
Assistant Editor

ROBERT W. LAPHAM
Art Director

JAMES H. MILLS, SR.
Technical Consultant

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

GEORGIA SIGSBEE
Music Editor

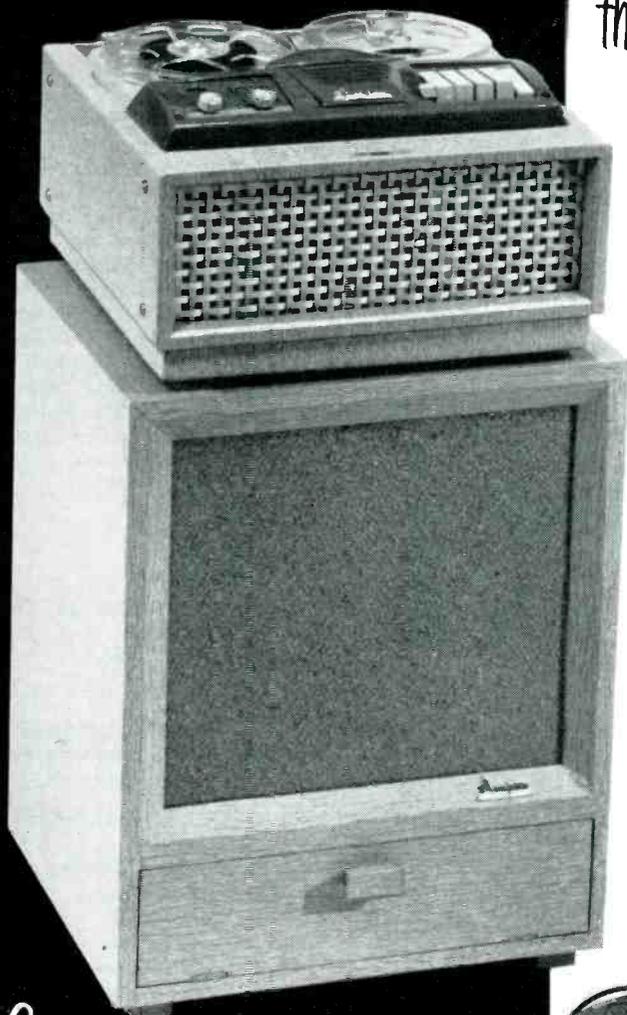
IN THIS ISSUE

STEREOPHONIC RECORDING TRICKS	Robert Oakes Jordan and James Cunningham	16
STUDENTS TAPE IT EASY	Sam Chambliss	19
BUILD THIS PORTABLE MIXING CONSOLETTA	Les Miller	22
NEW TAPE CARTRIDGE DEVELOPED		26
NEW TAPES	Georgia Sigsbee	6
TAPE IN EDUCATION	John J. Grady, Jr.	10
TEEN TAPERS	Jerry Heisler	11
QUESTIONS AND ANSWERS		12
TAPES TO THE EDITOR		13
NEW PRODUCTS		15
TAPE CLUB NEWS		28
BOOK REVIEW		29
NEW PRODUCT REPORT, MADISON-FIELDING MICAMP		31
TAKE 1		33



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, Mexico, Central and South America, \$3.75 for one year; Canada add \$.50 a year; all others add \$1.00 a year. Two years \$7.00. Contents copyrighted by Mooney-Rowan Publications, Inc., 1957. Printed in U. S. A.

the AMPRO[®] Hi-Fi TAPE RECORDING SYSTEM



The Ampro Hi-Fi is more than a tape recorder. It is the basis of a complete system for enjoying to the full the wonderful world of sound. Starting with the basic Ampro Hi-Fi tape recording unit, a number of accessories can be added at any time to extend its versatility and high fidelity reproduction.

The matching Console Speaker, for instance, is probably the first accessory you'll want to add in order to attain outstanding tonal quality over the complete audio range. The Console consists of a 12-inch "woofer" and a 3-inch "tweeter" in an acoustically designed cabinet that provides concert hall realism right in the living room.

For Dictating and Transcribing, Too!

Add a Forward-Reverse Foot Control, a Remote Control Microphone, and a Monitoring and Transcribing Earphone, and the Ampro Hi-Fi is an ideal instrument for office or home dictation and transcription. The Ampro Hi-Fi Tape Recording System is the most complete and versatile in the medium price field. No other can do so much at so moderate a cost. See and hear it at your Graflex or Ampro dealers.

Ampro HI-FI HAS TRUE HIGH FIDELITY FEATURES!

- Frequency response—40 to 15,000 cycles per second at less than ± 3 distortion
- Two-speaker crossover network system—"woofer" for bass, "tweeter" for high notes
- 100% solenoid-operated Push-Button Controls
- Two Speed Operation—3.75 i.p.s. and 7.5 i.p.s.
- Amplifier by-pass for high fidelity systems
- Electronic Recording Level Eye
- Complete automatic shut-off of recorder at end of tape
- Automatic selector Escator
- Provision for mixing or monitoring
- Fast Forward Key—7 $\frac{1}{2}$ inches per second
- Fast Rewind Key—120 inches per second

GRAFLEX[®]

Graflex, Inc., Rochester 8, N. Y.



TWO-WAY ELECTRONIC FOOT CONTROL

This accessory is extremely useful for recording voice and in eliminating radio or TV commercials from your tape record. It provides you with foot-controlled instant Start, Stop and Rewind from a remote position.

\$29.50



REMOTE CONTROL MICROPHONE

Operating the recorder from a remote position with Start-Stop switch located on the microphone, this accessory permits stopping tape travel during interruptions while recording. A great time-saver!

\$22.50



MONITORING & TRANSCRIBING EARPHONE

Permits listening to material being recorded or played back without distracting others. Reversible to fit either ear.

\$12.50

Hi-Fi Two Speed Tape Recorder.....	\$249.95
Hi-Fi Two Speed Tape Recorder with AM Radio.....	284.45
Matching Console Speaker.....	69.95

Prices include federal tax where applicable and are subject to change without notice.

Price-Winning Cameras and Equipment

A SUBSIDIARY OF



NEW TAPES

By Georgia Sigsbee

Some who do not have, as yet, any method of reproducing music are waiting for tape machines to come down within their reach and, in line with this, Bell has released a new stereo-playback recorder, the BT-76, for the low figure of \$189.95; one needs only to hook it to a second amplifier and speaker such as found in their TV or radio to have stereo sound. The Viking FF75SU can be incorporated into present high fidelity sets, such as we have done, and with the addition of an extra amplifier and speaker achieve stereophonic sound. As our hi-fi rig is in a separate room from TV and radio,

these additions are, for the present, on our dream list and perhaps, some day, I may be found putting together the necessary units as my husband did! The FF75SU is only about \$98, and can be used for "staggered" or "in line" tapes as well as monaural half- or full-track. It is easy to operate and our friends who have seen and heard it are sold on it. Our local dealer is finding it a very popular tape deck.

Then there are the young men here who have put together their own rigs from component parts (Heathkit must have Columbia, Missouri marked well on their maps) and

are integrating tape decks. The amazing thing is to see these men, *who have had no experience doing this before*, put together their sets and gain such pride and pleasure from not only doing so but from hearing the result. So many feel some technical experience is needed that they hesitate to go ahead on their own and, as one of the young men states, "If you can read, knowledge of the formal elements involved is not necessary as the information and instructions are so simple, concise and complete, it is easily accomplished." So many of those who are seeking good music and stereo reproduction are finding it now through the "do it yourself" method. The enthusiasm has taken hold and is spreading fast.

CLASSICAL SYMPHONY

BEETHOVEN

No. 9 in D Minor, Op. 125 "Choral"

Wilma Lipp, Soprano
Elizabeth Hoengen, Alto
Julius Patzak, Tenor
Otto Wiener, Bass
Singverein der Gesellschaft der Musikfreunde,
Vienna Pro Musica Symphony, Vienna
Jascha Horenstein, Conductor

PHONOTAPES-SONORE PM 150

7 1/2, Dual: ... \$8.95

Teresa Stich-Randall, Soprano
Lore Fischer, Contralto
Ferdinand Koch, Tenor
Rudolf Watzke, Baritone
Orchestra and Chorus of Gurzenich of
Cologne, Gunter Wand, Conductor

OMEGATAPE 8005

7 1/2, Dual: ... \$10.95

It was truly an emotional and joyful experience to review these two tapes of the mightiest of Beethoven's symphonic masterpieces. Expressing as it does the belief in, and love of, mankind one cannot help but sincerely wish and pray that the "Family of Man" could live in their words and deeds toward each other what this music so beautifully exclaims could make this life on earth more of an Elysium for us all.

The first movement depicting struggle and tragedy is presented by Mr. Horenstein with a feeling of quiet endeavor while Mr. Wand delivers with a more fierce, dynamic feeling. As tragedy can evoke either, or both, reactions these gentlemen have interpreted according to their individual tastes on this subject.

Mr. Wand gives a somewhat brisker treatment to the second movement, achieving the *molto vivace* with full effect; however, Mr. Horenstein does not lag and I found the percussion and brass more vivid in his recording.

Both conductors give an impressive offering of the beautiful *adagio*, weaving a warm and radiant musical fabric of delicate acoustical loveliness. I must admit surprise when Mr. Wand demonstrated how he could change from the fast pace he set to a tranquil, slower mood.

The "Ode to Joy" is effectively and emotionally portrayed in both readings but I

12 EXCITING NEW RELEASES IN ...

Here are a few outstanding NEW additions to our Stereophonic Catalogue:

CLASSICAL

MOZART: Missa Brevis in F, Livingston 713 BN. Monaural version: AUD 7-9 D (includes contents of 714 BN).

A Concert by the Oberlin College Choir, Livingston 714 BN. Monaural version: AUD 7-9 D (includes contents of 713 BN).

The Music of the Bach Family—Volume I, Boston BO 7-6 BN. Monaural version: BO 7-8 D (includes contents of BO 7-7 BN).

The Music of the Bach Family—Volume II, Boston BO 7-7 BN. Monaural version: BO 7-8 D (includes contents of BO 7-6 BN).

HANDEL: Excerpts from "The Messiah," Boston BO 7-9 BN. Monaural version: BO 5-9 D.

Johana Harris Plays the Works of Claude Debussy, Connoisseur 116 BN. Monaural version: D 5-116 D.

Music Written for the Harp—Nicanor Zabaleta, Esoteric ES 7-10 BN. Monaural version: ES 5-10 D.

POPULAR AND JAZZ

Lenny Herman—A Musical Trip Around the World, Liv-

STEREOPHONIC

*Yours to choose and enjoy—from
Bach to "Pops"—all
quality-guaranteed by such
famous independent labels as:*

**AUDIOSPHERE • BOSTON • ATLANTIC
EMPIRICAL • ESOTERIC • LIVINGSTON**

All LIVINGSTON tapes are splice-free, fully guaranteed. Packaged in attractive individual boxes, immediately identifiable and with complete program annotation.

**STEREO; Stacked or Staggered (1200', 7" reels) \$11.95
MONAURAL (5" reels) \$6.95 (7" reels) \$11.95**

Announcing the new thrilling
STEREO SHOWCASE BY LIVINGSTON
LS 5-3BN
... containing highlights from all types of music
in Livingston's Stereo Catalogue with outstanding
stereo effects. **5" STEREO \$6.95**

LIVINGSTON

LIVINGSTON AUDIO PRODUCTS CORP. Livingston, N.J.

ington 1093 BN. Monaural version: T 7-1095 D (includes contents of 1094 BN).

Lenny Herman—Hit Tunes Through the Years, Livingston 1094 BN. Monaural version: T 7-1095 D (includes contents of 1093 BN).

The Gin Bottle Seven Play Again, Empirical EM 7-6 BN. Monaural version: EM 5-6 D.

Bob Mielke and His Bear Cats, Empirical EM 7-7 BN. Monaural version: EM 5-7 D.

Send for our complete catalogue describing these and all other releases in detail. Request also, if necessary, the name of your nearest Livingston dealer.

found myself coming up from under this emotional tidal wave liking the Horenstein better. All four soloists on each recording give fine performances with special mention going to Miss Lipp and Mr. Patzak for outstanding work. They possess powerful voices with excellent tonal attributes and distinct enunciation.

On the Omega the chorus seems to achieve the effect of performing in a cathedral while this audio effect is not prevalent in the Phonotapes but there is nothing lacking in either. My personal preference for the Horenstein rendition of the "Ode" is that it is not rushed so frantically to climax and because of this I feel it retains more soul-satisfying beauty.

To sum up I would say Horenstein gives a sensitive, vital performance, taking his time to gather all the nuances and full, rich tonal qualities and commanding a complete feel for melodic phraseology. Wand conducts the 9th with a bold, dramatic touch and dynamic fervor reminiscent at times of the "Maestro." I would give the over-all nod to Horenstein, but there are those who might like to take the first half of the Wand; the latter half of the Horenstein recording.

Insofar as fidelity, both are excellent with the Omega being slightly sharper and brighter.

Both recordings are fine and you couldn't go wrong choosing either . . . or both!

CLASSICAL CONCERTOS

LISZT

Piano Concerto No. 1 in E Flat Major
Piano Concerto No. 2 in A Major
Orazio Frugoni, Piano
Pro Musica Symphony of Vienna
Hans Swarowsky, Conductor

PHONOTAPES-SONORE PM 128
7 1/2, Dual—\$8.95

Although these two concertos do not follow standard structure, being somewhat closer to symphonic poems, they are nonetheless standard repertoire and have become popular favorites.

Consisting of one movement each, they are free in form and contain lyrical and dramatic elements which result in good showpieces for the pianist.

Frugoni performs with feeling and a strong, bold touch while Swarowsky and the orchestra give a commendable backing. Balance between orchestra and piano is good. The music is enchanting, the performance polished. In this tape transfer from Vox the effect is more muted than sharp and defined and I found myself turning up the volume to overcome this "thin veil" between me and the orchestra. In other words, this recording places you in the concert hall with the somewhat muted, spread effect of the music in lieu of conducting the orchestra!

ORGAN

BILL THOMSON IN A MAGIC MOOD

Lotus Land
Harlem Nocturne
Autumn Leaves
Street Scene
That Old Black Magic
Intermezzo
Slaughter on Tenth Avenue

LIVINGSTON ELECTRONIC CORP., T-1090-BN
7 1/2, Stereo—\$14.95

Well known in Florida and West Coast entertainment circles, Mr. Thomson plays the Hammond organ with a refreshing approach. His technique is good, not made to dazzle, and he succeeds in building a mood with his relaxed, imaginative style.

His interpretation of "Harlem Nocturne" is full of swing and verve and is followed by a smooth, silken version of "Autumn Leaves." He displays his feel for the instrument in the quiet and lovely delivery given "Intermezzo."

If you like the Hammond organ played with a deft touch, then you will like this. The fidelity is fine.

CHILDREN'S SONGS TO GROW ON

Vol. 1: Nursery Days, Woody Guthrie
Vol. 2: School Days, Charity Bailey, Pete Seeger, Leadbelly, Cisco Houston, Adelaide Van Wey

PHONOTAPES-SONORE PM 139
7 1/2 Dual—\$8.95

Track 1 as indicated by the title is mainly for the pre-school children and, at this point, I would highly recommend it for use in nursery schools. The children can act out the lyrics, sing and dance. Guthrie sings with vitality and humor, "Some See" and "Sleepy Eyes" being particularly good. In all fairness I must say, from an adult viewpoint, the repetition is a wee bit tough to stick with but it sure serves to remind parents that repetition to children IS necessary! Sometimes to adults too! Anyway, our two-year-old liked it.

Track 2 rates as the most popular with this clan. It falls right into the lap of the seven-

from **HOLLYWOOD**

Omegatape PRESENTS

A NEW WORLD OF SOUND

STEREOPHONIC SOUND

From the startling realism of a giant three-chambered Pipe Organ (**HIGH FIDELITY SHOWPIECES FOR PIPE ORGAN, ST-7007**) to the nostalgic tinkle of an old-time Nickelodeon (**NICKELODEONS, ST-29**) through the bright brass and thundering drums of a military band on parade (**MILITARY MARCHES, ST-2006**) and the charming Zither and Harmonica duo (**ANTON KARAS plays OPERETTA FAVORITES from STRAUSS to LEHAR, ST-2004**) . . . There's the exciting sound of America's new #1 Singing Group (**THE HI-LO'S IN HI-FI, ST-7006**), the exotic flute of Bob Romeo and Laurindo Almeida's guitar (**AFRO-DISIA, ST-7011**), the castanets and heel work of (**FLAMENCO, ST-5017**) . . . topped off by the celestial mocha music (**MUSIC FROM A NEAR-BY STAR, ST-2005**)!



INTERNATIONAL PACIFIC
Omegatape
RECORDING CORPORATION

Ask your dealer or write
for the new 1957 CATALOG

858 NORTH VINE STREET
HOLLYWOOD 38, CALIFORNIA

year-old. Charity Bailey does a fine job and a request was put in for more. Leadbelly is his usual tops, our favorite being the "Grey Goose." Pete Seeger sings four songs and is in excellent form. Adelaide Van Wey won an OK for "The Mocking Bird" and Cisco Houston amused and enchanted the children with "Fire Down-Below," "Crawdada Hole," and "Night Herding Song."

