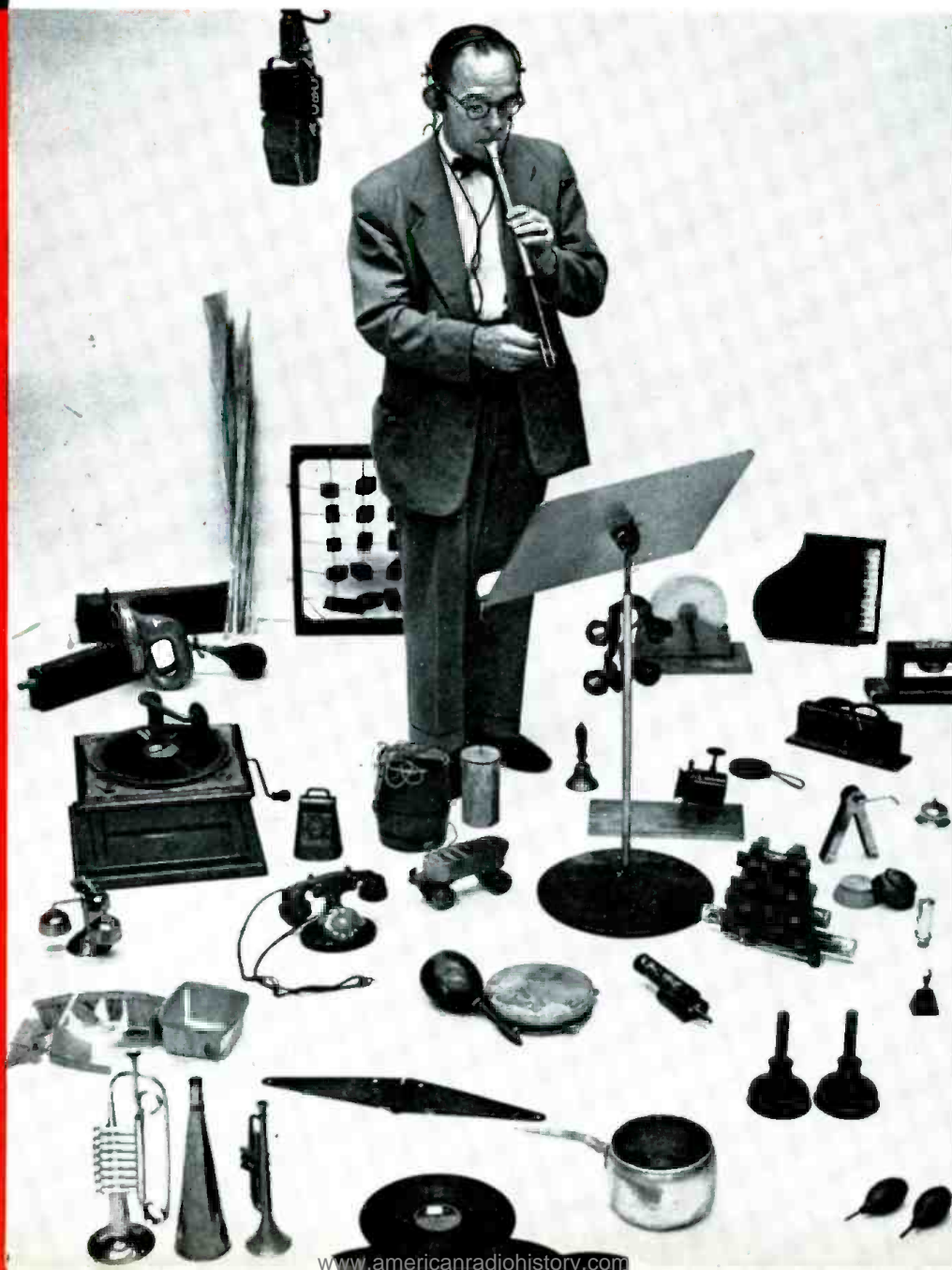


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August, 1957

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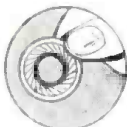


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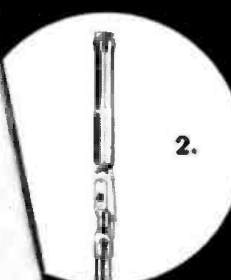
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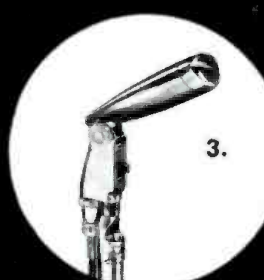
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HI-FI

TAPE RECORDING

VOL. 4 No. 9

AUGUST 1957

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Cover Photo: Michel Brault



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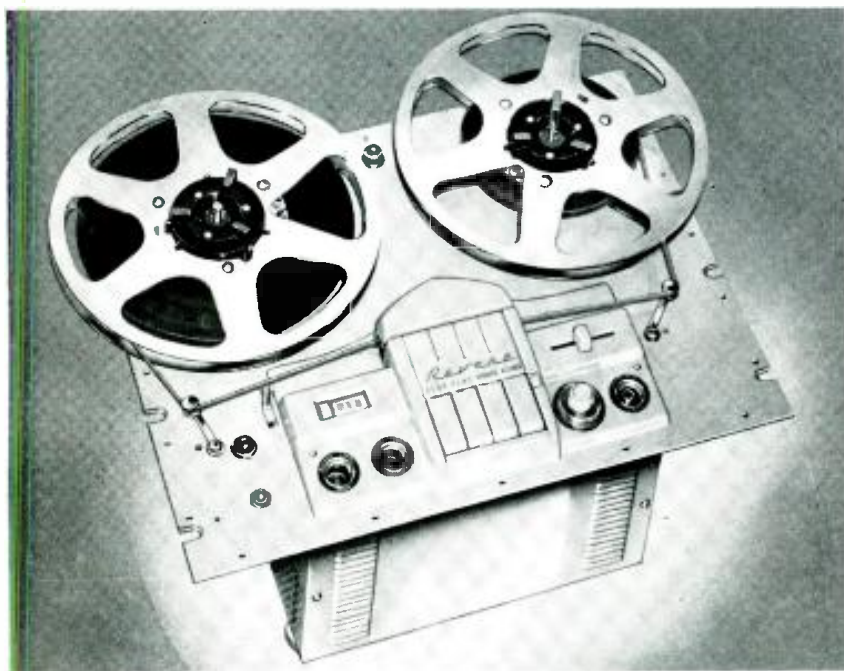
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NEW TAPES

By Georgie Sigsbee

CLASSICAL

OPERA

VERDI

La Forza Del Destino (Highlights)
Zinka Milanov, Soprano
Jan Peerce, Tenor
Leonard Warren and Raymond Keast,
Baritones
Nicola Moscona, Bass
The Robert Shaw Chorale, Robert Shaw,
Conductor

RCA Victor Orchestra
Tenato Cellini and Jonel Perlea, Conductors
RCA DC-32
Dual... \$12.95

RCA is taping quite a number of operatic highlights which should find a welcome place in one's library. For those as yet leery of lengthy operas yet desirous of an acquaintance with the virtues of this type of music, for those who like opera in small doses, and for those who love opera but who may have an inclination at times to

hear just portions rather than the whole, these recordings should fill the bill.

On this particular tape Zinka Milanov is the star. RCA has combined parts of an album "Milanov Sings" with parts of a newer recording and have come up with a bird's-eye view of this opera. Verdi relates the story of one Don Alvaro (Peerce) who has accidentally killed his sweetheart Leonora's (Milanov) father. Her brother, Don Carlo (Warren) swears vengeance. The two Dons meet in the army where, ignorant of their true identities, they become friends. Some years later, their identities now known, they duel and as Don Carlo is dying he stabs his sister Leonora.

Milanov does some lovely vocalizing, in particular during the aria "Madre, pietosa Vergine" and "Pace, Pace, mio Dio!" Peerce executes his role in a worthy artistic fashion. Warren is in excellent voice and manages to put dramatic inflection into the brief "Morir, Tremenda cosa." Both men do a good job during their long duet from Act IV.

At the beginning of Track 2 RCA fills with a brief section from the conclusion of an aria between Warren and Keast (in the role of a surgeon) although, in my opinion, there is enough blank at the end of the tape to have included a bit more. This would have alleviated the feeling that it is somewhat superfluous padding, just thrown in.

Moscona puts in a short appearance as Padre Guardiano during the finale.

As on all the highlights—notes are included on back of the box. Fidelity is good.

OPERA

VERDI

A Masked Ball (Highlights)
Zinka Milanov and Roberta Peters,
Sopranos
Marian Anderson, Contralto
Jan Peerce, Tenor
Leonard Warren, Baritone
Metropolitan Opera Orchestra
Dimitri Mitropoulos, Conductor
RCA DC-33
Dual... \$12.95

Here are highlights from Verdi's opera which tells the story of Riccardo (Peerce), King of Sweden, who is in love with Amelia (Milanov) wife of his secretary, Renato (Warren). Ulrica (Marian Anderson), a sorceress, tells Riccardo the first man to clasp his hand will slay him . . . it is Renato. During the masked ball Renato, having found out about all this business, does just that and as Riccardo is dying he assures Renato of Amelia's innocence and begs no one attempt avenge his death.