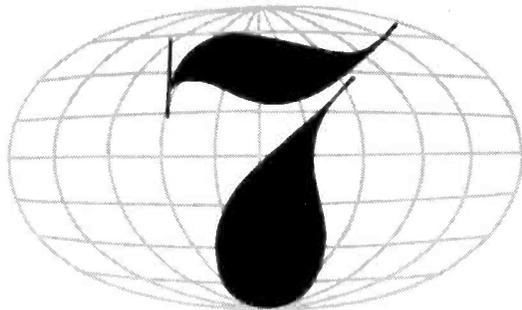
This is a fine album bringing to children some sixteen American folk songs (lyrics are printed on brochure enclosed with tape) recorded with variety, both in subject and performance. Good for singing, listening, dancing and dramatic action we recommend it to parents or schools for children up to age eight.

Fidelity is flawless.

**POPULAR
PIANORAMA**

Baia Bongo
Carmen Says Si Si
Seven Lonely Days
Photo Plate
Then We Dance the Mambo
Young at Heart
Delicado
Carnevalito
Medley:
Bar of Johnny Miller
Alexander's Ragtime Band
Ain't She Sweet
Fiesta Cubana
Ol' Man River
The Gypsy Band
Avant de Monrir
'Swonderful
Sandauer and His Rhythm

OMEGATAPE 5014
7 1/2, Dual—\$6.95



new releases

Great Music

*Gloriously recorded in
full dimension and color on*

Stereophonic

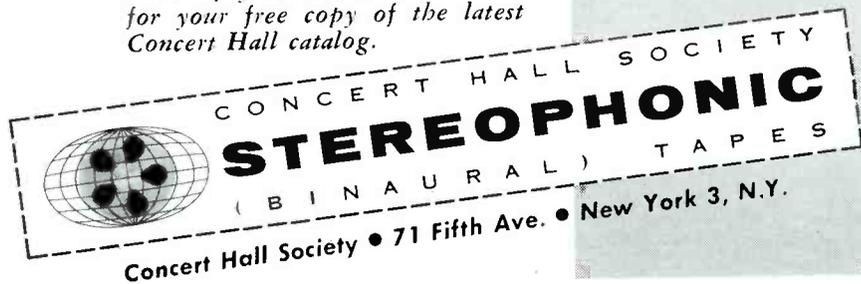
Tape by Concert Hall Society

Hear these magnificent tapes now for the unbelievably rich experience of hearing stereophonic sound at its finest!

All Concert Hall Society Stereophonic Tapes are 7" reels, 7 1/2 ips, available for either stacked or staggered heads. And note these Concert Hall extras:

- All CHS Tapes bring you complete works
- All CHS Tapes come with program notes
- All CHS Tapes are splice free
- All CHS Tapes are packed in attractive boxes
- All CHS Tapes are of highest fidelity

Concert Hall Stereophonic Tapes are available at record dealers and hi-fi audio centers, or write for the name of your nearest dealer and for your free copy of the latest Concert Hall catalog.



CHRISTMAS ORATORIO
(J. S. Bach) *St. Thomas Choir, Leipzig Hamburg Chamber Orchestra*
CHT/BN-21-2 (3600', 2 reels) \$23.90

PIANO CONCERTO NO. 1
(Beethoven) *Robert Goldsand, Piano; Frankfurt Opera Orchestra*
CHT/BN-22 (1800') \$17.90

SYMPHONY NO. 2 (Brahms)
Frankfurt Opera Orchestra
CHT/BN-23 (1800') \$17.90

MOTHER GOOSE SUITE
(Ravel) *Pasdeloups Orchestra*
INTRODUCTION AND ALLEGRO (Ravel) *Paris Chamber Orchestra*
CHT/BN-24 (1200') \$11.95

SYMPHONY NO. 3 "SCOTCH" (Mendelssohn)
The Netherlands Philharmonic Orchestra
CHT/BN-25 (1800') \$17.90

SYMPHONY NO. 39 (Mozart) *The Netherlands Philharmonic Orchestra*
CHT/BN-26 (1200') \$11.95

IN THE SPANISH MOOD:
Espana; Estudiantina (Waldteufel)
Spanish Dance No. 5 (Granados)
Five Spanish Dances (Moszkowski)
The Varieton Concert Orchestra
CHT/BN-27 (1200') \$11.95

Featuring mainly Latin-American tunes on Track 1, this is a lively tape displaying to advantage Sandauer's fine technique at the piano. Filled with a fast beat, the drums really get a workout on this track.

On Track 2 a medley of three old-time songs is produced followed by a "south of the border" piece. Sandauer finishes off the tape, and this entertaining musical interlude, with a mixture of old-time and popular selections.

Fidelity is tops.

THREE COINS IN THE FOUNTAIN

Three Coins in the Fountain
In Berlin I Still Have One Trunk
Theme from "I Am A Camera"
Banjo Benny
Mr. Sandman
Autumn Serenade
O, Mama Majo
Arividerci Roma
Simonette
El Paradiso
Lolita
River of No Return
Sandauer and His Orchestra

OMEGATAPE 5015
7 1/2, Dual—\$6.95

Sandauer has an easy, fluid style at the piano which, with good orchestra backing, makes for pleasant listening. Track 1 is smooth music, good for relaxing moments. The string section shines forth in "Mr. Sandman" as does the piano throughout the entire tape. Reproduction of instruments is good. If you like popular tunes translated by singing strings and the piano played with finesse, then you will like this. Track 2 contains rhythmic tunes of Latin-American flavor which are vivacious and will set your feet tapping. The tape is finished with a return to the slow, easy style . . . a lovely arrangement of "River of No Return."

High fidelity.

HOLIDAY IN CUBA

Mambo En Espana
Casquillitas
Barcelona Mambo
Triana Morena
Bayame La Jaula
Carnaval Andaluz
Chivrico Mambo
Jose Belen Santana
Mambo Falcon
Juanita Bonita
La Chiribiricoccola
Don Marino Barreto, Jr., and His Cuban Orchestra

PHONOTAPES-SONORE PM 5011
7 1/2, Dual—\$6.95

Barreto and his orchestra give a lively, animated rendition to these Latin-American rhythms which are well-arranged and engineered. This tape would join the group of top Latin-American recordings reviewed in the past.

Good for listening or dancing; some of the selections are strictly orchestral while on others the men join in and vocalize.

This recording is real high fidelity and even though it is a monaural tape the

sound is spread and fills the room. Try it and see.

TRIBUTE TO VICTOR HERBERT

Sweet Mystery of Life
In Old New York—Moonbeams
Because You're You—I Can't Do the Sum
When You're Away
Indian Summer
Toyland—March of the Toys
Stockholm String Orchestra, Hans Holber,
Conductor

BEL CANTO . . . #5
7½, Stereo—\$9.95

The glowing arrangements and splendid performances result in flowing melody and full, abundant sonorities.

If you like the smooth styling and lilting strings produced by such men as Messrs. Van Lynn, Melachrino and Mantovani, then you will enjoy the treatment given these selections. Good for singing, dancing or listening . . . this is a well-balanced, very high fidelity recording. A stereo treat.

POLKA

POLKATIME IN STEREO

Two Blackbirds
Two Fat Polka
At the Mill
Helena Polka
Razzberry Reynolds and His All Star Polka
Band

BEL CANTO . . . #7
7½, Stereo—\$7.95

This polka band, although assembled at the Capital Tower in Hollywood, nevertheless gives a hearty authentic interpretation of the dance original to Bohemia. These four fast, sprightly polkas are filled with good percussive and brass acoustics; this is one to show off via your stereo set.

Recorded in the full, dynamic dimension achieved by stereo, this tape is amusing and satisfying.

DEMONSTRATION

STEREOPHONIC DEMONSTRATION TAPE
ST-DX

BEL CANTO

Just received this tape which has excerpts from Bel Canto's latest series of eight tapes. Available for "in line" or staggered, this series consists of the following eight albums:

1. Merry Christmas Carols, ST-702
2. Rachmaninoff in Stereo, ST-2
3. Spain and Italy in Stereo, ST-3
4. Polkatime in Stereo, ST-7
5. Carouselle in Stereo, ST-1
6. Memories of France, ST-4
7. Waltztime in Stereo, ST-6
8. Tribute to Victor Herbert, ST-5

You will find a profusion of wonderful music, beautifully recorded, in the above albums. I will go out on a limb, and feel safe that no one will want to shake me off, by saying that all of these tapes are tops in every respect . . . diversified musical content, first-rate performances, excellent engineering and full, magnificent stereophonic effects. They are a must for stereo enthusiasts and the only thing left is what one desires to hear and own . . . I for one like them all!

Albums #1, #2, and #5 have already been reviewed. (December 1956)

NOW THE *improved*

SHURE

UNIDYNES

the world's most
widely used
fine microphones

PROVIDE

- 41% higher output!
- The perfect microphone choice for use with low-gain P. A. systems and tape recorders . . . in addition to their famed usage in finest quality public address systems.

The best

is even better!

The unidirectional dynamic Unidynes are now more than ever your best choice in those installations where feedback is a problem, and for all fine-quality public address, theatre-stage sound systems, magnetic recording and remote broadcasting—where critical standards call for the finest-quality microphone operation.

Another example of the continuous creativity of the Shure Research and Development Laboratories.

55S Unidyne List Price \$79⁵⁰

556S Broadcast Unidyne

List Price \$120⁰⁰

IN ELECTRONICS SINCE 1925

The Mark of Quality

SHURE

SHURE BROTHERS, INC.

Microphones — Electronic Components

222 HARTREY AVENUE • EVANSTON, ILLINOIS

**DICTATE REPORTS
ACCURATELY—PROMPTLY!**
make your car, boat or plane
a "rolling office"
with **ATR**

INVERTERS

for changing your storage battery current to
A.C. Household
ELECTRICITY
Anywhere
... in your
own car!



**EASY TO INSTALL
EASY TO OPERATE**

ATR INVERTERS
especially designed for operating
standard 110 volt A. C. . . .

- TAPE RECORDERS
 - WIRE RECORDERS
 - DICTATING MACHINES
 - ELECTRIC RAZORS
- for
- EXECUTIVES
 - SALESMEN
 - PUBLIC OFFICIALS
 - POLICEMEN
 - FIREMEN
 - OUTDOOR MEN
 - REPORTERS
 - FIELD INSPECTORS
 - DOCTORS
 - LAWYERS, ETC.

See your jobber or write factory
✓ NEW MODELS ✓ NEW DESIGNS ✓ NEW LITERATURE
"A" Battery Eliminators, DC-AC Inverters, Auto Radio Vibrators

ATR AMERICAN TELEVISION & RADIO CO.
Quality Products Since 1931
SAINT PAUL 1, MINNESOTA, U. S. A.

TAPE IN EDUCATION

BY JOHN J. GRADY, JR.



BASED upon experiences down in the Torrid Zone of Latin America, an American teacher—an instructor of English in a high school for Panamanian boys—contributes notes to TAPE IN EDUCATION bearing interesting testimony to the versatility of a tape recorder.

At this high school in the Republic of Panama, during the daily classes in English, an instructional routine was adopted which was productive of excellent results. Boys, a pair at a time, would leave the classroom for conversation practice. This practice took place in an adjacent room, where the two boys would be the only occupants. There, for five minutes, the boys talked to each other before the microphone of a tape recorder. A copy book, with single isolated words, supplied them with topics for discussion. The suggested topics were of a popular nature, well within the comprehension of high school students. With the tape running continuously, pair followed pair, at five minute intervals, during the period of English instruction.

Later on, the value, and the popularity of this method of instruction was proved daily. For after school was over, the rush was on to the tape recorder to listen to the playback. Laughter at mistakes and shouted corrections helped the volatile youngsters to educate each other in a happy way—as in a game. With the teacher present, repeated errors were pointed out—just as a coach would do. And encouragement was given. And congratulations. But the teacher admits it was not an absolute necessity to do this to make the session an advantageous one.

At this high school down Panama way, the tape recorder had another interesting function. Some of the boys demonstrated great interest and talent in broadcasting baseball games. The tape recorder was hooked up where there was a full view of the ball field. Then the student announcers simulated all the vocal components of a big league broadcast. Commercial plugs were injected into the program. And between innings speakers were introduced. Old Dizzy Dean, one of the most colorful of all big league pitchers, just doesn't know what a good influence his radio broadcast, Game-of-the-Week, has on kids in all areas where baseball is a popular sport. Down in Panama, the playback of each school game was enthusiastically applauded. And despite the fact that "Ol Diz," who won fame for fathering the expression, "Lots of folks, who ain't usin ain't, ain't eatin' regular," and has other distinctive languagisms of his very own, the instructor at the Panamanian high school reports that the baseball project, in which the tape recorder had such an important part, contributed greatly to the development of a sound interest in speech,

in diction, in language, in sports, in radio and in many other things that one might not immediately attach to such a program. So, "Ol Diz," through his baseball broadcasts, really did supply a fine brand of inspiration to the boys in a Panama high school.

The report from Panama continues: On rainy days, or on Friday nights, the boarding students delighted in putting on an unrehearsed series of acts, such as songs, speeches, jokes and instrumental selections. All these efforts were taped in sequence. After about an hour, the talent would be pretty well spent, and all would gather about the tape recorder for the playback. Though each act had caused sheer joy, during the replays it was more so, as ad libs drew peals of laughter, and the happy boys frolicking about the tape recorder was a sight to be remembered.

Finally, the teacher from the States, stationed at the high school in Panama, confessed that the tape recorder was a real comforting pal, also. He admitted: "Letter writing is always a chore, so I found it much easier, more satisfying, and I could say more to the folks at home by simply sending a tape. And as they reciprocated, I heard from everybody personally and it was like being home." This usage of a tape recorder—the exchange of news and thoughts—is one of the most satisfying of the many facilities provided by magnetic tapes. Parents with children at a school or college away from home will find the exchange of tape letters a happy antidote for the silence in a home after children have gone away. For instead of the brief mute messages, the familiar voice of one far away speaking directly to you is the sweetest means of communication that science is able to provide. Someday, if the extreme emphasis of Hi-Fi music ever moderates to the incidental part it really has among the many advantages of tape recording, millions of people, including hundreds of thousands of teachers, once they are made aware of the versatile accomplishments of tape recording, will recognize the presence of other factors of more importance to them than another musical instrument. Then tape recorders will have the immense market they deserve.

TAPE IN EDUCATION extends thanks to Rev. Father John J. Cusack, C.M., for the information he has supplied about the use of a tape recorder at a high school for boys in Panama. Good wishes are extended to him, also, for the success of his plan to use the tape recorder teaching Spanish to his students back here in the United States. There's appreciation, too, for being urged to keep this column going—that it does transmit ideas about tape recording from teachers to teachers.



TEEN TAPERS

BY JERRY HEISLER, National President

ALITTLE over a year ago Teen-Tapers began appearing in this magazine. At the beginning it was suggested that an attempt would be made to set up a national chain of high or Jr. high school tape clubs. The process of getting things set up was somewhat more involved than we had originally suspected and the club has been put off for a long time.

Still thinking that the idea was a good one, we didn't give up but merely played along until we reached the point where we really had something to offer. With the start of a new year, we have now reached that point and effective with this issue, Teen-Tapers is in full operation.

A young lady by the name of Jenny Orban has just joined the staff and Jenny will be on hand to immediately handle all requests for club kits and any other help that you or your school may require. All letters will be handled by myself and with the magazine fully behind the whole project it can't help but be a success.

Some of you who might be reading about this for the first time might need an explanation of just what Teen-Tapers is all about. Let me take this chance to tell you.

Teen-Tapers is a national organization of Jr. high and high school tape clubs. These clubs are set up in schools to provide the school with a service organization and an organization where fun can be derived from recording.

On the service end, the clubs can record events taking place throughout the school year; they can play programs over the PA system; they can copy broadcasts that might be used in classes; and they can provide a group of trained operators of equipment. These are but some ideas and the imagination is the only limiting factor.

As for fun. Clubs can exchange tapes with other clubs throughout the country. We will cooperate in this respect with the established Tape clubs listed in the magazine. Radio broadcasts can be made; sound effects can be collected, and other interesting projects can be undertaken. The members can learn much about recorders and their operation.

Perhaps most important of all is the fact that we maintain the central exchange for the teen-tapers clubs. We furnish free

kits of materials containing membership cards, a booklet on how to set up and operate a club based on the actual organization of a club, plus a club charter and a reduced rate to the magazine. We personally answer all letters and inquiries so that you know that you have a source to turn to. When we have sufficient membership, we will distribute a membership list to all clubs.

This is about how it stands as of now. What further action we take depends upon your interest. We have all of the tools at our command to establish a national organization serving a definite need in schools and in a hobby. Sound like fun? Believe me it is tremendous fun. How do you get in on it you ask?

Give us your name, age, and your school and its address so that we can get in touch with them. We'll send a letter to your principal, we'll tell him you asked us, and we'll supply him with a free kit and all the details so that your school can become a member of Teen-Tapers. Fill out the coupon below and that's all there is to it. Let us hear from you right away so that Teen-Tapers can swing into full force.

An item that ought to be of interest to each and everyone of you is the new tapebook put out by the magazine and authored by one of the industries foremost designers and recording experts, Jack Bayha. This book on tape called "All About Tape on Tape," contains an excellent lesson on recording along with a book of pictures to supplement the recorded lesson. This tape serves to give you an excellent lesson on how to use your machine, how to solve some of your problems, and how to understand what goes on underneath that cover. By actually listening to such misunderstood terms as "wow," "flutter," "distortion" and the like, you will have some of your misconceptions cleared up. It's surprising to see how so many people complain of having certain trouble with their machines only to be surprised that wow isn't what they thought it was. Be sure to get a copy of this tape. It's a very small investment and it will add immeasurably to your enjoyment of recording.