Again, as in the "La Forza," Milanov takes the top billing. Peerce is his capable self. He has a fine vocal instrument with good control and dramatic flair but his tonal quality is not as warm and fluid as in past years. Warren, on the other hand, does not inject enough dramatic feeling into his voice. It is impeccable . . . too

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much so at times. I feel Jean Borthayre (on Connoisseur label) gives a more well-rounded performance as Renato. Roberta Peters performs in a charming manner in her brief aria at the conclusion.

My greatest disappointment came in hearing Marian Anderson. Her marvelous voice (thank goodness for the recordings to prove it) is uncertain and tired. Only at times during some middle to upper register passages does she gain any semblance of the old power and beauty.

Mitropoulos and the orchestra perform most ably and the fidelity is very good.

For those desiring the complete opera I refer you to the Connoisseur D-100-1 (October 1956).

**OPERETTA
KALMAN**

Gypsy Princess

Orchestral Introduction—Wedding Dance

My Home Is In the Mountains

The Girls, The Girls

Girls, Beautiful Girls

Don't Chase the Luck

Orchestral Introduction

Let's Pretend We Are Swallows

Do You Still Know It?

You Live Only Once

That Is Love

I Would Like to Dance

Jaj

Mamam, Thousand Little Angels

Friedl Loor, soprano

Karl Terkal, tenor

Vienna State Opera Chorus and Orchestra

Hans Hagen, conductor

OMEGATAPE ST-3009

Stereo, Stacked or Staggered... \$14.95

Emmerich Kalman (1883-1953) was born in Hungary and his music is spiced with the flavor of his native land. Desiring to be a serious musician, he found his real success in the field of operetta. Another of his better-known works is the "Countess Maritza."

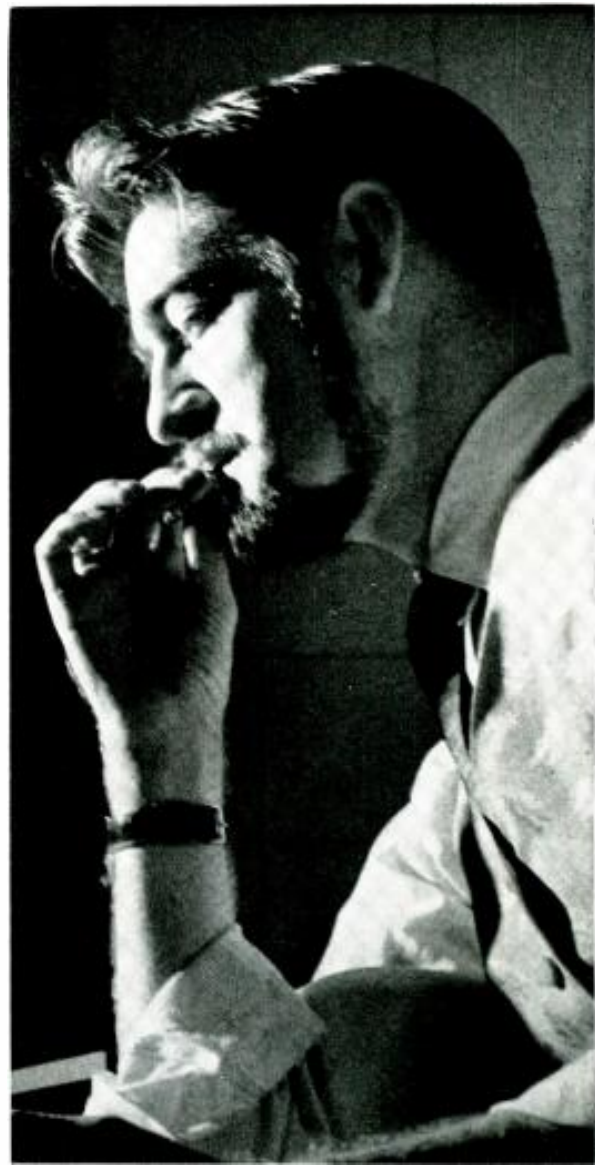
The "Gypsy Princess" was first presented in 1915 in Vienna. This is the romantic tale of a popular singer, Sylva Verescu (Friedl Loor) in love with Prince Edwin (Karl Terkal). The Royal family is adverse to this affair and while Sylva is in America they announce the Prince's engagement to a Countess. Upon Sylva's return the King learns his mother was also a chansonette and the story ends on a happy note.

Miss Loor and Mr. Terkal sing their songs in a most pleasant manner; their voices are fresh and vital.

The balance on the recording is good; the singers are not plastered up to the mikes but seem properly "on stage" and the orchestra is in the pit where it belongs. Stereo is used to advantage during the duets... Miss Loor is to the left, Mr. Terkal on right.

The notes include background on the composer and a synopsis of the plot, but no chronological rundown of numbers is given except on the label. Inasmuch as these two artists sing in German, I feel it would have been better had the libretto, with an English translation, been included. For the convenience of those who may wish to follow what is going on with some continuity of thought, I have listed above the

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man
who
put
the
"oh"
in
stereo



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Piano Concerto No. 1 in E Flat
Alfred Brendel, Piano
Pro Musica Symphony, Vienna
Michael Gielen, Conductor
PHONOTAPES-SONORE S-701
Stereo, Stacked...\$11.95

Phonotapes has now released another "set" of the Liszt piano concerti * 1 and * 2; this time recorded stereophonically with Mr. Brendel as soloist. What with the Frugoni monaural tape (Phonotapes PM 128, March 1956) and the Rubenstein rendition of * 1 (RCA BCS-31, June 1957), we are gaining an ever-widening choice of these particular compositions.

This is an excellent stereo recording. The same orchestra heard on the Frugoni tape is given greater scope thanks to stereo (the RCA via stereo is a smaller group) and coupled with this is a brilliant performance by Mr. Brendel. The piano is placed to the right and the tones are crystal-clear.

ORCHESTRAL TCHAIKOVSKY IN STEREO

Pro Musica Symphony, Vienna
Heinz Sandauer, Conductor
PHONOTAPES-SONORE S-703
Stereo, Stacked...\$11.95

I must, in truth, state that I am somewhat allergic to, and become highly frustrated when hearing, a conglomeration of themes thrown together into a musical stew. It causes me to become the victim of a case of musical indigestion or perhaps it could be called musical malnutrition caused not from lack of music but from lack of the proper kind in the proper amount.

Listed as "a symphonic fantasy of great themes from Tchaikovsky's symphonies, concertos and ballets"; this potpourri from some of his compositions evolves itself into a musical hodgepodge and it's up to you, or others, to identify the ingredients. There are no notes, no label and no run-down on just what has been tackled here. Those who are not familiar with Tchaikovsky will not know what they are listening to, those who are thoroughly acquainted with his works can rest on their laurels, while those who are betwix-and-between can indulge in a guessing game. Falling into this latter class, I took on as partner a Professor of Music at the University here. * 4 on the list proved a slumper but he finally traced it down. Despite the pictorial cover on box featuring ballet, I didn't identify a Pas de Chat or Fouetté. Here is his list for those who might wish to have it. Perhaps you will hear short bursts of other things.

Capriccio Italien, Op. 45
Concerto * 1 B Flat Minor for Piano
Overture 1812
Chant Sans Parvles, Op. 2, No. 3
(piano)
Capriccio Italien
Overture 1812
Concerto * 1 for piano
Symphony * 4
Violin Concerto
Overture 1812

Oh yes, to those of you who don't mind one way or the other, this is a good stereo recording adequately performed by the Pro Musica group. The Violin Concerto is the predominant excerpt on the tape.

ORCHESTRAL THE MUSIC OF THE BACH FAMILY—

Volume 1
Bach, Johann Bernhard
Suite in D-Major
Bach, Johann Christoph
"Amadis des Gaules" Suite
Zimmler Sinofietta
Richard Burgin, Conductor
BOSTON TAPE LIBRARY BO 7-6 BN
Stereo, Stacked or Staggered...\$11.95

The two compositions on this tape are part of the recording series undertaken by Boston Records under the auspices of the Boston University Anthology of Recorded Music. This particular series is composed of music created by the fourteen Bachs. The complete "Music of the Bach Family" is available under the Boston label on disc; this stereophonic recording is the first volume of the tape series. Volume 2 has also been released. In conjunction with these recordings one might wish to have for further reference and edification the book "Music of the Bach Family" edited by Karl Geiringer and published by the Harvard University Press—price \$9.00

Johann Bernhard (1676-1749) was a distant cousin of Johann Sebastian. He served as organist at Eisenach. Only a few of his works have survived. The Suite recorded here is a pretty thing, somewhat akin to a beautiful autumn day.

Johann Christoph (1642-1703) a second cousin to Sebastian, is a Bach of greater musical stature. Some of his compositions were first attributed to Sebastian, showing there was both artistic, as well as family, connection. This suite, from his large opus, has more depth and drama than the lighter work of Bernhard's. The last two sections are, for me, slightly reminiscent of Beethoven who was not born until some 67 years after Christoph died.

Recorded in Symphony Hall, Boston, in May 1956, the sound is excellent and the authenticity of style is maintained with keen judgement by Mr. Burgin and the Sinofietta. They perform with achievement.

ORGAN ORGAN CONCERT

Prelude and Fugue in A minor—J. S. Bach
Vom Himmel Hoch—Pachelbel
Aria for Organ, Opus 51—Peeters
Prelude No. 6 (from Opus 9)—Schroeder
Schonster Herr Jesue—Schroeder
Wachet auf, ruft uns die Stimme—
J. S. Bach

APHRODISIA APHRODISIA
IN STEREO
Bob Romeo
featuring
Laurindo
Almeida



Omegatape

Erbarm' dich mein, o Herre Gott—
J. S. Bach

Grand Jeu et Duo—D'Aquin
Austin Lovelace, Organist
CONCERTAPES 24-3
Stereo, Stacked or Staggered... \$11.95

And quite a good organ concert. I assure you. Dr. Austin Lovelace who has been Minister of Music at the First Methodist Church in Evanston, Illinois and is chapel organist at the Garrett Biblical Institute in Evanston, has recorded here a program of compositions from the baroque and modern eras. He plays in a thoroughly competent manner and with a surety bred by long association and love of his instrument.

He performs on the organ located in the large stone sanctuary of the church. The tonal quality and range of the instrument is both full and resonant. The antiphonal organ, located at the rear of the hall, lends an echo effect which you will hear to advantage in "Grand Jeu et Duo." Dr. Lovelace does a most satisfactory job on the Bach chorale-prefudes, as on all the numbers. The last selection highlights the various effects he derives from the organ as well as his command of the instrument.

A fine, clear recording.

OVERTURES

WAGNER

Tannhaeuser Overture
Flying Dutchman Overture
Florence May Festival Orchestra
Vittorio Gui, Conductor
LIVINGSTON BN 702
Stereo, Stacked or Staggered... \$11.95

This was reviewed from a monaural standpoint when it was first released by Livingston back in June 1954. The combination of Gui and stereo sound bear out the first review which, in case you don't have that back issue handy, read "Wagnerian music should sound Wagnerian, and this Wagnerian music sounds as Wagnerian as Wagnerian music should sound!"

So little of Wagner is yet available on tape that this recording is worth bringing to your attention as it is the most outstanding reading of this composer in our tape library to date.

The churchly harmonies of the "Pilgrim's Chorus" and exciting revelries of the "Venusburg" in the Tannhaeuser are interpreted with good insight; the string section is as the touch of velvet and after nearing the high-powered climax you might wish to shout "Bravo." The impressive horns in the "Flying Dutchman" add sonic splendor to the musical seascape depicting the wandering mariner.

If you don't have any Wagner on tape, this recording comes highly recommended.

OVERTURES

OPERATIC OVERTURES

Euryanthe
Der Freischutz
Oberon
La Forza Del Destino
Arturo Toscanini and the NBC Symphony
RCA AC 27
Dual, 5" reel... \$6.95

Here are impressive renditions of the three Weber and one Verdi overtures. It is a truly delightful, invigorating experience to hear the Maestro's interpretative genius at work. He derives the ultimate in dramatic excitement and vivid, powerful orchestral coloring. What a conductor! Magnifico!

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Chicago Symphony Orchestra
Fritz Reiner, Conductor
RCA CC-28
Dual... \$10.95

Many rhapsodic words have been written about Mozart's 39th. The "trilogy" (39, 40 and 41) all written within the span of six weeks, were in a sense like three giant steps to the top of the ladder of greatness. All three are now available on tape with Reiner and the Chicago Symphony (No. 41 reviewed Oct. 1956). Mozart and Reiner weave such a spell of beauty for my ears that I find nothing wrong with either the composer or the conductor. From the spirited adagio, which is aurally brilliant, to the lively Finale, this is a distinctive reading. Reiner gives the symphony poetic elegance, yet vigor, without imbalance.

Probing ever deeper into his fertile musical brain, Mozart wrote the 40th, often called the "greatest little symphony." There seems to be reflected within this symphony more of the trials and tribulations endured by Mozart during the summer of 1788 as his wife lay ill and his indebtedness grew. And so if this composition may be said to express sadness, it does so in a beautiful way ending with great ascending and descending notes of hopefulness.

High rating on fidelity.

SYMPHONY

BEETHOVEN

Symphony No. 9 in D Minor ("Choral")
Eileen Farrell, soprano
Nan Merriman, mezzo-soprano
Jan Peerce, tenor
Norman Scott, bass
Robert Shaw Chorale
Arturo Toscanini and the NBC Symphony Orchestra
RCA EC-52
Dual... \$14.95

With considerable pride and prejudice we now have this tape in our library. We were sustained by the Ormandy-Philadelphia version until RCA released the Toscanini album on disc and since then the Maestro's recording has been, for us, the definitive one.

Included in the program notes are stanzas from Schiller's "An Die Freude" (in German and English) which Beethoven adapted for the choral section of the symphony.

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TO LISTEN
TO BARNEY KESSEL BY



CT2—Music to Listen to Barney Kessel By.

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CT3—The Curtis Counce Group. Stunning stereo on the first album of this fabulous five about which Down Beat says "powerful integration"; Billboard: "... abounds with great solos, excellent drive!" "Landslide", "Time After Time", "Sonar", etc.

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CT4—My Fair Lady: Shelly Manne & His Friends: André Previn & Leroy Vinnegar

The best-selling modern jazz album of the season! The 8 hit Broadway tunes: "Get Me to the Church on Time", "I've Grown Accustomed to Her Face", "Show Me", etc.



CT5—Howard Rumsey's Lighthouse All-Stars: Music for Lighthousekeeping.

The colossal Coast crew in a swinging session "made" for stereo! "Topsy", "Love Me or Leave", 2 Latin's with cowbells, maracas, claves, ram's horn and conga drums; etc.



CT6—Art Pepper Meets the Rhythm Section.

Spontaneous combustion in hi fi, this blowing bout between West Coast alto star Pepper and the East's famed Red Garland, Paul Chambers, Philly Joe Jones! "You'd be So Nice to Come Home To", "Red Pepper Blues", etc.

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MUSIC FROM DISTANT PLACES

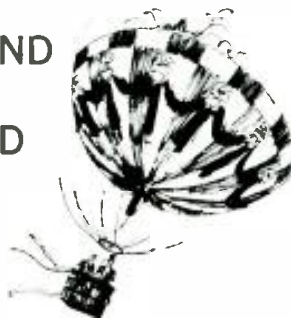
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IN STEREO

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AROUND
THE
WORLD
IN
80
DAYS



VICTOR YOUNG'S SCORE
THE COMPLETE VERSION
OMEGA ORCH • HANS HAGEN

Omegatape

I couldn't resist comparing the tape to the disc and in doing so was surprised to find that the disc has sharper, brighter fidelity. Consequently it delivers a stronger emotional impact. To compensate for this slight deficiency I ran up the level to achieve the proper listening perspective. On the tape there are no surface noises and no over-attenuated highs.

This is a tape to own and cherish. For other readings of the Ninth on tape see the March 1957 issue.

CHORAL WITH LOVE FROM A CHORUS

Juanita
Aura Lee
Wait for the Wagon
Love's Old Sweet Song
When You and I Were Young, Maggie
Lorena
Sweet Genevieve
Li'l Liza Jane
Seeing Nellie Home
Grandfather's Clock
Bonnie Eloise
Stars of the Summer Night
Home, Sweet Home
Believe Me, If All Those Endearing Young
Charms
Drink To Me Only with Thine Eyes
Good Night, Ladies

Male Chorus of the Robert Shaw Chorale
Robert Shaw, Conductor
RCA CC-40
Dual \$10.95

These familiar, nostalgic tunes are presented with the usual smooth, highly professional touch of the Shaw chorale. They tend to relax just a little during "Li'l Liza Jane" and "Seeing Nellie Home" but otherwise they maintain throughout the decorum of a classic vocal group. Except for the guitar, which lends added color to "Bonnie Eloise," all songs are sung a capella.

This is an excellent recording. All young people of grandparent age should especially enjoy it, but if you like the old-fashioned days brought to you in "crew-cut" style, see the review on "Minstrel Show."

POPULAR, DANCE AND MOOD MUSIC FROM A NEAR-BY STAR

Journey To a Star
East of the Sun
Old Devil Moon
Out of This World
Moonglow
Over the Rainbow
Midnight Sun
Star Eyes
Radar Blues
Stardust

Skip Redwine, piano and celeste
Sid Weiss, bass
OMEGATAPE ST-2005
Stereo, Stacked or Staggered...\$11.95

Except for the beginning where mood-setting sounds from the celeste are designed to take you into the upper atmosphere, this recording of standard tunes, doesn't really get its feet off the ground. The arrangements are not "out of this world" and at times, as in "Over the Rainbow," they are a bit slow even for this jet age.