That's it for now. The clubs are on the forward march 100% so fill out the coupon and join us.

Jerry L. Heisler—Teen-Tapers
Hi-Fi Tape Recording Magazine
Severna Park, Maryland

Dear Jerry:

Yes, we want to join Teen-Tapers. Please send us full particulars.

Name

Address

My high school

School Address

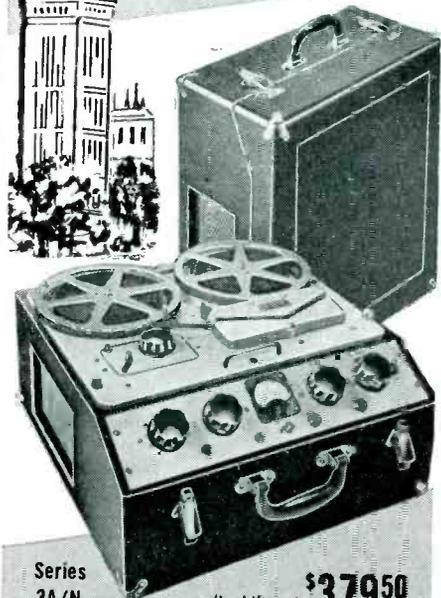
Principal

Check one: Send materials to
 School Me Both

the Magnificent

Ferrograph

The world's finest
hi-fi tape recorder



Series
3A/N

audiophile net \$379.50

professional

quality at nominal cost

The world-famous FERROGRAPH magnetic tape recorder, designed and developed primarily for professional use, has been re-styled for YOU — the discriminating audiophile, the progressive educator, the efficient businessman, the music lover.

Standard equipment with the British Broadcasting Corporation, it is a byword with cultural, educational and scientific users throughout Europe. The FERROGRAPH is unconditionally guaranteed to meet the most critical performance requirements.

Two models of this versatile dual-speed dual track recorder are now available in LIMITED QUANTITIES, with tape speeds of 3 3/4" and 7 1/2" or 7 1/2" and 15" per second. Both models feature the employment of a synchronous hysteresis capstan motor providing unparalleled long-term speed stability, thus avoiding pitch errors on playback.



ALL FERROGRAPH RECORDERS AND TAPE DECKS have three motors. Custom installation models with tape speeds of either 7 1/2 and 15 ips or 3 3/4 and 7 1/2 ips are available. (Custom model 65/H illus. at left).



Write for performance specifications and the name of the franchised dealer in your area.

FERCONA CORPORATION

(Electronic Division)

551 Fifth Ave., Dept. 64 New York, N. Y.

In Canada: Astral Electric Co., Ltd.,
44 Danforth Rd., Toronto 13

NEW!
PENTRON
Emperor
3 Speaker
Hi-Fi
Tape Recorder

Now with
STEREOPHONIC SOUND



**S
T
E
R
E
O**

PENTRON STEREO-MAGIC

Only the new Pentron Emperor recorder offers this newest concept in audio pleasure. The Emperor's "roving" tweeter in a separate baffle, perfectly balanced with 2 heavy duty woofers in the recorder, reweaves the whole complex beauty of the music even at low volume. Don't miss the experience. Hear and feel this difference in audio dimension — see the Emperor's bold incomparable styling at your Pentron dealer.

Push pull 10-watt amplifier. VU meter. Automatic index counter. Instantaneous braking. Frequency response 40-12,000 cps.

LARGEST EXCLUSIVE MAKER
PENTRON
 OF TAPE RECORDERS

PENTRON CORPORATION
 787 South Tripp Ave., Chicago 24, Ill.

QUESTIONS & ANSWERS

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

Q—I have always read and much appreciated the Questions and Answers section in Hi-Fi TAPE RECORDING. It now comes about that I have a very burning question myself for the answer to which I should be very grateful. The question: I am 80% deaf in one ear. Would I therefore derive any benefit from Stereophonic Sound? Is it worth the extra cost?—B. W. S., FPO, New York.

A—The enjoyment of stereo sound does require hearing in both ears and it would be necessary for you to run one side of the two-channel system louder than the other to compensate for the loss in one ear. We feel that your best solution would be the use of headphones (which gives the maximum stereophonic effect) and then you will be able to effect exact control of the loudness for each ear and achieve the stereo effect. As to whether stereo is worth the additional expenditure, we would say definitely that it is.

Q—I have an old Brush BK-403 tape recorder and a Hallicrafters S-40A radio. Both play well. I would like to know if it is advisable to use any parts of these units for stereophonic recording, and where heads, etc., would be available and would a complete unit be cheaper? What speaker do you advise for Hi-Fi?

A—We would suggest that if you're interested in stereophonic recording you start from scratch with a modern stereo recorder. Our December 1956 issue contained a complete directory of machines. If you are interested in the stereophonic playback of tapes, without the recording feature, you can get heads or kits which can be mounted on your present recorder. In addition to the recorder you would need a preamplifier, amplifier and speaker to get the second channel, or a radio or TV set that has a radio-phono input plug. Bell Sound Systems also puts out a two channel amplifier which can be connected to the heads for the pickup from the tape and to a pair of speakers for playback. Heads may be obtained from a number of sources, some of which are advertised in this issue. Regarding speakers, we hesitate to recommend one brand for fear of slighting others equally deserving. Any of the well known makes are good.

Q—Would like to tell you that I have gotten a lot out of your magazine and out of my machine also. What I would like to know is this: is it possible to install a recording machine in an automobile? In my case, my recorder is 7½ speed. If so, I would appreciate it if you would give me the information.—D. E. R., Bobbell, Washington.

A—It is quite possible to install a recorder in a car, in fact, there are thousands of

them being used in cars today. Doctors listen to "Audio Digest" which is a taped medical article service as they make their house calls. Salesmen and trade writers use them to dictate memos or stories as they drive between assignments.

The installation of a recorder in a car is quite simple. All you need is an inverter, such as the ATR or Carter units, which convert the 6 or 12 volt battery current to 110 volts. These units may be mounted under the dash or in the trunk of the car. The recorder may be placed on the seat with a safety strap around it to prevent it from sliding forward on sudden stops. It is then used in the regular way.

Q—Please let me know whether the large companies are discontinuing making recorded tapes for staggered heads and are instead going to record for stacked heads only. I understand that RCA has already discontinued tape for staggered heads. The recorder which I use for stereophonic playback has staggered heads. Do you advise my changing the staggered heads to a stacked head although the recorder may have a stacked head in the future? I was told any kind of a stacked head could be used to replace the present staggered head.—I. M. B., Chicago, Ill.

A—No large company except RCA has discontinued the making of staggered head tapes and, as a matter of fact, out of twenty-one tape companies only eight including RCA, are issuing stacked tapes only. All the remaining thirteen have their tapes available in either stacked or staggered form. At this writing it is most probable that more staggered tapes are being produced and sold than stacked for the simple reason that there are more staggered machines available on which to play them. If you do add a stacked head we would suggest you let your staggered heads remain in the machine also.

16" HI-FI TRANSCRIPTIONS
BIG CATALOG 25c
TAPE RENTALS
 4 REELS FINEST MUSIC in the WORLD
\$2.50 Per Week—Catalog 50c
 TRANSCRIPTION SERVICE
 166 BARKLEY AVE. CLIFTON, N. J.

GIBSON GIRL TAPE SPLICERS

splices in a wink!

NO SCISSORS!
 NO RAZOR BLADES!
 Diagonal cuts tape ends
 and trims splice edges

At Your Dealers

ROBINS INDUSTRIES CORP.



Boyside 61 N Y

TAPES TO THE EDITOR

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

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

Mystery Man Speaks For Himself



To the Editor:

You can imagine my surprise upon opening your last issue to the "Tapes to the Editor" section, and seeing Brother Harris' flattering words about my appearance in the Jordan-Cunningham story, "Sound in the Round," which appeared in the December issue. I seem to have caused almost as much excitement as the first flying saucer, Mr. Harris.

Because I believe in the inherent goodness of Man, I choose to ignore your facetious remarks about the basic question of my existence. Instead, I'll do my best to answer the questions you pose.

The umbrella: As you said, it was "an apparently sunny day." Actually, it was pouring rain at the time and only my quick thinking in bringing an umbrella saved the day. The clever use of a heavy filter on the camera prevents the whole business from being a complete washout. (The rain, incidentally, explains my later transparency. It finally got me. I was slowly fading away in the last photo. Authors Jordan and Cunningham seem to be impervious to the rain.)

The portfolio: My several years with the British Foreign Office gave me training which has now obviously proved to be of immense value. That, my good man, was no portfolio. The square object under my arm was an item of far greater value. You can't tell from the photos, but actually it was handcuffed to me. That's all I can divulge at this time.

The sartorial elegance: A man in my position *has* to be dressed at all times to meet world leaders.

The Shure advertisement: Why should I appear in this ad? Does Elvis Presley endorse for nothing?

My function: Surely you cannot expect me to reveal an obviously vital mission. But my lips may be unsealed later.

As a matter of fact, Mr. Harris, my power of clairvoyance (learned while in India) permits me to foresee that the next issue of this magazine will tell you more about me and

my doings. And I *can* say that it will pay you well to learn who I am. Scan the April issue of TAPE RECORDING with unblinking eyes. I'll be seeing you.—"Old Spooky," *Whereabouts Unknown at Present.*

In the event readers might not have noticed "Old Spooky's" appearance in the four pictures which accompanied the article in the December issue, we are publishing a section of one of them above. Ye Ed. doesn't know the identity of "Old Spooky" yet and Jordan and Cunningham were unavailable for comment.

Prices Too High

To the Editor:

Your December issue devoted to binaural sound will impress everybody with its promise of complete bliss. And you were right to print the prices in very small type. Who can afford to spend \$12.00 or more on a tape? At this price level tape, even binaural, cannot compete with LP records, and we will get nowhere in our quest for the ultimate perfection unless prices come down.—*John J. Stern, M.D., Utica, N. Y.*

Tape Clubs Should Unite

To the Editor:

The swapping of tapes can be one of the greatest ways of helping to unite the peoples of the world by getting individuals to know (and understand) other individuals, families to know other families, communities to know other communities.

We'll never forget the first time a wire spool (before tape) came winging its way into our mailbox. What a thrill it was as the sounds of an English countryside filled our living room and we heard the warm voice of a new friend. It wasn't long before our entire community, including the Mayor, the heads of churches, schools, newspapers, and radio stations, became involved in making a recording to send back; and, in turn, a special county council meeting was held in an English community to return a similar recording. It was truly heartwarming, and an education for many. We lived in Massachusetts at the time.

By a tape club supplying names, addresses, and interests, this can be duplicated a thousand times over.

But here is the irony.

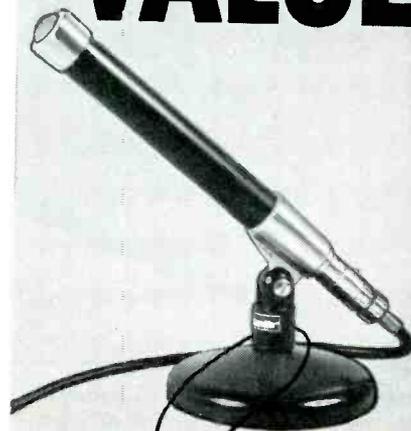
That which should have been founded to create *unity*, is dividing and redividing like an amoeba cell, thus defeating its main purpose. Hi-Fi TAPE RECORDING now lists seven clubs, and there are undoubtedly more, each with its own *separate* list.

We suggest that all tape clubs join together in a common bond, and release one listing to all members, a listing which is kept up to date and reissued either annually or semi-annually.

(Continued on page 14)

THE TAG TELLS THE
TURNER STORY—

VALUE



TURNER MODEL 57 DYNAMIC MICROPHONE

RESPONSE:
50-13,000 c.p.s.

LEVEL:
-55 db.

IMPEDANCE:
Wired for quick selection of high or low impedance.

CABLE:
20-ft. 3-conductor shielded cable with Cannon XL-4 quick-disconnect plug.

CASE:
Modern, slim, inconspicuous; satin black with chrome fittings.

MOUNTING:
Hinged 60°-arc coupler. Standard 3/8" — 27 thread.

DIMENSIONS:
8 3/4" long. Dia. 1 1/8".

WEIGHT:
14 oz. less cable.

USE:
TV, Broadcast, P.A.

PRICE:
Exceptionally Low;

\$57.00

Desk Stand \$7.50 extra.

Rugged dependability, Modern styling,
Sound performance at a value price—
TURNER MICROPHONES

THE  COMPANY

948 17th Street, N.E.
Cedar Rapids, Iowa

**IT'S NEW - - IT'S TERRIFIC
- - IT'S PRICED RIGHT!**



**WESTWOOD BRAND BEL-CLEER
SOUND RECORDING TAPE**

Made by The Saint Cecilia Company, Ltd., Westwood, New Jersey, whose coaters have over 20 years experience in the coating arts. Individually packaged in an attractive, unmistakable, orange-and-black box.

New manufacturing process enables you to buy a branded tape at prices comparable to unbranded tapes. Available in 1200 and 1800 ft. lengths,—plastic backing.

Your dealer has Westwood Brand economy tape or will get it for you—fast. If not, write direct for details,—P. O. Box 55, Westwood, New Jersey.

**Export Sales: Terminal Radio International, Ltd., New York City.
In Canada: Toronto Gold Leaf Co., Ltd., Toronto, Canada.**

Only thus, will the tape clubs truly serve their purpose of helping to create unity.—*Lee and Lorraine Ellis, San Diego, Calif.*

The tape clubs are run by devoted individuals who get a lot of fun, work and flat bank accounts. Running a club is their hobby and we doubt that they would want to combine. While each of the clubs fosters tape correspondence between individuals, they also have club activities, such as help for the blind, school exchanges, etc., that set them apart from each other.

To the Editor:

I am a teacher of mentally handicapped boys and I find that I use our tape recorder for many studies. We record our spelling, reading and a number of facts in arithmetic. We use it for speech, shooting the bull and for pre-recorded stories when teacher wants to make out his report cards.

For some time I have been on the trail of tapings from the "You Are There" series of historical incidents. Can you tell me who might have them? In the back of my mind I remember that early recordings were made of Elizabeth Barrett Browning and other long dead persons famous for one thing or another. Surely some enterprising Taper has caught them. Any idea where they might be?—*Leo Kennedy, 6432 S. Peoria Street, Chicago 21, Ill.*

Anyone able to help Mr. Kennedy?

To the Editor:

I believe many tape recordists would be interested in the efforts being expended in their behalf.

There is a program emanating from WHIO in Dayton every evening from 10 p.m. to 12 o'clock midnight known as "Moments with Momikai." At least twice a week Momikai devotes 15 to 20 minutes of radio time during which she plays selections requested by tape recordists. These selections are played uninterrupted so that commercials or chit-chat do not cut into the continuity. Most of the music is of a variety which could not be purchased by the average person and it is my opinion that Momikai and the radio station should be

commended for their efforts in behalf of tape.—*Ernest J. Watzl, Dayton, Ohio.*

We agree that WHIO and Momikai should be thanked for their thoughtfulness. Readers in the Dayton area will want to tune in the show we're sure. And it might be a good thing to suggest this idea to your own local radio station.

To the Editor:

In the October issue there was a request for a means of playing a tape backward. It is easy with the Magnetic Twin Trax made by the Amplifier Corporation of America. This machine will either record or play backward. The recording head shifts up and down to get the correct track. Could the inquirer achieve the same effect if he were able to alter the head of tape alignment to run on the wrong track?—*R. W. Simpson, Miami, Florida.*

The simplest solution we have seen is a method whereby the tape is taken from the feed reel, around the head housing and then over the capstan and roller so that it is pulled over the head in the reverse direction. A shiftable head would do it and so would altering the head alignment but the latter is difficult.

To the Editor:

I am a subscriber to your magazine and have been for the past year. Also, I am a tape enthusiast but possibly a little different than most as I record only quartets. You see I am a Barbershopper or should I say a member of The Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America.

I wonder if you could put this little epistle in your next issue. I would like to hear from anyone who is interested in quartets. I have been a member of the Society since 1950, joining the Pittsburgh Chapter at that time and in 1953 I organized the Butler Chapter. So, if there are any Barbershoppers among your many readers, let's hear from you. Maybe we can exchange ideas or what have you.—*Claude A. Bissell, 159 Main Street, Butler, Pa.*

To the Editor:

I am very pleased to learn that we can expect copies of *Hi-Fi Tape Recording* oftener—just what we "tapeworms" have been looking forward to... so good luck.

I am right pleased with my latest set-up. Hi-Fi cabinet houses Fisher Master Audio Control, AM-FM tuner, Fisher 80Z amplifier, Crown Imperial and Berlant recorders, University speakers, Shure and Electro-Voice mikes. I have recorded over 1200 hours of sound effects, unusual, rare and novel material and perhaps I have the largest number of tape friends in the world... believe it or not. It isn't easy keeping up with it but I get a big kick doing it.—*Dick Kenney, Stamford, Conn.*

To the Editor:

You goofed! Take a look at the sketch in the bottom left-hand corner of page 19 of the January issue. In the caption, you're talking about the wear on the actual head itself. This is in keeping with the trend of the article. However, what you depict in the sketch is wear on the pressure pad, which, though giving rise to numerous troubles in itself, is, in a sense, irrelevant to the text. Don't feel badly about it, everyone makes mistakes and you seem to make less than most.—*John W. Berridge, Toronto, Canada.*

As Mr. Berridge says, we all make mistakes—our error, sorry.