Young Redwine, who aspires to be a playwright and songwriter, turned professional pianist several years ago. He plays the piano in block chord fashion much as though he is accompanying June Havoc, which according to the notes, is what he is currently doing.

Weiss' technique at the bass is good. The sound waves set up from his fiddle during "Old Devil Moon" vibrated everything in the room.

Clear, high fidelity.

MUSIC FROM DISTANT PLACES

Mexico
Londonderry Air
Melody in F
Pavanne
Paradise
There's A Small Hotel
Poinciana

Andre Montero and His Orchestra
OMEGATAPE ST-2011
Stereo, Stacked or Staggered...\$11.95

Montero is a cross between Montavani and Melachrino with a flair for the jazz beat. Using mellow strings, including harp, for sentiment, Montero introduces some bolder tones with the wind instruments. The piccolo solo in "Mexico" and alto sax solo work in "Londonderry Air" and "Paradise" deserve special mention. Although they are unnamed, these French musicians are very good artists.

"Melody in F" (Welcome Sweet Springtime) is given an uptempo beat and the "Pavanne" (I believe this was converted to the pop song "The Lamp is Low") is rendered with a modern twist.

On the notes, as well as on the box, the listing of selections is not in order, so just in case you are not familiar with the numbers and do not want to be misled into thinking "Poinciana" is the "Pavanne" be sure to check the label on the tape, or the above list, where you'll find the tunes listed in proper order.

Excellent fidelity . . . good background music.

THERE'S SOMETHING IN THE WIND

Something in the Wind
Love Me or Leave Me
My Ideal
I Don't Know Why

Let's Fall in Love
Sweet and Lovely
Lady Be Good
My Heart Tells Me
My Old Flame
All Alone

Andre Montero and His Orchestra
OMEGATAPE ST-2007

7 1/2, Stereo, Stacked or Staggered. .\$.11.95

Judging from the popularity of mood music, I would say the tapes which have been recorded in Paris by Montero are going to be hits. Here is a smooth orchestra, spotlighting some skilled musicians, recorded with expert engineering. Omega states that "ADD" (as they refer to this special stereo recording technique) is accomplished by recording the complete orchestra in one area and the various solo wind instruments in another. The resultant effect is of the orchestra across the "stage" while the solist is down front.

Easy to listen to music with interesting sax and clarinet performances.

The tunes are listed on the label in the order in which they are heard.

HONEYMOON IN SOUTH AMERICA

Brazil
Tango of Love
Peanut Vendor
Orchids in the Moonlight
Moon over Montevideo
Florita
La Paloma
La Comparsita
Honeymoon Cha-Cha

Rio Carnival Orchestra

BEL CANTO * 12

7 1/2, Stereo, Stacked or Staggered \$9.95

Refined, lustrous arrangements of sensuous south of the border rhythms. Solo work on guitar in "Brazil" and "Tango of Love" and the accordion employed in "La Paloma" and "La Comparsita" give additional color to the numbers.

I found myself turning down the audio control to cut the too bright effect. During "Tango of Love" and "Florita" the brass has a stridency at the high end and I found lowering the treble control helped overcome this somewhat. This is a very brilliant stereo recording and my only complaint is that the over-zealous engineers did not tone down the brief, but nonetheless existent, ultra-high reproduction of the brass.

JAZZ

TO YOU FROM TEDDI KING

The Way You Look Tonight
You Go to My Head
Where Have You Been
How Come You Do Me Like You Do?
The Touch of Your Lips
If I Could Be with You One Hour Tonight
I Can't Believe That You're in Love
with Me
All I Need Is You
The Very Thought of You
Mister, You've Gone and Got the Blues
To You
When Did You Leave Heaven

George Siravo and His Orchestra
RCA BP-47

Dual...\$8.95

Here, again, is Teddi King (August 1956, AV 408-B) a gal who sings in a

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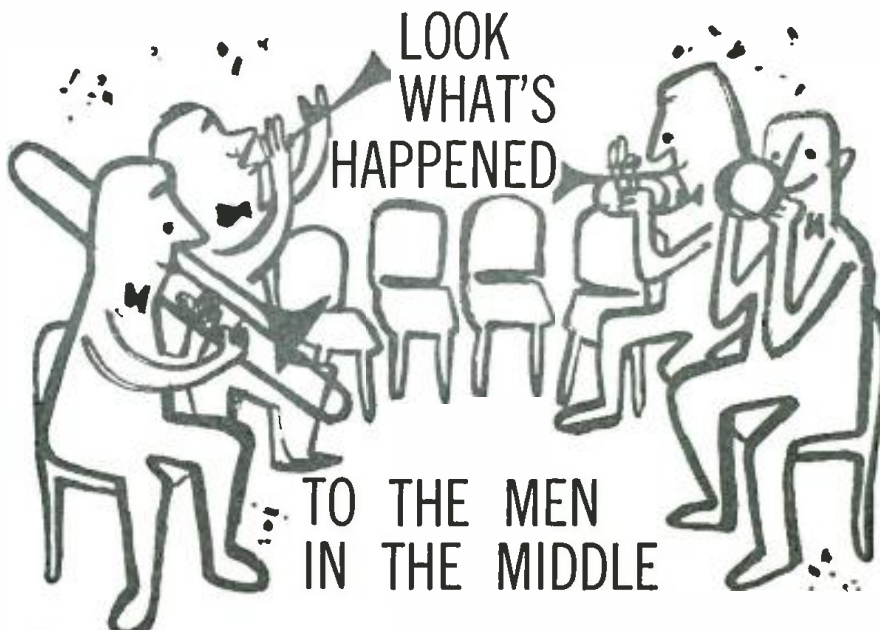
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Catalogue B150, 23 minutes, 7 in. reel, \$7.95.

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direct, expressive voice without any excess embellishments, either engineering or vocal. Teddi has the ability not only to make you feel she is singing just to you but that she understands the lyrics. She gives them a depth not often imparted to pop tunes.

Siravo's orchestra is a very good one. Top fidelity.

PUENTE GOES JAZZ

Birdland After Dark
 Tiny-Not Ghengis
 What Are You Doin', Honey
 Lotus Land
 Lucky Dog
 What Is This Thing Called Love
 That's a Puente
 Yesterdays
 Terry Cloth
 Tito 'In

Tito Puente and His Orchestra

RCA BP-46

Dual...\$8.95

This is hot jazz with a Latin-American accent. The recording is spiked with good solo work, i.e., the hot trumpet in "What Are You Doin', Honey," the up-beat sax work in "Lucky Dog," "That's A Puente," and "Yesterdays," and the fine drumming throughout. Special mention goes to the solo passages in "Birdland After Dark," "Lucky Dog," and "What Is This Thing Called Love."

This mambo band plays jazz with plenty of drive and you'll find the temperature is definitely up.

Clean, sharp fidelity.

JOSH WHITE SINGS THE BLUES

Midnight Special
 Miss Otis Regrets
 Halleleu
 Prison Bound Blues
 Gloomy Sunday
 One For My Baby
 Jim Crow Train
 Told My Captain
 Bury My Body

ELEKTRA (Livingston) EL 7-2 BN

Stereo, Stacked or Staggered...\$11.95

If you are a Josh White fan, and I am, then here is another tape you will want to add to your collection. However, I have my complaints and they are as follows: On the first number the engineering work is poor; all I hear is a mish-mash of sound and I can only hear Josh as though through a rainbarrel. To say the least it makes for a bad start but don't refrain from going on. My second irritation was with Sonny Greer (on drums) . . . not with his performance, but with where he was placed for the recording. I had a strong desire to brush the brush man further back in the room. I feel the best example of the three blending together (Al Hall is on bass) is in "Jim Crow Train." Here Greer gives a wonderful train effect on brush, his playing is more subdued and not in a solo spotlight. This seems to be the case in the other numbers where he is to the right and front with Josh.

Top number, in my book, is "Gloomy Sunday" wherein there is just Josh and his guitar, except for the last couple of bars. This is how I prefer to hear his songs delivered. His delivery of the spiritual

"Bury My Body" is accomplished in his usual adept manner.

FOLK

SABICAS (Flamenco Guitarist)

Bulerias
 Farruca
 Fandango
 Granadina
 Sequiriya
 Solea por Bulerias
 Malaguena
 Alegrias
 Soleares

ELEKTRA (Livingston) EL 7-4 BN

Stereo, Stacked or Staggered...\$11.95

Abounding with rhythmic patterns (the first number includes the counter-rhythms of clapping hands and a few "olés") this tape is an excellent study in the art of flamenco and an artist's improvisations of same.

Sabicas, who is self-taught, made his debut in Madrid at age nine. He is billed by Elektra as "the world's greatest flamenco guitarist." Not knowing if he is so rated, against such men as Montoya and Escudero (the latter may be heard on Phonotapes PM 5008, reviewed December 1956), I can but say he must be one of the best. His fleet, precise fingering; the added rhythmic effects he attains by tapping the wood of his guitar; and his interpretative "feel," all add up to top-notch virtuosity.

As to the stereo sound I find it gives a depth, or spread, over monaural but where stereo could have been utilized in the first number, it seems to me the "dancers" are on the same side (left) of the room as Sabicas. The fidelity is of the best.

NOVELTY

MINSTREL SHOW

Opening March
 There's A Hot Time In the Old Town
 Tonight
 Swanee River
 Old Dan Tucker
 Mandy Lou
 Jeannie With the Light Brown Hair
 Old Folks at Home
 Camptown Races
 In the Evenin' by the Moonlight
 Sweet Sixteen
 Preacher and the Bear
 Grand Old Flag
 Wait Till the Sun Shines Nellie
 Lassus Trombone
 Asleep in the Deep
 Hello, My Baby
 Honey Moon
 I Wonder Who's Kissing Her Now?
 Goodbye My Lady Love
 Joe Kuhn and Orchestra with Quartet,
 Chorus, Etc.

BEL CANTO # 9

Stereo, Stacked or Staggered...\$9.95

Bel Canto provides a high-class minstrel show and a very entertaining tape. In recreating this form of early American entertainment, they have included an on-the-spot atmosphere opening with the sounds of an audience and a short intro by the "interlocutor," Bill (Blackface) Ornsby. All is music, with skilled quartet and chorus work, until after the ninth number. From then on applause and laughter are

added, with intros to the numbers and a couple of jokes tossed in. Except for the second joke which is a little long and dull (this actually is "normal" as such shows certainly had their flat moments) the spoken lines are kept to a minimum. The baritone, bass, and tenor solos are agreeable.

This is an extremely bright stereo recording. In "Wait Till the Sun Shines Nellie" the brass tends to be too glittery at the high end.

This tape should provide fun and enjoyment.

MISCELLANEOUS

AROUND THE WORLD IN EIGHTY DAYS

Around the World—Part I
 Passepartout
 Paris Arrival
 Sky Symphony
 Invitation to a Bull Fight
 Entrance of the Bull March
 Around the World—Part II
 The Pagoda of Pillagi
 Temple of Dawn
 Prairie Sail Car
 Land Ho!
 Epilogue

Music by Victor Young

BEL CANTO #20

Stereo, Stacked or Staggered...\$9.95

Not having seen this award-winning motion picture, I cannot visualize the music with the picture. However, since many people desire to have the musical background from some of the movies they have seen, those of you who feel this way about "Around the World . . ." may now own the music from the original score.

Musically, I look upon this with a jaundiced eye . . . it seems to me that the theme of "Around the World . . ." is too predominant throughout. It is used in the intro for Part I and II, as the theme in the "Sky Symphony" and again as "Temple of Dawn." "Land Ho!" is a rather long, drawn out piece and I thought they would never reach port. Perhaps this feeling doesn't apply while one is watching the picture.

The orchestra with Victor Young gives a clean performance; the fidelity is great, but musically this tape leaves something to be desired.

CHICAGO HI-FI SHOW

The Magnetic Recording Industry Association, trade group of thirty-two manufacturers of tape products, will participate in the Sixth Annual Chicago High Fidelity Show at the Palmer House September 13-15. A special all-industry display, in which all manufacturers of tape recorders and tape products are being invited to participate, will be a feature of the Show. This affair is sponsored by International Sight & Sound Exposition, Inc. MRIA was invited to take part in this all-industry demonstration of the magic of magnetic tape. All readers in the Chicago area will find this show worth attending. For the first time, under one roof, all segments of the tape recording industry will be represented. Stereo outfits will be featured by most firms.

TAPE CLUB NEWS

Recently the Bristol Hospital Broadcast Committee informed the British Amateur Tape Recording Society's hospital secretary that a Mr. and Mrs. Glendenning of Bristol, both immigrants who had returned home after 30 years in S. Africa, were very ill in the Bristol City Hospital. The hospital committee requested B.A.T.R.S. to contact friends for them in S. Africa. The club flew a message tape to Owen G. Moore, a club member who lives in Cape Town, S. Africa. Mr. Owen personally recorded four of Mr. and Mrs. Glendenning's friends on the tape. It was then flown back to the B.A.T.R.S. hospital secretary, Alan Lovell of Bristol City. Unfortunately, Mr. Glendenning died during transit of the tape. The tape was re-edited and was played to the widow, who is now recovering.

While B.A.T.R.S. has many local members to carry out this work of mercy, it finds locating overseas members sometimes rather difficult. This is one reason why this club wishes for the fullest possible overseas membership, and close ties with all other like clubs. This hospital service is applicable to anyone in any hospital in any part of the world.

The British Amateur Tape Recording Society will shortly have a dubbing service for its members as soon as the second tape recorder is available at club headquarters. This will be for all members who only have one machine and wish to have tapes copied or dubbed. This will apply to copies of the tape bulletin and any other tapes that become available in the B.A.T.R.S. Tape Library.

Mrs. Bessie H. Doehring, teacher at Lakeshore Junior High School in Shreveport, Louisiana, and World Tape Pal member, has been taking her students on tours through foreign countries, via tape. She has requested the use of six taped programs from the WTE library, with the result that her classes have visited Holland, England, Brazil, Denmark and Australia, all through the magic of tape.

In turn, her students prepared a taped program which was sent to World Tape Pal Harold Timmerman, Holstein, Germany, also a teacher, whose students are 12 to 17 years of age. A second similar tape is planned for exchange. Mrs. Doehring's students are interested in exchanging with junior high students anywhere.

Le Club du Ruban Sonore, founded in Montreal, Canada, would like to hear by tape from French speaking groups and persons from the other provinces of Canada in addition to Quebec, New England States, Louisiana, Florida and other areas too. English speaking friends are, of course, welcome. Simply send tape or letter to: Dr. Omer Bergeron, Le Club du Ruban Sonore, (English translation: The Sound-Tape Club), 3548 Ontario Street East, Montreal, P.Q., Canada.

The Voicesspondence Club urges its members to help build up the club's tape library by contributing a recording. Copyright restrictions, however, make it impossible to include commercial recordings in the library. In charge of this library is Donald J. Latulippe, and Don will be glad to furnish complete information on what is or is not free to be used. It is best to check with him about the recording before it is completed. Don also welcomes suggestions for types of materials or improved operation of the Library. The Club will soon be publishing a list of recordings available to its members, together with The Voicesspondent bulletin.

The American Tape Exchange members have been sending Round Robin tapes around the country. Tape No. 3 is now back at its starting point after a lapse of two months. Considering it went to ten members in various parts of the country, it made good time, and it will soon be traveling the play-back circuit. Stuart Crouner, A.T.E.'s secretary, will be happy to furnish any member with information on how to go about starting a Round Robin tape.

A new Canadian tape club has been organized. It is known as The Bilingual Recording Club, and its members will use both French and English languages. It was started in St. Fabien, Quebec, by Maurice Roussel in cooperation with some other Canadian recordists. A great advantage of the club is that French tapers can improve their English speaking and English tapers can improve their French. Maurice welcomes inquiries from anyone in Canada and the U.S. who may be interested in joining. Simply write or send a tape to Bilingual Recording Club, c/o Maurice Roussel, St. Fabien, Rimouski County, Quebec, Canada.

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Organization of the proposed tape network within Tape-Respondents, International is now underway. It will be known as the T-R-I Tape Network. As their format for call signs, members will use a five-digit call, beginning with the prefix "T" and a number denoting the member's geographical location, and suffixed with three letters of the members own choosing. The amateur radio system of zoning, zero through nine, will be followed. Zone numbers of two digits will be assigned to members in other countries, thus giving them a six-digit call sign. There will be an initial fee of 50¢ from each member to cover postage and other operating costs. For the time being, the Network will utilize the existing facilities of T-R-I for disseminating its information. Club directories will contain member's call signs, and the club bulletin will cover news of Network activities. A proposal to issue membership cards and individual tape station charters is now being considered. Nolan Porterfield, of Lamesa, Texas, has been named director for the Network.

We are all sorry to hear of the death of Art Rubin, former National Chairman of International Tape Worms. Art died May 15 of a heart attack. It is our understanding that the club has dispersed. We hope that the members of this club will join one of the other fine clubs available.