To the Editor:

I would like to point out a glaring error on page 18 of the January issue. The photo shows a playback head being aligned on an Ampex Model 300. However, the left hand elastic stop nut is the only adjustment ever to be made on any head of this type. Adjustment of the right hand nut is never to be attempted. Since the replacement head costs \$193, you should point out to your readers that the head could be damaged (by misalignment) if the right hand nut is ever adjusted.—*Jerome V. Man, Chicago, Illinois.*

Our thanks to Mr. Man for pointing out this mistake.

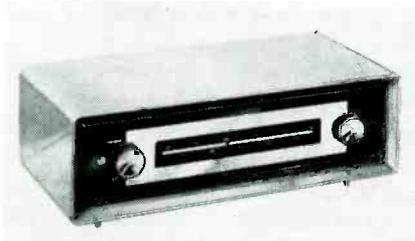
NEW PRODUCTS

PORTABLE SPEAKEASY



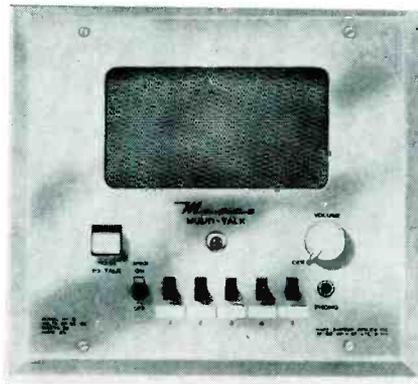
A new portable speaker's stand, called the "Speakeasy," has been introduced by the George Reuter Organization, 450 E. Ohio Street, Chicago, Ill. Designed to fit any microphone stand, this lightweight, all-aluminum "Speakeasy" provides a complete speaker's lectern adaptable for any type of microphone setup. "Speakeasy's" double page platform surface measures 19" x 13" and is flanged at both sides and bottom to prevent speaker's note books or pages falling off. Platform is adjustable up or down, and swings in a 360° arc. Sound engineers have approved this stand as being free from vibration transference to the mike, and for its counterbalanced construction which eliminates any tipping hazard. It is priced at \$19.95, and a matching "Clip-On" light with adjustable shade is available for \$4.95. Further information from local electronics supplies dealers, or from the manufacturer.

SHERWOOD TUNER



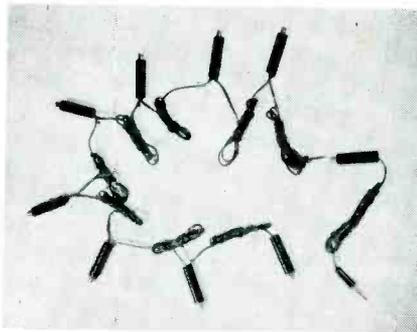
Sherwood Electronic Laboratories, Inc., Chicago, Illinois, is marketing the new Sherwood S-3000 FM only tuner, which has under one microvolt sensitivity. Edward S. Miller, Vice-President and General Manager of the laboratories said, "In achieving 0.95 microvolt for 20 db quieting we have, in effect, extended FM station broadcast range to over 100 miles." The S-3000 also features the new "Feather-Ray" tuning eye for positive sharp focus tuning, a local-distance switch to suppress cross-modulation and fly-wheel tuning, as well as automatic frequency control, precision calibrated dial, cathode-follower output, output level control and FM multiplex output. This tuner is priced at \$99.50. For additional details, contact the manufacturer.

HOME INTERCOM



Mark Simpson Manufacturing Co., 28-49th Street, L.I.C., N.Y., now has available a new home intercom system. With this unit, a homemaker can hear one or all other room stations and the master station in any other room of the house. Outdoors, through the door remote station, she can hear the children at play, or safely screen callers. As an added feature, music can be distributed to selected points in the system by plugging in any radio, phonograph, recorder, or record changer. This unit, called the Multi-Talk, is finished in gold, copper or stainless steel and is styled for the home of tomorrow. For price and additional information, contact the manufacturer.

HEADPHONE JACK-SET



Language Training Aids is now manufacturing a Jack-Set which is used for distributing sound to headphones at a row of student chairs. It contains one extension cord 8 feet in length, and one cord with eight outlet jacks, each spaced 3½ feet apart, and it may be placed on hooks along the chair rail. Each Jack-Set serves from eight to sixteen sets of headphones, and more can be served by hooking two or more sets together. When plugged into a tape recorder or phonograph the loudspeaker cuts off and the sound is piped directly to the headphones. The recorder or phono is placed at the front of the classroom, under the complete control of the instructor. Jack-Set is priced at \$24.95. For more information, write to Language Training Aids, 12101 Valleywood Drive, Silver Spring, Maryland.

SHURE UNIDYNES



Shure Brothers, Inc., manufacturers of microphones and electronic components, have announced an improvement of their world-famous Unidyne microphones. The manufacturer states that the new improved Unidynes provide 41% higher output, and are highly recommended for use with low-gain public address systems and tape recorders, in addition to their usage in the finest quality public address systems. For additional information, call or write any authorized Shure distributor or directly to Shure Brothers, Inc., 222 Hartrey Avenue, Evanston, Illinois.

BOGEN AMPLIFIER

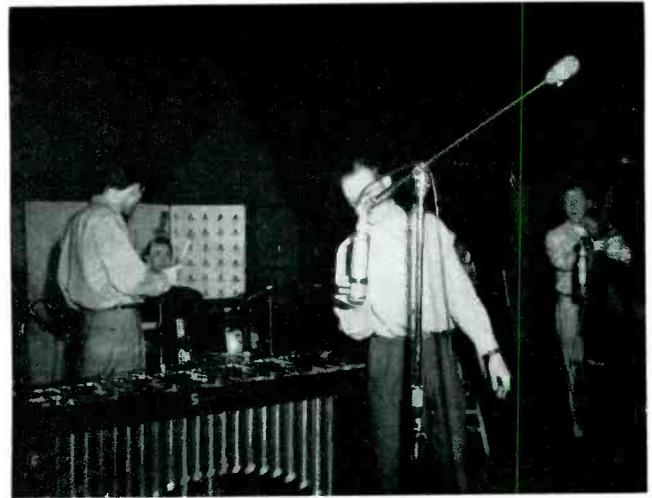


David Bogen Co., Inc., Route 4, Paramus, N.J., is marketing their Model D070, 70 watt power amplifier. This amplifier has distortion of less than 0.5% to 70 watts, and only 0.125% at 10 watts; Frequency response from 5 to 100,000 cycles; it is within 0.5 db; and the unique output circuitry permits undistorted power peaks up to 300 watts. The D070 features the exclusive Bogen variable damping factor control which allows precise coupling of the amplifier to the loudspeaker system, minimizing speaker distortion and eliminating resonances. This control, ranging from plus 0.1 through infinity to minus 1.5 is easily set when installing equipment.

The Bogen D070 is adaptable to either horizontal or vertical mounting and is available in blonde or mahogany metal enclosure. Audiophile net price in the East is \$129.50. For complete information, write to the manufacturer.



The folding screen seen on the left is employed to balance out sound. In areas where curtains absorb too much sound, hard surfaced folding screens can be used to gain the desired effect.



Various microphone patterns can be used to good advantage. Mikes should be located and relocated until the correct placement is discovered. James Cunningham switches the pattern on a Telefunken mike.

STEREOPHONIC RECORDING TRICKS

by

Robert Oakes Jordan and James Cunningham

. . . . there's more to this recording business than placing two mikes in front of a band.

EXCEPT for the quality of their equipment, professional recording engineers must expect considerable competition from the talented amateur, in stereophonic recording. In the past the professional engineer making monaural recordings installed himself and his equipment in custom made studios for the convenience of working. In most cases adequate for standard recording, these studios are both too "dead" and too small for stereophonic recording sessions. At this point he must either revamp his existing facilities, or hunt around for an old theater or auditorium that is right for stereo. The latter course is most logical, providing he has developed an ear for stereophonic recording. The general interest in stereophonics of several years ago by both professional and amateur alike has become a race with bright profit prospects for the winners. Except for general techniques of recording learned in the monaural recording art, and in some cases, better recording equipment the average recording engineer is little ahead of his counterpart . . . the talented amateur recordist. It might be explained that the term *amateur* is used in the sense only that it implies that the individual does not make his living by recording work. *Talented* implies that this individual possesses an adequate knowledge of stereophonic microphone placement and a competent understanding of his tape recording equipment. In this sense we would consider ourselves belonging to the group of *talented amateurs*, as far as our stereophonic recording and its associated research is concerned.

The tape recorder and the "big" sound on the pop records of our day has brought considerable money and

hence success to those recording studios that clicked. Pop hits gave the industry a chance to pour its "soul" back into the business. Bigger and grander studios, in fact opulence was more a goal than good recording. It is somewhat ironic that the extremely handsome profits of stereophonic recording should appear on the scene just as many of these "modern" recording palaces have been built.

The search is on for the perfect hall for stereo sessions and the non-professional has just as good a chance of finding one as anyone else. Here are the features we look for in each prospective hall or auditorium. Our first requirement is of course the relative liveness of the room. In too large enclosed areas like gymnasiums the hard surfaces provide extreme liveness. That is, the degree of reverberant or reflected sound is much higher than it might be in a room having carpeting or drapery which absorbs sound energy. Good stereophonic recording depends largely upon the correct ratio of direct sound to the reflected or reverberant sounds. It is this element in the recordings that gives the acoustical illusion of three dimensions.

In our years of study and research we have come across some unusual and trick acoustics in the various rooms and halls tested. In one auditorium of a very old school we found that the musicians could not play in time with each other due to the fact that the sound energy of the music dissipated so completely that little or no direct or reverberant was heard by the individual members. Ordinarily the hard walls and floors of a stage of this size with its curtains pulled out of the way would have a fair degree of reverberation but in this case it was some peculiar struc-



Left: Harry Slocog rehearses music to be sung by jazz vocalist Joanne Jordan. It is important to consider the quality of the piano when making a stereo music recording. Below: James Cunningham discusses the music to be recorded with Dick Marx, during a stereo recording session. While mikes are being positioned, the musicians in Dick's group practice to get the "feel" of the auditorium.



Photo by Glenview Studio

tural feature that gave you the oppressive feeling of being in a pressurized room. In another instance the curved plaster horizon which is sometimes constructed at the back of large stages, became an unusual type of parabolic sound reflector. The reverberations came back in such a way that it was impossible to get any sort of stereo effect. We found that in large areas or on stages where the curtains absorbed too much sound, hard surfaced folding screens could be used to gain the desired effect. As far as recognizing the perfect acoustics for stereophonic recording we have found

by experience that it is mainly a matter of ear development. Upon entering the room several sharp noises like a hand clap will give you an idea of the relative liveness. Then after you have set up your microphones and your recording outfit in a different room nearby, a test run played back on your monitoring loudspeakers will give you the complete story.

Other factors which must be considered include the possibility of disturbing sounds both from outside and in the building. Some of the halls we have tested are fine for

recording but traffic noises were too frequent. In one we kept feeling a deep rumble for which we could find no apparent source inside or out. Until someone remembered that the subway ran directly under the building. In other halls, heating and ventilation equipment cause both audible mechanical sounds as well as electrical disturbances as they are turned on and off during operation. Clocks that click, thermostats that hiss, fluorescent lights that hum, chairs that squeak, and curious visitors who like to ask if you're recording are the hazards that may beset the engineer on location sessions. Even if all goes well you still have the backbreaking job of packing up and moving the recorder, the microphones, associated cables, perhaps a mixer, and the two monitoring speaker systems. Then when the session is over the job begins again, and the equipment is returned to the lab.

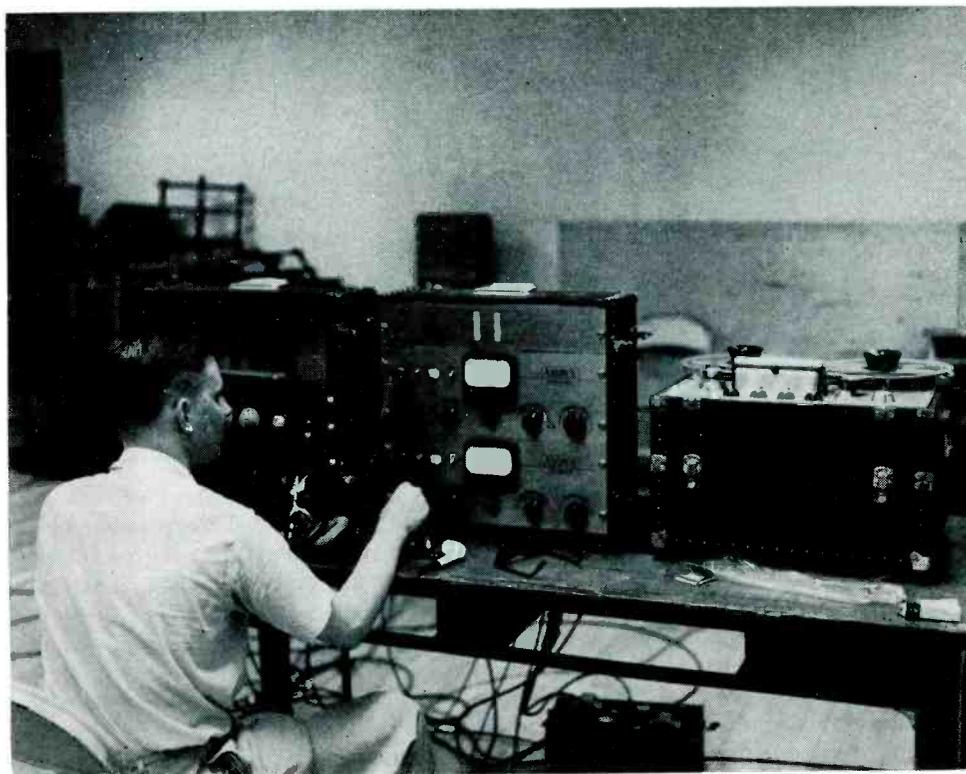
It is important to consider the quality of the piano, if musical recording is in the offing. Most schools have fair pianos, some with more advanced music departments even possess a concert grand piano. Churches usually spend most of their musical funds on the organ and the piano quality suffers. The worst of all are the instruments in meeting halls where club groups gather.

In a general fashion we have covered the approach used to find a good hall or auditorium for stereophonic recording. Now let's go through just one session in our new found "studio." The Ampex stereo recorder and 620 amplifier/speaker units are set up in the room just down the hallway from the auditorium. The cables have been strung out and hooked into the mixer so that we can employ four microphones. We have set up the talk back system and record light so we can talk to and signal the musicians. The microphones have been set up in a test location and the cover is removed from the grand piano. This session is to be a stereo tape of Dick Marx and his group. Drums, bass, and electric guitar are the other instruments. It is one of the tapes that is to be released on the Omegatape label

and of course a commercial venture (by the time this is published the tape will be available for those who are interested.) While we are not a commercial recording company much of our work involves union musicians and since we must "file" recording contracts with them we have recovered our original investment by leasing the master tapes to commercial labels. When you see a stereophonic tape record our names will appear on the box if we recorded it. During the past two years we have mastered 30 such tapes which appear on many of the better known tape labels.

The room that we have chosen for the recording room where the tape machine and monitor speakers are operated is the small grade school library. The shelves of books and the draperies tend to stop undesirable reflections of sound (yet not too dead) as we listen to what is being recorded on the tape from the auditorium. We have made sure that our voices or the sound of the speakers does not carry back to the stage.

The microphones are located and relocated until the correct placement is discovered. The talk back system is our means of intercommunication. During the recording session the two monitor speakers are connected through the talk back amplifier relay system so that they can be muted to prevent feedback howling. This feedback will occur because of the open recording microphones, the operating monitor speakers and the microphone and speaker of the talkback system. It is like the feedback that occurs in public address systems when the speaker is too close to the mike. During the time we have been setting up the microphones the musicians have been playing to get the "feel" of the auditorium. Once everything is set the session begins, and barring problems that always seem to arise the session seldom lasts more than twice as long as you planned. Out of this session came a most interesting stereophonic tape by a group of talented musicians, and we learned a little more about stereophonic recording.



The recorder and monitor speakers are located away from the auditorium, in a room where books and draperies tend to prevent undesirable reflections of sound. It is made certain that voices or the sound of the speakers are not carried back to the recording stage in the auditorium.

Photo by Glenview Studio



Bill Carmen, left, Annapolis High School student, delivers the final edited tape to radio station WNAV for playback. Announcer Mike James fills in selection titles during timed blank intervals on the tape.

Students Tape It Easy

by Sam Chambliss

. . . the tape recorder answers the need for simple, but efficient, preparation of school broadcasts.

THERE'S no pressure on students or faculty for special radio programs at Maryland's Annapolis High School, but the brand of music they produce over local radio stations is a good deal better than what is usually heard in most school broadcasts. How so? Shrewd use of a tape recorder.

There are no crash practice sessions or rehearsals, upset school routines or home supper times—normal school schedules are followed throughout. And yet the music these students broadcast is as good and probably better than if they had practiced solidly for weeks.

The secret is one which can be solved, as in Annapolis, by any board of education with enough awareness of modern teaching aids and techniques to realize the value of tape recorders.