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ISSUE HIGHLIGHTS

Volume 2, No. 1: Radio Tape Network, Choosing a Mike—Part II, How to Erase Tapes.
Volume 2, No. 2: Building an Electronic Mixer, Mike Stands, Orchestra Recording.
Volume 2, No. 3: Music Can Make Your Mood, School Use of Recorder, Orchestra Recording, Tape Recording Glossary.
Volume 2, No. 5A: Sounds to Keep Your Trip Alive, Recording Bands Outdoors, Capturing Insect Songs.
Volume 2, No. 6: Recording Radio and TV Bloopers, Automatic Slide Shows, Beautify Your Recorder, Tape Filing System, Stereophonic Tape.
Volume 3, No. 1: How Tony Martin Uses Recorders, Joining a Tape Club, Tape For Folk Dancing, Recording Xmas Music.
Volume 3, No. 2: Converting to Stereo Sound, Meet "The Monster," Make This Mike Stand, Tape Teaches Speech, Make Money With Your Own Radio Show.
Volume 3, No. 3: Recording Bird Songs, Tape Splicing and Splicers, Stereo Soundorama, Recording String Instruments, Build This Sound Equipment Case.
Volume 3, No. 4: Using A Sound Screen, Recording "Strange to Your Ears," Using Low Impedance Mikes, Can You Sell Off-The-Air Recordings?, Theater Sound on Tape.
Volume 3, No. 5: Take A Slight & Sound Vacation, Recording the Woodwinds, Taping Beethoven's Sixth, Recorder Control Center.
Volume 3, No. 6: Tape Covers the Conventions, Show Off Your Tapes, Recording Brass Instruments, Tape on the North Atlantic.
Volume 4, No. 1: Special Stereo Issue: 10 Ways to Enjoy Stereo Sound, Sound In The Round, Stereo—Why Bother? Directory of Stereo Equipment, Catalog of Recorded Stereophonic Tapes.
Volume 4, No. 2: Beat The Horses, What You Can Do About Magnetic Head Wear, Six Tricks For The Tape Fan, How You Hear Audio Perspective, Viny, Twisty-Twiny . . . Oh Nuts!, Stereo Recording Session, 1956 Roundup.
Volume 4, No. 3: Stereo Unlimited, Print Through, Fact or Fable?, You Can Build It Yourself, Improve Your Audio Album.
Volume 4, No. 4: Stereophonic Recording Tricks, Students Tape It Easy, Build This Portable Mixing Console, New Tape Cartridge Developed.
Volume 4, No. 5: Sounds of Mexico, Extra Income From a Recorder, Add Sound to Your Movies, Questions on Stereo.
Volume 4, No. 6: Big Brain in a Box, Part I, Operation Moonwatch, Placing E-V Speakers for Stereo, Sound in the Round—Part II.
Volume 4, No. 7: Tape Spectacular, Tape Goes To A Folksong Festival, Look Ma—No Wires, Big Brain in a Box, Part II, The Ionovac, PTA To TV Via A Tape Recorder.
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HI-FI TAPE RECORDING
Severna Park, Md.

TEEN TAPERS

BY JERRY HEISLER, National President



A VERY interesting letter came across my desk in answer to our request for interesting uses of tape recorders. The letter comes from Mrs. C. D. Robinson, of Dunedin, Florida. Mrs. Robinson wrote about her 17-year-old son Max, who was born blind. Max has been using his recorder for some time now and has gotten many benefits from it. Max plays the guitar and sings to entertain. With his recorder he is able to record the guitar music and then play it back adding a mandolin part in the actual performance. The recorder has also come in handy for some correspondence courses Max is taking. Mrs. Robinson reports that Max recently became a ham radio operator and was able to learn code with his tape outfit. While these are not revolutionary ideas for using a recorder, we thought that they were worth mentioning to call to your attention the fact that while so many of us take a recorder for granted, to a person who has never been able to see, the recorder can be a valuable source of pleasure.

We are most happy to present Max Robinson with a 1 year subscription to Tape Recording along with our best wishes for his continued practical use of a tape recorder.

Plans are now being made for a big year of progress for Teen-Tapers next school year. Club charters and membership cards have been mailed to all those who wrote in, and new requests will be handled immediately. With school out and free time on your hands you might sit down with some of your recordist friends and discuss plans for what your club might do next year.

Another use for a recorder has shown itself recently. While preparing to leave for my summer job as a camp counselor, I began thinking of how best to perform one of my duties, square dance calling. The problem was to use music on records, my own calls, and yet not have to switch records, etc. while I was instructing the dancers. Simply solved. I played the music on the phonograph and using a mixer, dubbed my calls onto the tape. I also recorded the music only after the complete call. This enables me to have the call and music playing while I demonstrate the dance. When I'm through demonstrating, I play the music only and do the call "live" which is much more fun. Any of you who do folk dancing or similar entertainment will find this arrangement quite handy. The recorder and its mike serve also as an amplifier for the calls eliminating any extra equipment.

While getting ready for camp, I also discovered a nice little accessory that can be built very easily. I had about ten different types of patch cords for various recording combinations. These cords always presented a problem by getting themselves tangled up and what not. A piece of 2" x 4" lumber and a few dowel rods made a handy rack for these cords and now all I have to do is

hang my cords on the rack loosely. I have them easily at hand and there is no tangling problem. You should be able to make one of these racks for about 75c and in about 20 minutes' time.

An idea that has always occurred to us was what fun it would be to design our own recorder. All of the recorders on the market have various features but there doesn't seem to be any one recorder that has everything anyone would want all in one box. We therefore decided that with so many do-it-yourself-people around we ought to pool some of our ideas and see what we could come up with.

We have five subscriptions to the magazine which we will award to those Teen-Tapers who submit the best ideas for an original type of machine. We prefer a drawing too, however simple or complicated you want to make it. Don't spare the pencil and put in anything that you'd like to see in a machine. Some ideas of our own would include five mixing channels, automatic operation by electric eye, stereo recording, and multi colored level indicators. I'm sure there are many, many more ideas that you have.

If we get some real sharp ideas we'll forward them to some of our manufacturer friends and who knows, you may see your dream machine come true some day. Let us hear from you on this.

We are also very anxious to get many more schools than we now have, into our tape club. With a little effort on the part of each and everyone of you we can make our organization grow rapidly. Be sure to get in touch with us so that we can mail the supplies to your school.

With summer here, don't find yourself putting your recorder away. There are many, many uses you can put your recorder to in the summer months including many outdoor uses. We're sure you'll find the last issue of Tape Recording quite helpful along these lines.

You might also take advantage of the summer months to work on your recording set-up. In the next issue we'll have some ideas for you on a permanent set-up for your recorder with monitor facilities, a mixing set-up and an editing block, plus patching facilities to record and distribute material throughout the house.

We also hope to have some information on Teen-Tapers fall activities. Let us hear from you and get to work on your ideas for a custom recorder.

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TAPE IN EDUCATION

BY JOHN J. GRADY, JR.



RECENTLY, a personnel director, with a wide reputation as a successful employment specialist, made an excellent up-to-the-minute recommendation to graduates seeking jobs. He advised all applicants to check their interview "pitch" by tape recorder play-back. The idea being that the student applicant has arrived at a time when he must have some knowledge of the fundamentals of contact procedure, and should be able to judge if his own vocal approach, and his method of delivery, are favorably impressive. In other words, after listening to his own vocal presentation, would he give himself the job?

In general practice, when an applicant is granted an interview, especially for work that requires conversational contact with people, two intimate factors give the applicant an immediate rating; his appearance, and his vocal ability to "sell" himself. And, as is inferred by the employment specialist, the applicant's appearance could be satisfactory, and his scholarship record could be excellent, but unless his discussion proves articulately impressive—in these days of efficient communication technique—such an applicant has a negative handicap.

TAPE IN EDUCATION keeps plugging the fact—that IN ADDITION to the deep pleasure in musical entertainment a high fidelity tape recording installation can bring into the home—there are educational and practical advantages that can be of such great value to students in the family that even a second tape recorder, for quick utilization with studies in a secluded room, would be a beneficial investment for parents having educational and career ambitions for their studious children. The illustration above about job applications is but a single indication of the benefits that availability of tape recording facilities, in the schools and in the homes, can provide in the advancement of a career or a profession. Fortunate students, graduates from schools provided with modern audio equipment—which, of course, includes tape recorders—are better able to qualify for positions requiring articulate employees.

Elementary school teachers, in the early days of tape recording, discovered that the efficient instructional tool stimulated students, even in the primary grades, to efforts at self-betterment. Just the opportunity to hear their own voices—reading, reciting, or singing—provided an impetus to excel, and to originate material, which would permit them to exhibit some hoped-for quality or talent. In many such cases, teachers made recommendations to parents that a tape recorder at home would help to speed the acquisition of proficiency in some subject, which might be a major in later school years. Needless to say, all oral subjects, with constant practice via tape recorder, can be ef-

ficiently mastered. The knowledge of this, among employment counselors, unquestionably influenced the recommendation of the personnel director—that all job applicants, before an interview, listen to a tape playback of themselves discussing themselves. That tape recording could help them to "sell" themselves into a fine job.