Years ago, before the advent of the tape recorder, the

school started a weekly "live" broadcast. As one instructor who was around at the time reported, "The school week was torn up rather nicely; things came to a standstill on at least one day to get this broadcast out." Of course it was only a matter of time before the program was dropped, and eight years or thereabouts passed by before the idea of broadcasting to encourage student and community participation was again given further serious consideration. A clincher in the new approach to broadcasting was the knowledge that broadcasts no longer had to be "live"; the tape recorder was the answer.

A better understanding of how broadcasts may be prepared without undue extra activity may be gained by considering the conditions under which an Annapolis High School broadcast is initiated:

(1) There are no deadlines; broadcasts are not sched-



Left: While the school band normally practices in its own band room, for best results the group is shifted to the auditorium. Instructor Kenneth Page conducts, while Bill Huebl watches recorder gain. Below: The band practice room has insulated walls and ceiling to improve acoustics. A good sound reproduction system has been installed in this room. Amplifiers and recorder are controlled in the room just behind the director.

uled. The average school curriculum is crowded enough with special seasonal events without piling an extra deadline load on students and faculty.

(2) With the tape recorder in use, there is no need to whip the music groups into top form on all selections simultaneously. A particular selection which the students like and which has been practiced for some time may be outstandingly performed one day in the usual class. The recorder is then energized and the selection taped. After playback to convince the instructor and class that the selection really "came off," the tape is stored.

(3) Where the student music group becomes large, as is the case in the Annapolis High School chorus, the group is necessarily split into several classes. And when the entire group is to perform as a unit, extra joint practice sessions are required. However, these extra sessions and resulting scramble of schedules are held to a minimum through use of the tape recorder; one class practices simultaneously with a playback of recordings of other classes. Only in final rehearsals is it necessary to bring the groups together.

(4) The responsibility for operating the recorder rests directly on the students. This is no problem, however, as any teacher will recognize; there is always a young person with a liking for electronics in practically any class. (The recorder used is a Concertone 20/20; the microphone is an American Microphone D22.)

With the foregoing procedure, it's only a matter of time when a reasonably wide selection of numbers is found in the tape "bank." The faculty members go into a huddle.

"We try to be as democratic with the students in the selection of the broadcast repertoire as possible," explained Robert F. Kunkle, teacher of choral music. "We play back as many recorded numbers as time allows, and the students swing the balance whenever they feel strongly about a selection."



The recordings, having been made under relaxed conditions and of the students' best efforts, are good. The students respond accordingly. No one is distracted by the embarrassing fluffs common to "live" broadcasts—a rerun of the tape at recording time has already eliminated the fluff.

What problems have been encountered? "The only difficulty with recording was in the acoustics of our rooms," Mr. Kunkle answered. "We had three possible places for recording. One, the room for our choral practicing, was not designed with acoustics in mind. The band room, built much more recently, did have sound-absorbent material on the walls. The auditorium, a rather large one, had material on the ceiling." But none of these rooms produced the

expected results in the first trials of the recorder. This problem was solved in a reasonably business like manner:

"We gathered a group of singers and the recorder together, and rehearsed an eight-measure passage. After smoothing this passage in practice, we tried different groupings of chorus, microphone, and piano, in each of the rooms." Four such trials were made and recorded in each of the three rooms, or 12 runs in all. The results were laid aside to "cool," and then played back several days later.

The live chorus room was generally poor, though the best results were obtained with the piano against the narrow wall, the chorus between the piano and the center of the room, and the microphone in the center.

The larger band room yielded good recordings with the microphone placed several feet out from the wide wall facing the band.

The best recordings of all were obtained in the auditorium with the microphone in the balcony, the instructor felt. However, the auditorium is backed up by a gymnasium, and recordings are not always possible in this space.

The advantages of acoustical treatment have been recognized by school authorities, Mr. Kunkle pointed out, because the choral practice room is soon to be lined with absorbent material.

"Other than this original problem of determining the best microphone placement, recording and playback have given us no particular problems," the instructor related. "The students do it all. As a matter of fact, when the recorder was first delivered, it and the operating instructions were turned over to several of the students."

There was one other minor but necessary point to be checked before serious recording began—what sort of tapes were to be required by the broadcasting station? A WNAV staff member provided the answer; the recorder usually found in most radio stations is the Magnecord PT 63 AH tape unit and PT 63 J amplifier. Larger stations

will presumably have more elaborate units, but they are normally expected to also have the Magnecord on hand. This recorder is a full-track machine, the staff member reported, and has speeds of $7\frac{1}{2}$ and 15 inches per second.

Kenneth Page, teacher of instrumental music, emphasized that the only occasions he and Mr. Kunkle felt required extra faculty time was when editing became in order. The editing consisted of final choice of selections and supervision of splicing order. "But this took us only one afternoon per broadcast," Mr. Kunkle said.

Two problems cropped up in editing. The directors felt that relocating the chosen selections on the bank tapes, after a first listening, was too time-consuming. A tape footage counter obviously is the answer to this problem.

The second problem was what to do with a particular selection after it had been cut from the tape bank. "I think we could use a number of reels just large enough to hold one or two selections," Mr. Kunkle suggested.

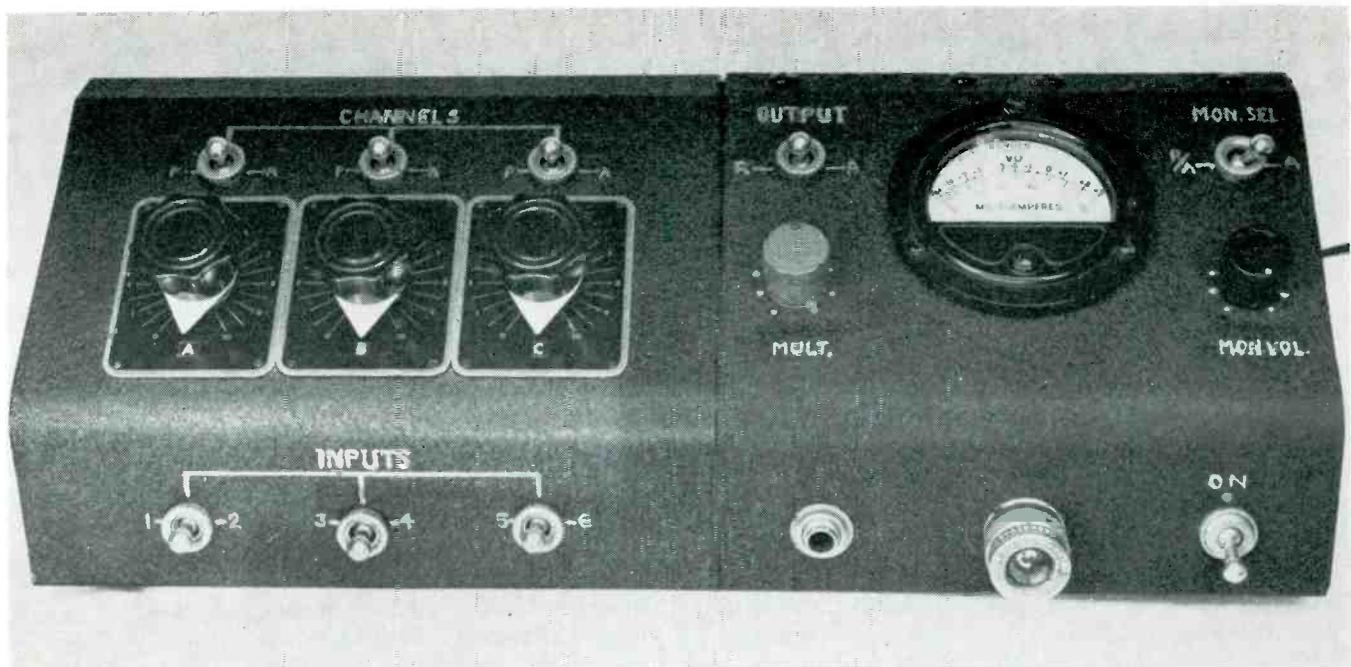
When the selections were cut out, timed, and arranged in order of broadcast, final splicing began. Here again, the students joined in and did the splicing. A blank piece of tape was included between the selections. "We time the blanks for title announcement plus several seconds," the choral director explained, "and depend on the WNAV announcer to insert the titles." The blank intervals average 10 to 20 seconds each.

Generally, the edited tape is played back to the classes before it is carried to WNAV. Classroom reaction is good; one student, after hearing a rousing finale of "Old Man River," asked incredulously, "Was that really us? Man, that's great!"

At this point, the broadcast is considered finished, as far as preparation is concerned. There was no strain in its preparation by either faculty or students. Student interest was greatly encouraged with the prospect of a broadcast and, further, of a broadcast which really is of their relaxed and spontaneous best efforts.



Left: Instructor Kunkle stands ready with splicing tape to join tape segments held by Bill Huebl. Recorded selections are arranged properly and spaced with 10 to 20 second tape blanks to allow time for the announcer to name the selections. Below: Half of the choral group practices its parts along with a recording of the other half of the choir.



This portable mixing console features a six input high impedance three channel mixer, a combination monitoring and cueing amplifier and a sound-level meter. Parts used are obtainable at any radio shop. With it many effects are possible without clicks or wows.

Build This Portable Mixing Console

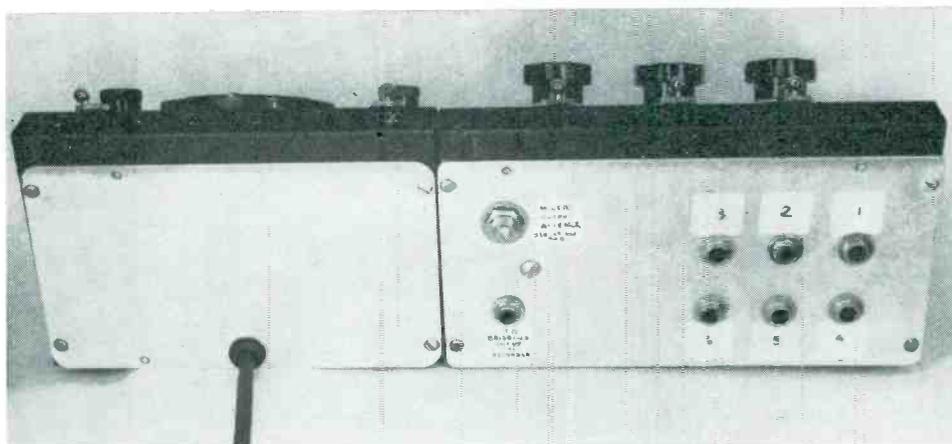
by Les Miller

. . . compact unit enables recordist to obtain high quality recordings.

SINCE the advent of the wire recorder, and the subsequent appearance of the even more versatile Tape Recorder on the broadcasting scene, I have often pondered the feasibility of designing a really PORTABLE auxiliary recording and editing facility that could be operated entirely independent of the fixed-studio, and still enable the recordist to obtain high quality, flexible operation. Because a lot of my time has been devoted to production, editing, working out new program ideas, auditions and the like, the idea grew until finally, the small, but very efficient unit about to be described, was born.

I don't suppose there is one single feature of this mixing console that could be truly called an "invention"; on the contrary, it is all mostly "plain vanilla"—tried and proven, simple circuits; but strung together to accomplish the several required functions without getting complicated; and with as little expense as possible.

Naturally, I surveyed various commercially available equipment which was available for the job, but all were too expensive for my pocketbook; all were too heavy for true portability; most were MUCH too large; and they unanimously presented too much maintenance for me to



All input jacks, recorder feed level adjustment, output jacks to recorder and power cord are all located on the rear panel. The monitor phone jack is located on the front panel where it is most convenient. The author's aim was to make a lightweight, compact console that could be easily transported and operated.

take care of in my limited "spare" time!

So, the conscience having been properly salved, I found myself in the mood for some real do-it-yourself construction.

I began by packaging all the essentials into one small, rugged unit, keeping a sharp eye on size and simplicity, and the other on provisions for possible future changes and expansion.

With this unit, the average home-recordist should easily simulate broadcast production techniques, using any type of tape recorder, magnetic film recorder, or disc recording equipment. In fact, the final results of his work will depend on the skill of the operator and quality of recording equipment used in conjunction with the consolette. The unit is very simple to operate, after a little practice, and certainly very important to the home builder, inexpensive to construct, using easy-to-obtain parts.

The unit is AC powered, and since it draws very low current, can be used in "remote" locations—even in an automobile or truck, provided a small 110-volt, 60 cycle inverter is available. Essentially, the instrument consists of three major elements: a six-input, three-channel high-impedance mixer; a combination monitoring and cueing amplifier; and a sound-level meter.

All input jacks, recorder feed level adjustment, output jack to recorder, and power cord, are located on the rear panels. This arrangement keeps all the input and output lines out of the operator's way and makes room on the control desk for notes, pencils, and other bric-a-brac. The monitor phones jack is located on the sloping front panels with the operating controls.

In operation, the output from the mixer is fed directly through an operating switch (S4) to the microphone input jack of any tape recorder. Since the passive mixer circuit insertion loss is only about 7 db, and since most recorders will accept relatively low input levels today, it was felt that the less circuitry involved in the mike or phono-to-recorder input, the better, from a frequency re-

sponse standpoint. Besides, we wanted as much isolation as possible from monitor and cueing circuits to the program circuit.

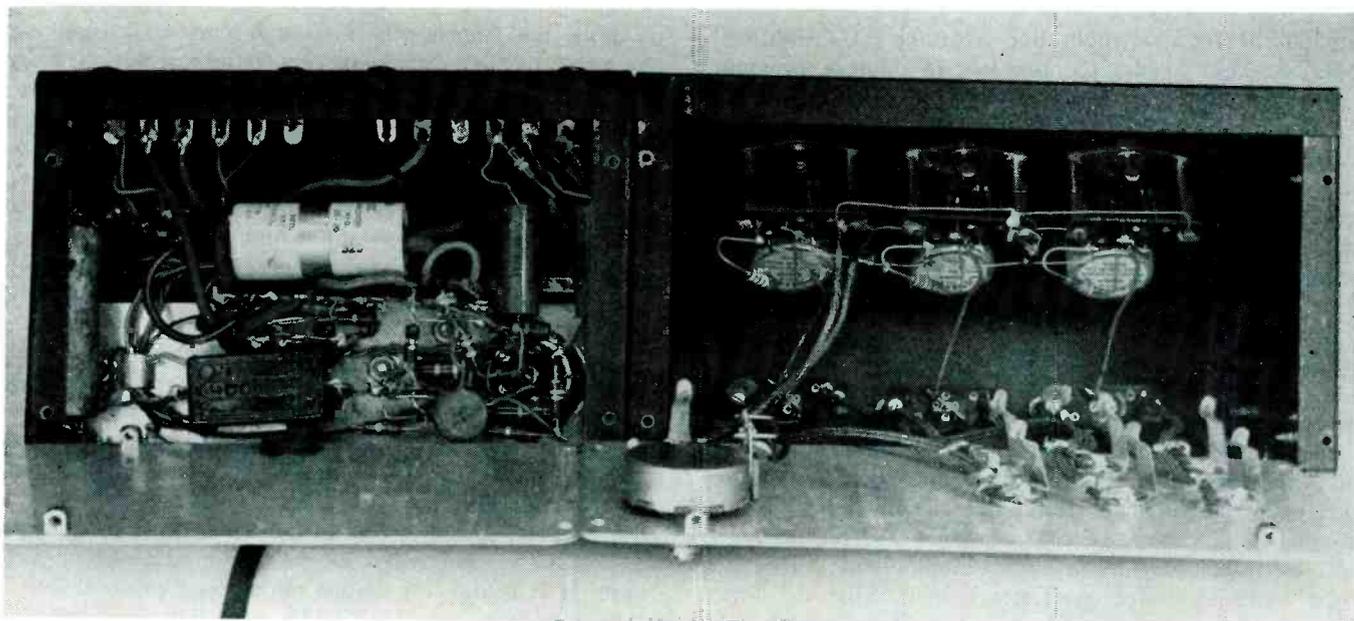
In order to obtain a signal source for the monitor amplifier, the mixer output is branched to the monitor grid. The Monitor-cueing amplifier consists of a single 12AT7 arranged in a two-stage, resistance-coupled amplifier, which terminates in a cathode-follower monitor output, and feeds a full-wave germanium-diode rectifier and microammeter from the plate circuit.

Program monitoring is accomplished with switch S5 in the "R" (record) position. Thus, the output from the mixer feeds straight through the amplifier to the monitor phones and also to the sound-level meter circuit. With switch S5 in this position, any signal switched to the audition or "Cueing" position will be heard in the monitor phones along with any material going out the program line. When switch S5 is thrown to the "A" (audition) side, program material is eliminated from the monitor output and only signals being "auditioned" or "Cued" can be heard in the phones. The latter switch function is particularly useful in noisy locations, or when "cueing up" a very quiet record.

It should be noted here, that all of the eight quiet-operating switches must be the "quiet" type. I used the small toggle switches that are found in the front of army surplus receiver racks. (SCR 274-N)

These switches operate just like the operating keys on a broadcast console—they make no click which could be picked up by a nearby microphone. Three of the switches are located just above each "pot" on the mixer panel. They serve to switch each respective input jack from the mixer pot to the cueing bus. Three more switches, these located just below the row of pots, are used for input assignments—that is, the selection of any three inputs for assignment to the mixer.