As knowledge of tape recording expands, and as more usages are discovered for this electronic wonder of Audio, even strange—almost unbelievable—usages do not surprise TR fans. And, certainly, experimenters in every form of SOUND phenomena continue to be inspired to delve for scientific objectives that will help in the advancement of civilization. TAPE IN EDUCATION is indebted to George D. Geckeler, M. D., for an explanation of a wonderful educational usage of tape recording. The subject is away over our head, but we hope to relay it to you in an understandable way. Dr. Geckeler, of the famous Hahnemann Medical College and Hospital, of Philadelphia, is a member of a medical trio authoring, THE TEACHING OF AUSCULTATION BY MEANS OF ENDLESS LOOP TAPE RECORDING. In our simple words, you are to understand that, since 1950, medical students—and physicians, taking post-graduate refreshers—are taught to better interpret the sounds of the heart by listening to endless loop tape recordings. There is a library of such master tapes, from which reproductions are available to all medical colleges and teaching institutions, if they have the tape recording facilities adequate for the playback of the endless loop tape reproductions.

The master originals are conventional reel-to-reel tape recordings. A microphone, with a rubber tubing gasket, designed to exclude all exterior sounds, traps the internal body sounds. From these recordings, continuous tapes are constructed by splicing the ends of a selected segment of tape containing several cardiac cycles. Where the heart rhythm is regular, this loop is an accurate reproduction of the sound of that heart over a long period of time. Segments for loops are constructed also of murmurs or other irregular sounds. These loops may be played indefinitely, or interrupted for instructive discussion. This method of instruction is more effective for large groups, than a bedside demonstration or any other method.

Because a rapid heart rate often makes difficult the demonstration of a particular finding, the splicing of blank tape between the sounds of the beating heart permits study of the slower paced sound. This method of slow-up by use of blank tape also helps students to differentiate murmurs from heart sounds, and increases their diagnostic proficiency with a stethoscope.

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TAPES TO THE EDITOR

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

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



Old Spooky—Brewster N. Freifeld

To the Editor:

We are happy to report that "Old Spooky," the mystery man who haunted your pages in recent months, has been exposed.

You will recall that we turned to your readers for help in solving this puzzle. We even offered a little incentive to add to the fun (a 7-inch reel of Audiotape for each of the first 500 successful sleuths).

Your readers responded admirably. In a short time, many of them came up with the correct answer.

We held back on our awards for a time, however, so that we could send out the prize tapes on our newly developed "C-Slot Reel." Now, all winners have been notified and the awards have been made.

Old Spooky, the spirit of stereo, turned out to be Brewster N. Freifeld, better known as "Bud." He is manager of our Chicago office and chief of our sales operations in Illinois, Indiana, Kentucky and Wisconsin. We are sending along a photograph of Bud so that everyone can see what he looks like at close range—without the hat, umbrella and portfolio.

Incidentally, that "portfolio" has aroused a great deal of curiosity. Actually, as Spooky himself pointed out in a letter to you, it wasn't a portfolio at all. It was a package containing a reel of Audiotape which Bud had on hand in case the recordists ran short. Rumor has it that Bud never goes anywhere without a reel of Audiotape under his arm. He insists, however, that this is an exaggeration.

We've had a lot of fun with "Old Spooky." We thank you for making this 20th Anniversary lark of ours possible.—*Bryce Haynes, Vice President, Audio Devices, Inc.*

To the Editor:

I am a recent new subscriber to your ex-

cellent Hi-Fi Tape Recording magazine, but I have avidly read all the past issues of the previous two years. I wish I had known of your magazine earlier.

You may be interested to know how I came across your magazine in this part of the world. A few months ago I found a leaflet inside a reel of tape which informed me of your publication; so I wrote to you for a specimen copy. Since then, my other tape recording friends have also borrowed my copy or have written to you to subscribe. In Singapore, where there are no frequent musical concerts of world standard, tape recording plays an important part in bringing to us world famous orchestras and players. I also use tape to record my medical lectures at the University of Malaya where I am on the academic staff.

I shall thus be pleased to taperespond with people in the United States. I am a young Chinese, a graduate in medicine and on the medical staff of the University of Malaya, Singapore.

As it is very difficult for individuals to obtain U.S. currency, to buy tape recording equipment from America, I shall be willing to offer my services in any way to obtain credit or in exchange for tape recording equipment, or pre-recorded tapes of classical music.

Hope to hear from you and some of your readers. — *Oh Siew Kheng, 3J McAlister Road, Singapore 3, Malaya.*

To the Editor:

Why don't you just come right out and say the facts in a given case? What peevd me about the June issue was simply that matter of the date of the American Folk-song Festival. Sure, the 26th one WAS held June 10, 1956. The 1957 date was the second Sunday in June, the 9th to be exact. But the illusion was that it had already occurred for this year. (Reader Lirones got his June issue in the middle of May). Keep up the variety of articles, we enjoy them!—*Daniel Lirones, Ann Arbor, Mich.*

Sorry for the erroneous impression. The affair the article was referring to was the 1956 festival.—*Ed.*

To the Editor:

I am in receipt of a letter from Caroline Koyanagi who writes for the students of English conversation at the English Academy of Kyoto, Japan, who, after holding a meeting, decided to start a tape pal club.

This group would like to correspond by tape with students in graduate schools, teachers and professors (speed $3\frac{3}{4}$, if possible). Please send the tape to: Caroline Koyanagi, English Academy, 49-1 Hino-guchicho, Tanaka, Sakyoku, Kyoto, Japan.

I am a subscriber to *Hi-Fi Tape Recording* and I should appreciate it if you would publish this letter so that this group

might be able to contact some "pals" to correspond with.—*M. Bates, Washington, D. C.*

To the Editor:

May I compliment you on your wonderful magazine. This is the first time that I have seen a magazine so technical and yet so easy to understand.—*Art Slaughter, Jr., Rosita, Coahuila, Mexico.*

To the Editor:

Since subscribing to Hi-Fi Tape Recording about three years ago, I've always looked forward to every issue. Many articles have proven very interesting, and I have applied some of the ideas gathered from these articles, to my own experiences with my Webcor recorder.

I am a novice at this new experience of electronics, and I am quite sure you have many other subscribers whose electronic experience is similar to mine.

From time to time various articles in your magazine relate to the fact that recording heads should be demagnetized periodically. As a matter of fact in your last issue, R. R., of Detroit, asks how frequently this should be done. I have yet to see an article, fully explaining the need for this process, how does one know that his equipment needs demagnetization, what are the symptoms to look or listen for, and what are the benefits derived by this process.

In Tapes to the Editor, Buford Frye, High Point, Conn., states he appreciates articles showing how to construct accessory equipment for the recorder. I too look forward to such articles, but without the step by step detailed instructions as one would get in a kit, it surely is difficult for the novice like myself to construct this equipment. (I have in mind the article written by Lee Miller in the March issue.) I'm sure many readers are interested in a mixer. But the novice would find it difficult to follow, and layout, with just the text and the schematic diagram to go by.

Also, Buford Frye, mentions that he has devised an attachment for his recorder, which enables him to duplicate recorded tapes without the use of two recorders. Don't you think your do-it-yourself subscribers might be interested? He is interested in other peoples do-it-yourself projects, and therefore should feel that his idea might be of interest to others who read your magazine.

I am looking forward to your future issues, which might possibly furnish the information, I and perhaps other readers seek.—*Jules J. Green, Philadelphia, Pa.*

Thank you for your fine suggestions. We will keep them in mind.—*Ed.*

To the Reader:

Okay folks, you can halt the barrage of letters, tapes, and telegrams—we dood it—we published the picture in the right-hand corner on page 31 of the July issue upside-down. We refer to the shot of the erase, record and stereo playback heads on the Viking machine. Woe unto us, but that's the way the cracker crumbles. We all sometimes have those nasty days when our heads seem to be reversed too, and in fact it must have been a day just like that when we proofread page 31. Sorry.—*Ed.*

QUESTIONS & ANSWERS

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

Q—Frankly I am a little puzzled as to which type of tape is best and also does it make much difference as to type of speaker used for the second stereo channel or does the phonograph use a different type of speaker than the tape recorder?—B. N., Baltimore, Md.

A—We would suggest that you plan to use recognized name brands of tape, such as you find advertised in Hi-Fi Tape Recording. The use of cheap tape, second grade or surplus material is risky from a number of standpoints, including greater head wear. For stereo, speakers should match well, especially in the mid-range of frequencies where the stereo effect is greatest. If one speaker is better than another, the better one should be used for the right side channel which is usually the bass side of an orchestra. Very probably your phonograph has a speaker in it comparable to your tape recorder and may be used for the second channel. External speakers of good quality, used on both channels will measurably improve your results.

Q—I have a tape recorder which I have hooked into my home built hi-fi system which is of good quality. My trouble is an annoying hiss from the tapes. I have used two different types of tape and one seems a little better than the other but the trouble still persists. Could you tell me what to do or what type of tape to buy to get the best results possible?—H. D., Lachine, P.Q., Canada.

A—First we would suggest that you check your system, and especially the tape recorder amplifiers as a source of hiss. With no tape on the machine, turn the volume all the way up and put the recorder in play position. If hiss is present, check the tubes in the amplifiers to see if any are gassy or otherwise defective. We would also suggest that you demagnetize your recorder heads using one of the commercially available head demagnetizers. A partially magnetized head will add hiss to tape and also drop out the higher frequencies. We feel that the fault lies in the equipment rather than in the tape. Brand new, standard tape is as quiet as a mouse. If the tape is old and has been used, erased and reused many times, the hiss level may show a rise above that of virgin tape. If such is the case, we would suggest that you use a bulk tape eraser which will effectively clean the tape of all signals and noise.