Switch S4, as mentioned before, opens and closes the mixer output to the recorder, and in addition, serves to



The interior of the consolette. At right on the lid can be seen the input jacks and record feed adjustment. Note how clean and neat the wiring job is. Keep leads short as possible to avoid hum pickup. The eight operating switches must be of the "quiet" type. The author used army surplus switches from receiver racks (SCR 274-N). Keys could be used in place of switches.

This was done by running a short piece of Belden 8240, RG-58-U coaxial line through the existing pin-jack on the preamp. Incidentally, it should be noted here, that all patch cords used in this system are made up of RG-58U in order to keep distributed-capacity losses on high-frequencies at a minimum. Naturally, as in any high-impedance networks, all cables and leads were kept as short as practicable.

The output level control on the preamps, consists in each case, of one-megohm screwdriver adjusted pots, which are located on the back of the box. Individual output lines to the mixer input jacks consist of short lengths of RG 58 U terminated by shielded phone plugs.

After we got past the mixer section, we proceeded to design a switching arrangement and a sound-level indicating system with a means for monitoring the "program" signal *and* the "cueing" signals both simultaneously and separately. A rather large order for one tube! In this system, we filled the order by taking the cueing signal from the signal-source directly to the grid of the second stage grid of the twin-triode amplifier. This provides adequate isolation between program and cue signals, and at the same time gives the necessary gain to match the overall gain of the program signal under normal conditions.

Isolating resistors and proper control of level on the cueing line minimize crosstalk and distortion.

The program material of course, is monitored by feeding the grid of the first stage through a series resistor and coupling condenser. Examination of the circuit diagram will indicate readily how switch S5 serves to mix or separate the two signals at the monitor output. Switch S5 in its neutral position also serves to stop all signals at the monitor output. This feature can be appreciated when the monitor output jack is being used to feed a power amplifier, and it is necessary to cut the feed in a hurry.

In the output metering network, the value of the series resistor from the .1 mfd coupling condenser to the meter bridge circuit was kept as low as possible in keeping with meter protection, so as to provide a low-resistance AF shunt, thus avoiding one source of feedback in the amplifier circuit. A 50-thousand ohm potentiometer in series with the meter itself gives a flexible range control.

Shielded phono lead was used wherever possible to reduce crosstalk and keep hum down, and terminal strips were used to facilitate servicing.

A cabinet for the unit can be any type the builder desires. I built mine into TWO Bud, sloping front metal boxes. The mixer section is in a 7" box; the amplifier and volume indicator section in a 6" box. The two are bolted together with 3 6 x 32 machine bolts and elastic stop nuts. I used Allen head bolts which greatly facilitated assembly and gave a neat, rigid, finished cabinet 13" long, 4 1/8" high, and 4 1/4" deep. In order to assemble the composite cabinet, I drilled three holes on the side of one cabinet, then placed both boxes on a firm, level surface. It was then an easy matter to line up both boxes, and without moving them, mark through the one set of holes to locate the drilling points on the blank side. Holes for the program and cueing buses were done at the same time and in the same manner.

The chassis for the amplifier consists of a plain strip of sheet aluminum, 1/8 x 1 1/2 x 5", and is anchored firmly to the base of the box with two small aluminum brackets fastened with short 6 x 32 nuts and bolts. The chassis con-

tains a half-wave power transformer, selenium rectifier, filter condenser and resistors as well as the amplifier circuit components. Compact, but not too crowded.

Note that the amplifier tube and power transformer are located at opposite ends of the chassis strip, and all AC leads are twisted and dressed into the far corners of the cabinet in the interest of keeping hum to a minimum.

For all practical purposes, the monitor amplifier is entirely adequate, and has a very respectable frequency response and minimum distortion.

Many of the disadvantages of a low-level, high-impedance input system have been overcome in this system; mostly by trial-and-error, and in part by following the usual rules of construction. Hum level is very low, and can be kept far below that of any usable signal, by keeping all pickup leads, mike cables, and the like as short and well-shielded as possible. Of course, care should be taken to separate AC lines and transformer fields from input cables as far as possible. When employing several self-powered devices at one time, such as the Consolette itself, mike preamps, recorders, amplifiers, etc., make sure AC lines are polarized properly by checking each unit into the consolette individually. Since the mixer itself is a passive type circuit, and ALL signals passing through it are attenuates some 7 db, sources such as variable reluctance pickups, dynamic and ribbon microphones and the like, require preamplification for best results. I have found that a single CK-721 (Raytheon) transistor, powered by a single 1.5-volt penlight cell, makes a fine low-impedance preamp for both mikes and GE pickups. In the case of the GE pickup, equalization is accomplished right at the pickup head a la broadcast.

A few hours of "playing" with the consolette will open whole new horizons to the serious home-recorder. Editing will be greatly simplified since music "bridges" can be introduced properly with no clicks, "burn-ins," "wows," and other unwanted effects. "Holes" in the continuity of your productions will be eliminated, and your future tape recording efforts will take on the mark of the professional. Listen closely to your favorite local radio station; analyze the actual operating technique, and try to duplicate it in your work. If you use your recorder commercially, new ideas will immediately spring to mind.



With the consolette, professional results can be obtained in mixing, cueing and fading. It will handle a tape recorder, magnetic film recorder or disc recording equipment.

NEW TAPE CARTRIDGE DEVELOPED

... one hour play now possible. Design engineers work up juke boxes, dictating machines, auto recorders, etc. around new cartridge.

ANOTHER step toward the packaging of music in tape cartridges was announced recently by Cousino, Inc., 2107 Ashland Avenue, Toledo 2, Ohio. Their new model of the Echo-Matic tape cartridge will now play for one hour. The device, which uses an endless loop of unbreakable tape has a newly developed lubricant to reduce the friction as one layer of tape rubs on the other, and nylon bearings which remove danger of flutter and wow.

These units are the outgrowths of the Audio Vendor magazine which converts any tape recorder into a continuous play machine. The new Echo-Matic can be recorded or erased as well, just as the Audio Vendor can, by any recorder made to take the device.

When not in use, the tape is retracted into the case for protection. This will prevent Junior from playing yo-yo with papa's favorite tape recordings.

While no machines using the cartridge, which is now being manufactured by the American Moulded Products Company, have appeared on the market, there is considerable developmental activity going on in the laboratories.

Some of the devices the engineers have dreamed up are shown on the opposite page.

Upper left is a projected design for a pocket tape recorder using the cartridge. Transistors would be used in the circuits to cut down on size and weight and a battery powered motor would drive the tape.

In the upper right is a suggested telephone recording

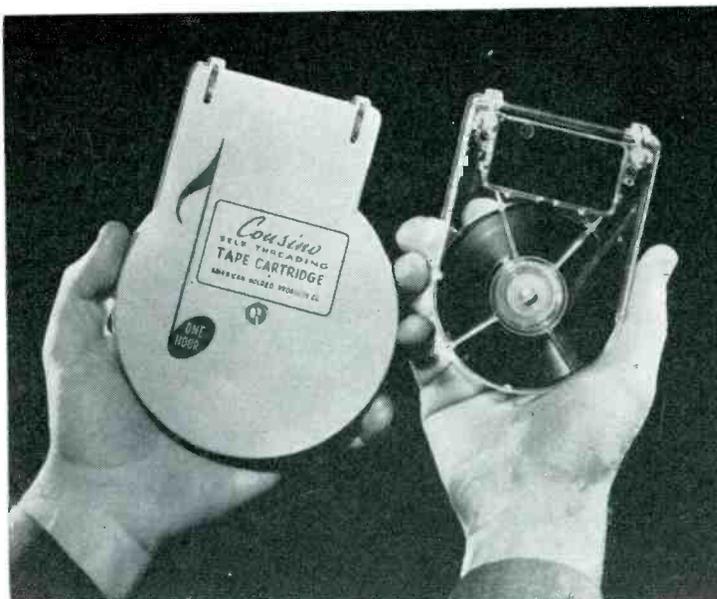
device designed around the present Echo-Matic cartridge and at the lower left, a modernistic dictating machine. The dictating machine would have to be more complicated mechanically because it would be necessary to be able to go either forward or reverse. A special cartridge using two reels is being developed to meet this need.

At the lower right can be seen the engineer's conception of a tape recorder and playback for automobiles. This could use part of the electronics of the car radio and be used both as a recorder and as a source of commercial-free music when on the road. Unaffected by jars, bumps or shocks, the motion of the vehicle would not affect its performance.

In the center is shown a tape juke box which holds 384 selections instantly available for playing. This device may also presage the music store of the future where, for a fee, a blank or obsolete cartridge could be inserted in the machine to duplicate any selection. The "record" dealer of the future would need only to stock master tapes and blank cartridges. Gone forever would be such problems as return privileges, scratched or damaged discs and the necessity of having sales at reduced prices to clear out overstocked merchandise.

In all the devices, threading is accomplished automatically by simply pushing the cartridge in the slot. The cartridge is also ejected automatically with the tape rewound, ready for the next play.

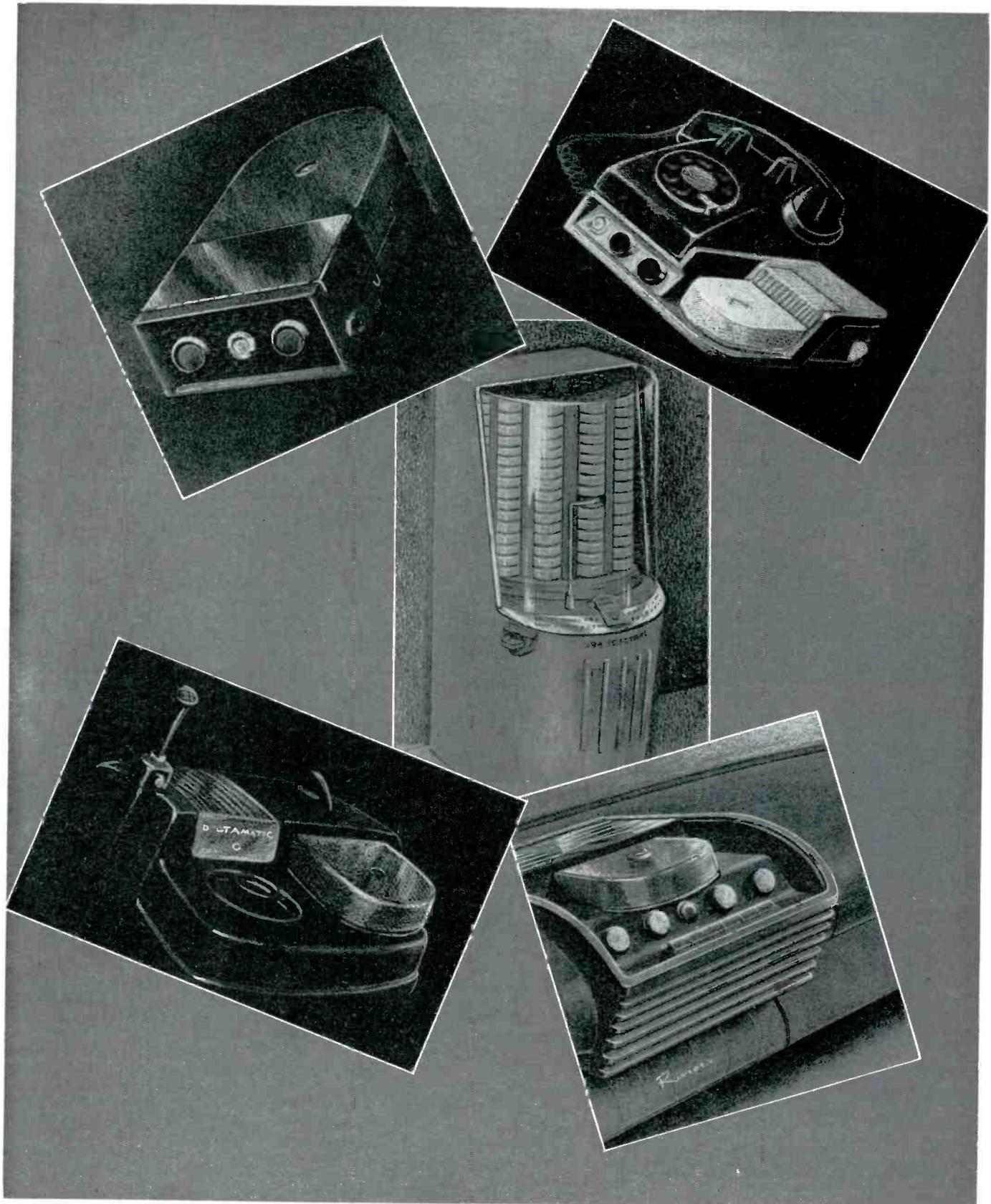
Engineers designing around the new unit are invited to write to the company for full information.



The new one hour cartridge is held in the left hand in the photo. The Echo-Matic cartridge, in clear plastic, is also shown. Both have the same mechanism for tape handling.



A prototype of a tape player accepting the new cartridge. It is self-threading and the cartridge is ejected automatically when it has finished playing.



Upper left: an engineer's idea of what a pocket recorder will look like using the Echo-Matic cartridge. Transistors will be used to save weight and space and drive will be by battery power. Upper right: a proposed telephone answering device. Lower left: a modernistic dictating machine design using the cartridge. Because it will be necessary to go both forward and backward, a special two reel cartridge is under development. Lower right: suggested design for an automobile recorder which will also serve as a music machine. Part of the car's radio may be used in the circuits. This unit would be valuable to salesmen, vacationists, etc. who wish to record while traveling. Center, a 384 selection tape jukebox. This may also be the forerunner of the music store of the future where the machine will contain the master tapes and the customers record their music on blank reels after placing a coin in the slot.



**MATCHING
AMPLIFIER
MODEL 30**

Tape All the Sound

with the NEW, TRANSISTORIZED

MADISON FIELDING **micamp**®

• **micamp**, a unique all-transistor matching amplifier, permits use of high quality, low-impedance mikes with *any* tape recorder (even a home machine), allows you to dispense with low-fi crystal microphones.

• **micamp** improves overall frequency response, eliminates hum pickup — even with mike 1,500 feet from recorder.

PERFECT FOR PHONO USE

• **micamp** also matches low-level, low-impedance magnetic cartridges to any pre-amp — with absolutely no hum introduction. More than 30 db gain. Battery-powered; cell lasts over a year in normal operation.

Only

\$95
Less
Battery

WRITE FOR DETAILS
DEALER INQUIRIES INVITED

MADISON FIELDING CORP.
867 Madison Street · Brooklyn 21, N. Y.



WHEN YOU'RE
"On-the-
Road"

LETTERS
REPORTS
SURVEYS
INTERVIEWS
RECORDS
INSTRUCTIONS



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

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

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

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

Carter Motor Co.
2755 W. George St.
Chicago 18, Illinois

Carter

Please send illustrated circular and full information on Carter Converters.

Name _____

Address _____

City _____

State _____

TAPE CLUB NEWS



Within a 10 month period, Tape-Respondents, International member, Dr. Paul Ronniger of Brookings, Oregon has traveled some 40,000 miles visiting fellow T-R-I members along the way. This club "ambassador" has gone from Europe to the Orient. In December 55 he visited Geoffrey Norie in Paris, France, and in September of 56 he was visiting Arsenio (Tory) Yu of Manila, pictured above with Paul.

TACKARD is a new word in the vocabulary of many members of Tape-Respondents, International. It means "Tape Acknowledgment Card," and will be used for the same purpose that Q-S-L cards are now used by "ham" radio operators, once the T-R-I Tape Network swings into action. The network is designed primarily for T-R-I members who wish to make single contacts with as many other members as possible without engaging in permanent tape-response with all of them. TACKARDS will be exchanged when two members exchange tapes, and many of them will be just as attractive and fancy as the Q-S-L cards which now adorn the radio shacks of our "ham" friends.

Tape Respondents, International member, Elmer J. Davis of California is talent scouting. Elmer is planning a two-hour tape show featuring amateur talent from all over the T-R-I membership. He is collecting tapes from those members who are interested in participating in this variety show. Any member who can sing, play a musical instrument, present tall tales or humorous skits, or has any other form of entertainment, is requested to send a recording on a 3" reel to Elmer.

Elmer requests that all tapes contain the following: name and address at beginning of tape, the act, and special interests or exchange requests at the end of the reel. Also, included with the tape should be written

permission for dubbing the tape for the use of others.

All tapes will be dubbed onto a master reel, and the small tape will be returned with a message from Elmer. When the master is complete, he will dub the entire program for any member who sends him a 7" reel of blank tape and return postage.

Canadian recordist, Maurice Roussel is interested in starting a Canadian tape club which will use French and English languages. All Canadian recordists interested in a "Canadian Club" are invited to write or send a tape to Maurice Roussel, P.O. Box 86, St. Fabien, (Rimouski Co.), Que., Canada.

Maurice Roussel, un Canadien partiquant l'enregistrement sur tape desirerais former un club de tape Canadien utilisant les deux langues (Francais et Anglais). Tous les Canadiens interesses sont invites a ecrire ou envoyer une bobine a Maurice Roussel, C.P. 86, St. Fabien, (Co. Rimouski), P.Q. Canada.

Canadian representative of World Tape Pals, Wally Walsh, of Toronto, has announced an official ruling by the Dept. of National Revenue of Canada which allows personal tape recorded messages to enter that country duty free. Under this ruling all tapes imported into Canada will be subsequently exported either in the same form as they were originally imported or bearing a different message. This allows the free passage of tapes for personal exchange, but forbids the sending of tape under the guise of "tape exchange" which will not be returned. All World Tape Pals members are requested to abide by this decision and cooperate to the fullest, and to contact the Canadian representative in the event of customs difficulties.

The Voicespence Club's Blind Activities Committee has now changed its name to The Service Committee, and its functions will be broadened. Henceforth, this committee is available to give *any* member—visually, physically, orthopedically, mentally, emotionally, or financially handicapped—a helping hand. It is made up of VS-ers who have volunteered to serve just because they enjoy extending a comradely hand in brotherhood. If any club member knows of any handicapped fellow member who needs help, he is requested to drop a note to Tony Peters, 15618 Myrtle Ave., Harvey, Ill. Tony will turn the problem over to a qualified committee member who will do his utmost to be of service.



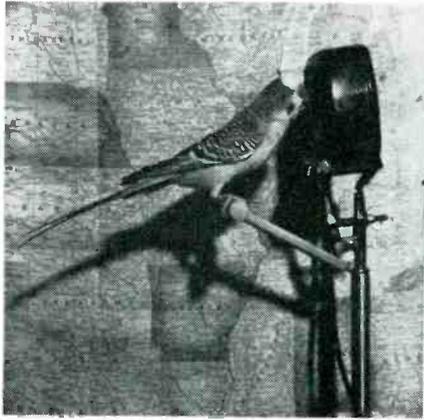
Magnetic Tape Splicer

Satisfaction Guaranteed
Complete with new pre-cut
Mylar tape tabs.

ONLY

\$1.50 Postpaid

If your dealer can't supply
you—
Order direct from Cousino,
Inc., 2167 Ashland Ave.,
Toledo 2, Ohio, Dept. T. H.
Dealer and Distributor
Inquiries Invited.



A combination color slide series and recording called "The Adventures of Peter Budy" has been prepared by Voicesspondence Club member, Victor Sonnenberg of Milwaukee. The series features the family's parakeet, "Pretty Peter," pictured above, who boasts a 30-word vocabulary, and creates his own sound effects for the recording. Vic mixes the sounds together with music in creating the integrated program, and also draws and paints many of the elaborate backdrops against which the color slides are taken.

Voicesspondence members, The Hewetts, George, Dorothy, Albert and Betty, proposed a Kindness-Of-The-Quarter contest. It is to encourage any VS-er to write or tape into them about an act of kindness of his own or of some other member of the Club. Considering this a fine suggestion, Melva and Charles Owen agreed to donate a reel of tape to the member the Hewetts selected as the one performing the "Kindness-Of-The-Quarter." Since the performance of an act of generosity or courtesy is its own reward, the tape is offered only to encourage the members to let the Hewetts know about the kind deeds. If any member knows of such an incident, they are urged to contact the Hewetts.

JOIN A CLUB

TAPE RESPONDENTS INTERNATIONAL
Jim Greene, Secretary
P. O. Box 125, Dept. T., Little Rock, Ark.

THE VOICESPONDENCE CLUB
Charles Owen, Secretary
Noel, Virginia

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

INTERNATIONAL TAPE WORMS
Art Rubin, National Chairman
P. O. Box 215, Cedarhurst, L. I., N. Y.

AUSTRALIAN TAPE RECORDISTS ASSOC.

Jack A. Ferry, Federal President
Springbank Rd., Clapham, S. Australia

UNITED RECORDING CLUB
Richard L. Marshall, President
2516 S. Austin Boulevard
Chicago 50, Ill.

THE NATIONAL TAPESPINNERS
Carl Lotz, Secretary
Box 148, Paoli, Pa.

BOOK REVIEW

Educators Guide to Free Tapes, Scripts, and Transcriptions, Tbird Annual Edition, 1957. Compiled and Edited by Walter A. Wittich, Ph.D., Director Bureau of Audio Visual Instruction, University of Wisconsin, and Gertie Hanson Halstead, M.A., Formerly Director, Radio Workshop, Wisconsin State College. 8 1/2 x 11 inches, paper bound, 184 pages, \$5.75. Published by Educators Progress Service, Randolph, Wisconsin.

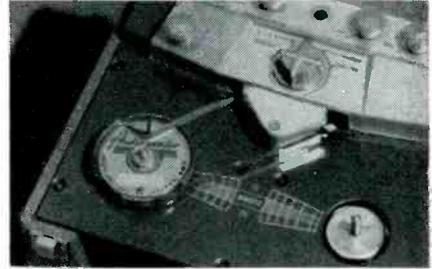
Each year this volume has become fatter and fatter as more and more material has become available. It gives the titles of tapes, scripts and transcriptions, the running time of each, dates of release, terms and conditions of loans, names and addresses of the agencies, availabilities, and has sample scripts. It also contains a title index, source index, cross references and subject index by topics. The book lists 57 free tapes, 177 free scripts and 96 free transcriptions.

The book will be very valuable to schools who make use of audio-visual materials. This compilation features the audio side—a section of the learning process which has received increased attention since the use of tape recorders have steadily increased in the schools.

Many of the scripts listed have multiple parts which will permit real classroom production and recording.

This book fills a very definite need and is recommended highly to those who require the use of audio instructional materials.

CONVERT YOUR TAPE RECORDER INTO
A CONTINUOUS MESSAGE REPEATER



AUDIO VENDOR

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

Satisfaction Guaranteed

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

*If not available at your Dealer,
order from*

COUSINO, INC. Dept. TR
2107 Ashland Ave., Toledo 2, Ohio

FOR STEREO OWNERS

We can now offer the Hi-Fi Tape Recording Catalog of Stereo Tapes. This is available on Subscription—four issues for one dollar. It will be revised and issued quarterly. First issue is now ready.

- Lists all available stereo tapes.
- Complete description of each tape—no more guessing when you order.
- Lists 250 tapes from 21 companies.

USE BLANK BELOW TODAY

STEREO TAPE CATALOG
Serverna Park, Md.

Please enter my subscription to the Stereo Tape Catalog. I enclose \$1.00.

Name

Address

City Zone State

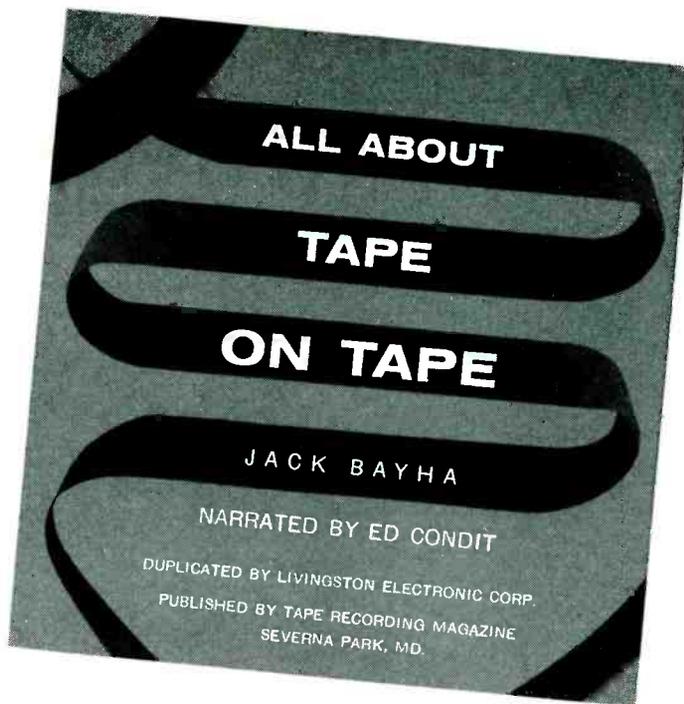
NOW HEAR THIS...

... THE WORLD'S FIRST

TAPE BOOK®

ALL ABOUT TAPE—ON TAPE

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



MEET THE AUTHOR



Jack Bayha

JACK BAYHA is a prominent young audio engineer, writer for numerous technical publications and has been an audio hobbyist for over fifteen years. He is the host of the Hi-Fi House program on WHFB. He has been an engineer in the audio and tape recording fields for the last twelve years.

ORDER YOUR
FIRST EDITION
COPY TODAY



... 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, over-recording, 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.

7 1/2 IPS, 7" Reel, Dual Track \$6.95 postpaid
3 3/4 IPS, 5" Reel, Dual Track \$5.95 postpaid

Including a 28 page manual of illustrations

ASK YOUR DEALER OR USE COUPON BELOW

HI-FI TAPE RECORDING
Severna Park, Md.

Please send me a first edition copy of "All About Tape—on Tape" as indicated below.

- 7 1/2 IPS, 7 inch reel, dual track \$6.95 postpaid
 3 3/4 IPS, 5 inch reel, dual track \$5.95 postpaid

I enclose \$.....

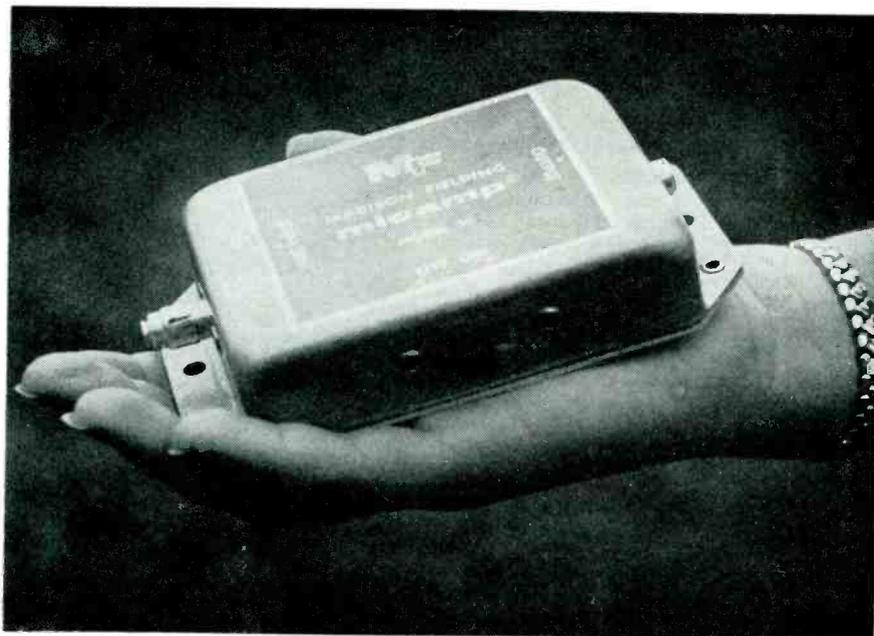
NAME

ADDRESS

CITY ZONE STATE

NEW PRODUCT REPORT

STAFTESTED



MADISON-FIELDING MICAMP

... all-transistor matching amplifier for both phonograph and microphone applications

THE Micamp Model 30 is a transistorized matching amplifier for both microphone and phonograph applications.

The device is used to match low impedance microphones to the high impedance inputs of recorders or PA system amplifiers without the use of a matching transformer. It provides 30 db gain and is completely free of hum.

It may also be used with low impedance low output magnetic cartridges on phonographs. With the gain provided in the unit, it will handle even the lowest outputs from magnetic cartridges.

The Micamp is battery operated using a special mercury cell, Eveready EL32, Mallory TR132 or General B1. These cells will last over a year of normal use as the drain is only one thousandth of a watt. Batteries are easily changed by simply taking out one screw on the back of the case, opening the battery compartment door, and allowing the battery and its clip to fall out. A new battery is then inserted in the clip with the positive pole of the battery

connected to the side with the red wire.

The case itself is rivetted together, making the unit tamper proof. It is finished in gray crackle with a blue nameplate and has standard phono cinch jacks for both input and output. An on-off switch is incorporated on one side. The unit should be turned off when not in use to conserve battery life.

Any low-impedance dynamic or velocity microphone may be used with the Micamp. Impedance requirements are not critical and the length of cable between the mike and the Micamp may be in excess of 1000 feet without appreciable loss.

The output may be used to feed any high impedance microphone input, such as is found on most home and semi-professional type tape recorders. It may also be used to feed amplifiers, preamps and PA systems.

If the Micamp is used, a matching transformer is not needed, getting rid of one possible source of hum.

If used with a magnetic phono cartridge, the output of the Micamp is plugged into the magnetic input jack

Product: Micamp

Manufacturer: Madison-Fielding Corp., 863 Madison Street, Brooklyn 21, N. Y.

Price: \$9.95 less battery; with battery \$11.25.

on the amplifier to provide proper equalization.

As the inputs are in the form of standard RETMA phono plugs, some change of wiring on the mike cord may be necessary. Generally, low impedance mikes are equipped with a two-wire shielded cable. To use with the Micamp, connect one of the inside wires to the shield, which in turn is connected to the shell of the plug. A short length of mike cord with a standard Cannon connector on one end and a phono jack on the other may be used as an adapter and save changing the mike cord if it is also used with other equipment.

The output cable from the Micamp to the recorder or other equipment may be single conductor shielded cable of any length up to eight feet.

Holes are provided in the flanges of the case to permit mounting the unit on a recorder for permanent installation.

The manufacturer's specifications include: Input impedance, 125 ohms, nominal. Output impedance, 18,000 ohms. Voltage gain, 30 db. Distortion: 0.75% at full output. Hum level: absolute zero. Frequency response, within 1.5 db 20 to 20,000 cps. Size is 1" x 2 $\frac{7}{8}$ " x 4 $\frac{3}{8}$ " wide. Weight is 7 ounces.

Our tests on the unit revealed that the claims are essentially correct. The 30 db gain figure was met and the distortion was as claimed. The frequency response is more than adequate to meet most audio needs. The unit which we tested showed a slight fall off in low frequencies when the input was 125 to 150 ohms and a slight gain on lows with the input at 250 ohms.

The Micamp appears to be an excellent unit for the purposes named.

FOR YOUR AUDIO BOOKSHELF



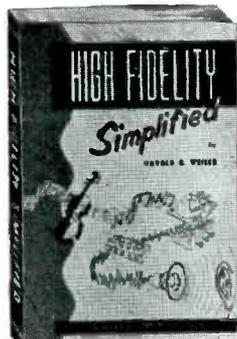
YOUR TAPE RECORDER

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 book does not deal with technicalities. It was written after some 2500 experiments had been conducted, 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.

5 3/8" x 8", cloth bound, 288 pp. Illustrated.

\$4.95



HIGH FIDELITY SIMPLIFIED

by Harold D. Weiler

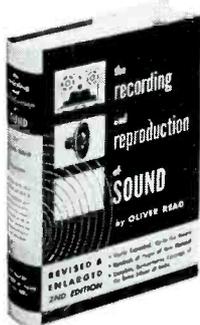
This book has sold more than 65,000 copies and is one of the most popular books on the subject. It covers the How, What, Why and Where of Hi-Fi., Sound, Acoustics, The Simple Loudspeaker, The High-Fidelity Loudspeaker, Loudspeaker Enclosures, The Basic Amplifier, The Amplifier, The Record Player, Tuners.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

5 1/2" x 8 1/2", paper bound, 208 pp. Illustrated.

\$2.50

THE RECORDING AND REPRODUCTION OF SOUND

by Oliver Read



The largest selling book in its field; favorably reviewed by leading authorities on audio. Widely used by Sound engineers, High-Fidelity enthusiasts, Public Address technicians, broadcasting stations, recording studios, and students of audio. Authoritative chapters cover: behavior and sound waves; basic recording methods; lateral disc recording; micro-groove recording; the decibel; phono reproducers; cutting styli; microphones; loud speakers and enclosures; dividing networks and filters; attenuators and mixers; home music systems; public address systems; amplifiers; AM and FM tuners, tape and wire recorders and recording film recorders—plus hundreds of other subjects. A standard reference work.

810 pages, 6" x 9", illustrated

\$7.95

Written so that anyone can understand it—profusely illustrated so that anyone can easily follow directions—this new layman's manual

by
Harold D. Weiler

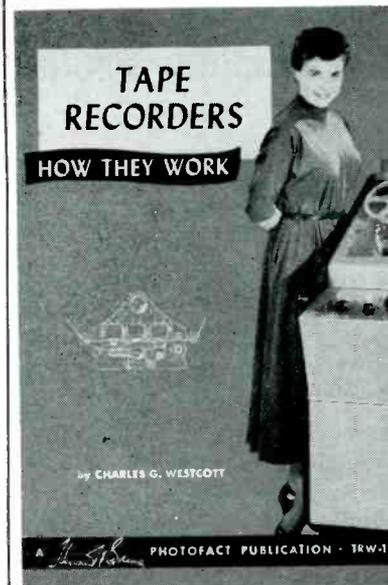
(author of the popular book, "High Fidelity Simplified") is a must for every owner of a tape recorder.

Library size—just 5 1/2 x 8 1/4 inches—this wonderfully helpful new book by an author who knows his subject and knows how to write so that everyone can understand him perfectly, contains over 100 illustrations and diagrams—13 chapters of practical, down-to-earth suggestions that spell better recording results for each of you.

\$2.95
Postpaid



5 1/2 x 8 1/2", profusely illustrated, 190 pages, tough paper binding.



Written in a popular style—profusely illustrated this excellent volume tells "what's under the cover." Service technicians, Hi-Fi enthusiasts and tape recordists will benefit from this book.

by
Charles G. Westcott

Chapters include: Theory of Magnetic Recording, The Motorboard, Tape Transport Mechanism, Drive Motors, Volume Indicators, The Bias Oscillator, Equalization Circuits, The Record and Playback Amplifier, Magnetic Recording Heads, Magnetic Recording Tape, Test Procedures and Index. Has 167 illustrations.

5 1/2 x 8 1/2", illustrated, 177 pages, tough paper binding.

\$2.75
Postpaid

BOOK DEPARTMENT

HI-FI TAPE RECORDING MAGAZINE

Severna Park, Md.

Please ship immediately the books checked.

I enclose

NAME

ADDRESS

CITY ZONE STATE

All books shipped postpaid from stock same day order is received. If not satisfied return books within 5 days and money will be refunded.

- Tape Recorders and Tape Recording
- Recording and Reproduction of Sound
- Tape Recorders—How They Work
- High Fidelity Simplified
- Your Tape Recorder

TAKE 1

by the Editors

WE were quite intrigued recently when we read of a new candy which is made especially for eating while watching television. What really got us was the fact that the candy has a "hi-fi" taste and the sound it produces while it is eaten has been described as a crunch or crackle that makes you feel as though you were in the middle of a movie audience.

We wonder now who will come out with a "hi-fi" breakfast cereal, the snaps, crackles and pops of which have a frequency range most pleasing to the ear of a child.

The term "hi-fi" has spread far beyond its first modest bounds. The makers of speakers, amplifiers and similar components were the first to use it extensively. Its meaning, then, and to a great extent now, denoted sound reproduction of a high quality, something that was almost a re-creation of the original sound. The term "hi-fi" then rubbed off on to those who made what are known as "package units," that is record players, amplifiers and speakers all in one case—all you need do is plug it in and you're in business.

The people in the advertising world were next to note the value of the words and not long afterward there appeared a rash of hi-fi everything, even now to a hi-fi taste.

We're wondering now what will eventually become of "hi-fi." Up to now it has meant the top of the ladder in sound reproduction. However a serious rival has appeared on the horizon which outshines the very highest of hi-fi. We refer to stereophonic sound on tape. Even using the most inexpensive methods of stereo reproduction, the realism produced exceeds that of the finest of single channel rigs.

The term "hi-fi" is still a lively corpse but we wonder now if the stereo infant isn't going to overshadow its parent in a very short time. Then we'll need a new and more modern word—anyone have an idea of what it might be?

Something else that fascinated us was the report that engineers just playing around with the new Ampex video recorder (it will record up to 4,000,000 cycles per second) had connected an antenna to the input of the machine and recorded every station that was on the air at that time.

They then connected a tuning device to the output, put the recorder in playback and

were able to tune in any single station that they wanted and switch from station to station at will. Phillip L. Gundy, Ampex Vice President, made the announcement and said, "The engineers had simultaneously recorded everything that was on the air then, so that all or any part of it could be played back at any time later. And yet they used much less than half of the machine's ability to record information." Ampex is now teaming up with Stanford Research Institute on a coop program. The aim is to find the full capabilities of the video tape recorder.

We bet it would sound awful if they played back, through one speaker, all the stations at once.

When a large recording company recently announced that henceforth their stereo tapes would be available for in-line, or stacked, heads only, some folks who had staggered head machines, and even some dealers, got butterflies in the stomach.

Somehow the impression had got abroad that everything was going stacked, and as a consequence, those with staggered head machines would be left out on a limb playing the same few tapes over and over.

As an acquaintance of ours likes to say, "Bud, them ain't the facts."

We have recently published a complete catalog of stereo tapes. In it are listed the complete offerings of the 21 companies who issue stereo tapes. Only 8 of those companies put out their products in in-line only—the other 13 have tapes available both ways. As to numbers of tapes available, there is a total at present of 250. Of this number 168 are available in staggered and stacked form; 82 are available for in-line heads only. Of the 82 26 are foreign tapes.

Instead of butterflies in the stomach we should have ants in the pants to get with it because the number of stereo tapes available is increasing daily, as are the numbers of machines on which to play them.

Anyone who is worried about stacked vs staggered should stop worrying and enjoy stereo—the finest sound this side of Heaven. There are accessory heads available now for the worried and, if mounted on a staggered recorder will enable the owner to play *both* kinds of tapes.

Being an ardent admirer of the "Peanuts" comic strip we couldn't resist getting special permission to reproduce the one shown below.

TAPE OF THE MONTH

Hi-Fi Master Library of Binaural and Monaural SELECTIONS AVAILABLE AT LOCAL DEALERS

Never before has such a wide selection of musical favorites been made available! Symphonies, Operas, Folk Music, Jazz, Popular, Hymns, Rock 'n Roll, Readings or Novelties . . . you're sure of the best if it's a Tape of the Month.

MONAURAL ONLY
For a 7" reel recorded at 7-1/2 I.P.S. Approx. 1200 ft., Single or Dual track. **6.95**

10.95 ONLY **BINAURAL**
For a 7" reel recorded at 7-1/2 I.P.S. Approx. 1200 ft., Staggered or Stacked heads.

SEND FOR NEW CATALOG, AND NAME OF THE TAPE OF THE MONTH DEALER NEAREST YOU! If you will send in the name and address of your photo store, record shop or Hi-Fi center, we will arrange for them to stock **TAPE OF THE MONTH** recordings.

TAPE OF THE MONTH

449 West 51 St. • New York 19, N.Y.



STEREOPHONIC

RECORD PLAYBACK HEAD IN-LINE MODEL TLD

For conversion, replacement, new equipment. Includes data, schematics for amplifiers, etc.

ORDER FROM:

NORTRONICS, INC.
1015 S. 6th Street
MINNEAPOLIS 4, MINN.

FREE HI-FI CATALOG

WRITE FOR YOUR COPY NOW!

TOWERS

P. O. BOX 155, PHILADELPHIA 5, PA.

RECORDERS TAPES—RADIOS PHONOGRAPHS TV-LP RECORDS

—DEPT. TR

NOW! LEARN TO SPEAK FRENCH • SPANISH • GERMAN • ITALIAN

and other languages on tapes and records. Large selection of easy courses, popular songs, stories, plays, speech, from \$2.85 up.

Send for free catalog to:
LANGUAGE TRAINING AIDS
12101 Valleywood Drive
Silver Spring, Maryland

PEANUTS®



By cartoonist-of-the-year Charles M. Schulz

RECORDED ★ TAPE

We carry a full line of stereophonic and monaural tapes from over thirty leading tape libraries. For a complete and informative FREE catalog, write—

MAL'S RECORDING SERVICE

Dept. TR, Box 37, Rockaway Park 94, N. Y.

WE BUY—SELL—TRADE

NEW AND USED

TAPE RECORDERS

MOST ALL MAKES

Also Hi-Fi Equipment

HIGHEST TRADE-IN ALLOWANCES

SAMPSON ELECTRONICS

Central City, Nebr.

"BEAT THE HORSES"

(A Tape-Recorded Parlor Game)

More fun than the hayburners themselves! Eight races on tape complete with sound effects, odds, cues and full instructions. Have fun!

7.5 lps, \$2.95 — 3.75 lps, \$1.95

Free Catalog. "Sampler", 99c

HOUSE of STONE • Lunenburg 5, Mass.

RECORDS FROM YOUR TAPES

Meetings, concerts, training aids, etc. economically re-recorded on permanent hi-fidelity discs. Professional quality—overnight service—all speeds—any quantity. Write for Free Folder and Prices

RECORDED PUBLICATIONS LABS,
1556-1570 Pierce Ave., Camden 5, N.J.

TAPE RECORDERS

Tapes—Accessories

Nationally Advertised Brands

UNUSUAL VALUES

Send for Free Catalog

DRESSNER

69-02 AA: 174 St.

Flushing 65, N. Y.

MERITAPE

Low Cost,

High Quality

Recording

Tape—in

boxes or cans.

HAVE FUN AT YOUR NEXT PARTY

Tape record this old fashioned 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. TAPE RECORDING does not guarantee any offer advertised in this column and all swaps, etc., are strictly between individuals.

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

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

WOULD LIKE TO TAPESPEND with anyone interested in Shetland pony, Administration duties of County Fairs, or in feed, fertilizer, and lumber businesses. Gene Litwiller, Milledgeville, Illinois.

FOR SALE: RCA Hi-Fi recorder, 1956 Model 7TR3, slightly used in church work. Cost \$199. yours for \$129. R. C. Moyer, R2, Perkasie, Pa.

AMPEX 403C console tape recorder, excellent, full track, 7½ and 15 ips, \$695. Bob Mefford, Box 178, Burlington, Iowa.

WILL BUY SECOND-HAND tape recordings of standard manufacture in good condition. Send offers and details to T. R. McMillen, 135 S. LaSalle, Chicago 3.

RE-RECORDINGS FOR SALE. Early Concert Bands and Soloists. Americana Singers, etc. On Tape and Disc. Write G. D. Bridges, 2199 Lakeview Ave., Detroit 15, Mich.

FOR SALE: Electro-Voice Model 636 dynamic microphone. Seldom used, \$20. Pentron MM-4A 4-channel mixer. Excellent condition, \$20. Electro-Voice Model 911 crystal microphone, \$10. Atlas MS-10C stand, \$3.50. I'll pay shipping charges anywhere in USA. Clifton R. Boyce, 117 Evergreen Avenue, Pitman, New Jersey.

RECORD for cash! Announcing course, \$9.00. Free brochure. Stone, Lunenburg 24, Mass.

WANTED: Ampex 600 tape recorder. Will pay as high as \$135. State condition. Bernard M. Bradford, 350 Dick Street, Fayetteville, N. C.

TREAT YOURSELF

—to the luxury of having Hi-Fi Tape Recording delivered right to your door every month. Fill out the coupon below and get it in the mail. We'll be glad to bill you if your check book isn't handy at the moment.

2 Years \$7.00

1 year \$3.75

HI-FI TAPE RECORDING
Severna Park, Md.

Please enter my subscription as indicated below:

2 years \$7.00

1 year 3.75

Payment enclosed. Bill me later.

Name

Address

City Zone State

22 TUBE RADIO RECEIVER, manufactured by FT&R for Navy. Model CFT-46245. 210 KC thru broadcast band. Excellent for Hi-Fi tuner. Original cost over \$5,000. Like new. Size 26" H x 19" W x 19" D. Best offer over fifty dollars. Write: Thomas H. Rutland, 1709 W. Market St., York, Pa.

SAVE! Hi-Fi tape, 1200', boxed 7" reels: 3/\$4.65; 6/\$8.95; 25/\$35. Postpaid. Prime US manufacturer. Guaranteed. Tape Enterprises, Box 6, Springdale, Conn.

TOP QUALITY HI-FI recording tape—1800' 7" reels, precision slit, abrasive free, non-shedding, extra tough break resistant, 2¼" hub. \$1.89 each in lots of 3 or more. Sample \$2.49. Fully Guaranteed. Good used 1200' reels of tape, 99c each. New and used recording equipment and supplies. Please include sufficient postage. COD orders accepted. Recording Services, P.O. Box 251, Wallingford, Conn.

FOR SALE: T.D.C. model 730-G upright tape recorder. Used 10 hours. Owner guarantees perfect condition. Paid \$250. Sell \$175. William Siegel, Jr., 182 Long Beach Road, Hempstead, New York.

SPECIAL OFFER: Concertone 1501-D (Direct-Drive) professional tape recorder, complete with monitoring amplifier case. First class condition, last one; only \$265. B. K. Balch, 611 Livingston Rd., Linden, N. J.

LEARN HYPNOTISM, SELF-HYPNOSIS from tape! Other helpful recordings! Free information! Drawer TR3-697, Ruidoso, New Mexico.

HI-FI Recording Tape. 1800', 7" Reels—\$1.95 each, 3 for \$5.59. 1200', 7" Reels—\$1.69 each, 3 for \$4.95. Cousino Tape Splicer—\$1.50. Money back refund guaranteed. Include sufficient postage. Florman & Babb, 68 W. 45th St., N.Y.C.

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

TEST YOUR RECORDERS PERFORMANCE. Excerpt Dubbings D-110 Test Tape 5.98*. Blank recording tape 3" reel. 3 reels \$1.00*. Free Catalog. *Add Postage. Amerstet Products Corp., 1280-B Sheridan Ave., Dept. TR 4, New York 56, N. Y.

HIGH FIDELITY TECHNIQUES

by

John H. Newitt



Readable, authoritative and concise, this 494 page book covers the whole field of hi-fi including suggestions on choosing, buying and setting up equipment. The servicing information is valuable to the technician and service shop.

\$7.50
postpaid

BOOK DEPARTMENT
TAPE RECORDING MAGAZINE
SEVERNA PARK, MD.

TAPE RECORDERS

TAPES (in Boxes or Cans) & HI-FI
EXCEPTIONAL VALUES

NATIONALLY ADVERTISED BRANDS
WRITE FOR FREE CATALOG

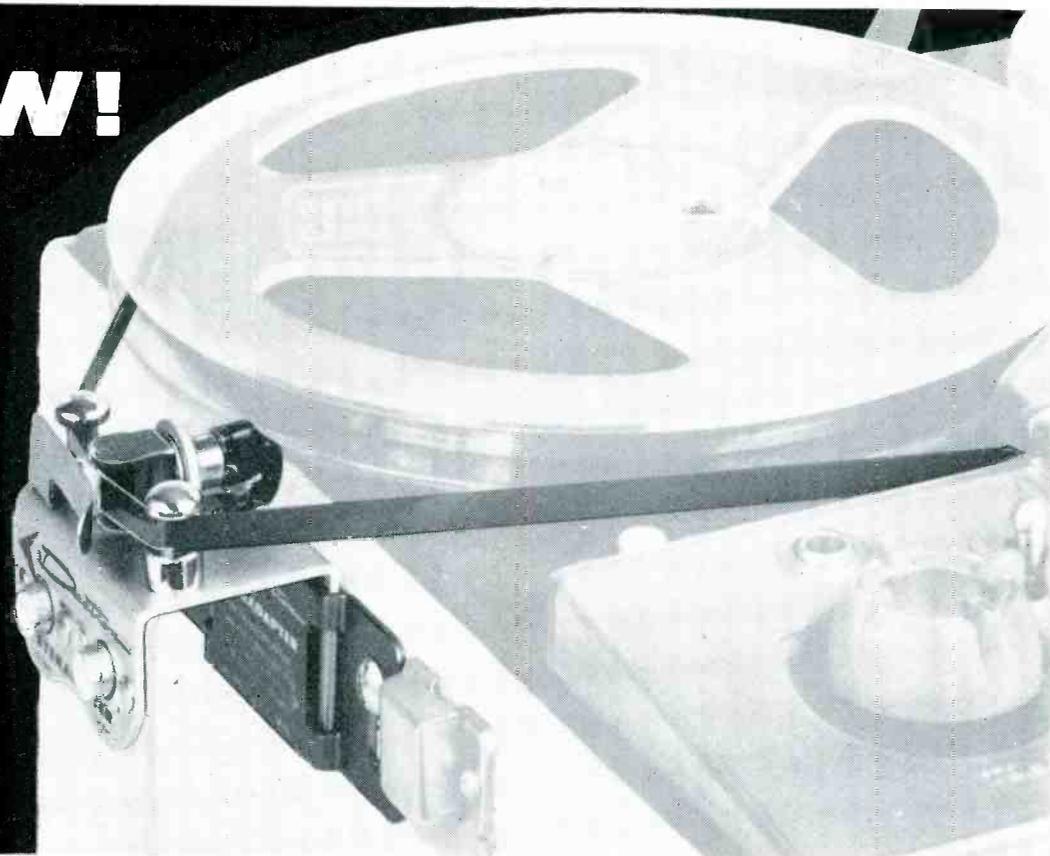
CARSTON 215-C E. 88 St.
New York 28, N. Y.

NOW!

In-Line Stereo at Low Cost



TWO CHANNEL AND THREE CHANNEL



STERADAPTER*

Ask your dealer to Let you Listen!



Special . . .
2 Channel Steradapter Outfit Shown (complete) \$39.00

2 Channel Steradapter only — \$22.50
3 Channel Steradapter only — \$39.00
1 Channel Transistor Booster Pre-Amp \$18.75
2 Channel Transistor Booster Pre-Amp \$37.50
3 Channel Transistor Booster Pre-Amp \$47.50

Free Test Tape

"Shake Hands with Stereo."* Five minute get acquainted tape prepared especially by Stereo Guild included with Steradapter at no extra cost for a limited time! Here's that "TUNE-UP-TAPE" for first stereo fun at home on your own machine. Ask your dealer to let you listen . . .

Steradapter is a quality product. Steradapter is available now



one of the many advances in magnetronics from

Research With The Forward Look

The Dactron Corporation: New York, Chicago, Hollywood, Minneapolis, Miami, Washington, D. C.

*Trade Mark Registered, Patents Pending. Printed in U.S.A.

DACTRON CORPORATION

Taft Building
Hollywood 28, Calif.

Please send name of nearest dealers where I may have a FREE LISTEN —

Name: _____

Address: _____

City _____ Zone _____ State _____

Why only "Scotch" Magnetic Tape was qualified to record the

World's longest organ recital

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

Seven discs, released last summer, have already won plaudits both for the dedicated performance of organist Carl Weinrich and for the quality of their recorded sound. An auspicious beginning for a series which will eventually contain 22 records and require two more years to complete!

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

Hear recorded sound as you've never heard it before—on "SCOTCH" Brand Magnetic Tape.



The term "Scotch" and the plaid design are registered trademarks for Magnetic Tape made in U.S.A. by MINNESOTA MINING AND MANUFACTURING CO., St. Paul 6, Minn. Export Sales Office; 99 Park Ave., New York 16, N.Y. © 3M CO., 1956



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