Q—Over the years, in working around my equipment, some of my screwdrivers, pliers and other tools have become magnetized. What is the proper way to demagnetize them? I have tried it with a head demagnetizer but have been unable to do so. Perhaps I did not use it correctly. I will

certainly appreciate any help you can give me.—L. A. R., Dorchester, Mass.

A—We doubt that a head demagnetizer would have much effect on the articles you mention as it is built to demagnetize the rather small cores of the magnetic heads. It requires a magnetic field of greater power to remove the magnetism from tools, etc. The usual procedure is to pass the object through an alternating current solenoid magnet and withdraw it from the field very slowly to some distance away before cutting the current. The object is to break up the magnetic alignment within the metal which the alternating current will do. Anything that generates a powerful alternating magnetic field, such as a large electro-magnet can be used to demagnetize tools. This should be done with any tools that are used around tape or recorders, especially those which might contact the tape, where they will erase the portion of the tape contacted, or those used in making head adjustments.

Q—I am a teacher in the elementary schools and I would like to start a project of exchanging tapes with schools of other countries as a contribution to the social studies courses in our schools. Can you please tell me where to get in contact with other teachers in schools in other countries who might be willing to go along on a long-term project of this sort. I realize the tape clubs mentioned in your magazine might help or perhaps you have other ideas which might be helpful.—R. M. F. Jr., Livingston, N. J.

A—We would suggest that you follow through on your idea of contacting the tape clubs listed on the club news page. World Tape Pals has been fostering tape exchanges between schools on an international basis and the other clubs also should have schools or teachers listed among their memberships. We would also like to ask any overseas readers who could help in this project to contact Mr. Roy M. Fulmer, Jr., 50 Oakwood Avenue, Livingston, N. J. Perhaps some of our tape recorder owning overseas readers should contact their local schools and make the recordings if the school does not own a tape recorder.

Through our Teen-Tapers column we are endeavoring to set up lists of schools who wish to exchange tapes, both on a national and international basis. We have a kit of materials, including club charters and membership cards to stimulate the formation of tape recording clubs in schools. These clubs could make the recordings, handle the correspondence, etc. thus relieving the already overworked teachers of the task. A request on a school letterhead will bring you the details. Write to Teen Tapers School Program, Hi-Fi Tape Recording, Severna Park, Md.

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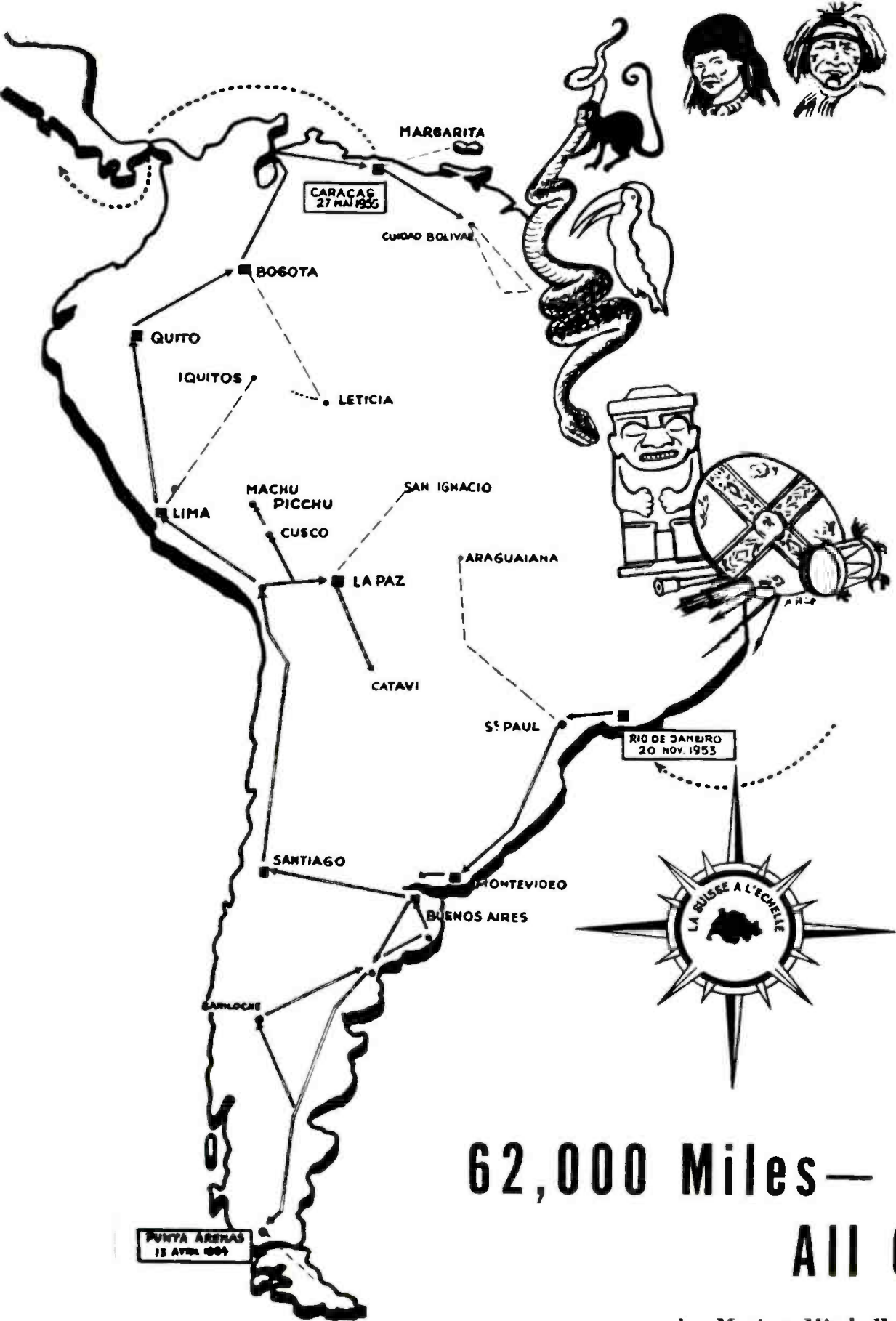
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62,000 Miles— All On Tape

by Marion Mitchell

*... a sound saga that will cover
the Americas before it is finished.*

If you want to make tape recordings that are really different, put your recorder in a 10 year old car, gather up your friends, and head off on a 62,000 mile trip.

That's what four young Swiss explorers did, and their journey—amply documented by well over 100 tape recordings, as well as still and motion pictures—has taken them from their home in Lausanne, Switzerland, to the southernmost tip of the South American continent. Next stop: the Arctic circle.

Their names:

H. M. Berney, 32, leader of the expedition, a Swiss newspaperman and photographer who makes the tape recordings and handles the cameras. Berney has made recordings on tape in some 25 countries, most of which have gone back to radio stations in Switzerland;

Renato Della Zoppa, 36, interpreter and public relations man for the tour who has obtained financial sponsorship for the tour from firms both here and abroad;

Marcell Haubansak, 25, mechanic who keeps the car running over deserts, mountain passes and even through jungle rivers where the water reaches up to the windshield. He also is responsible for keeping the tape recorder operating properly—often depending on ingenuity for repairs rather than spare parts; and

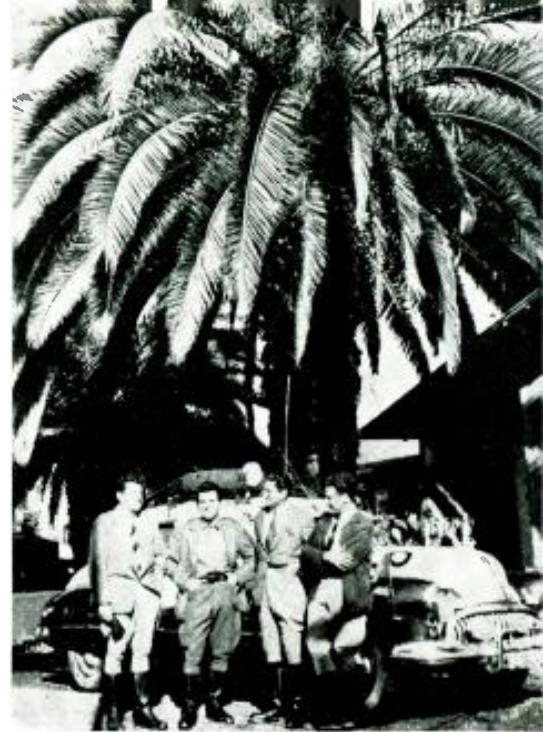
Andre Happersberger, landscape artist whose hundreds of paintings of many of the scenes along the route have helped finance the trip.

Happersberger's health, however, suffered from the two years in the jungle, so he left for Switzerland when the party reached the North American continent.

To keep the expedition up to strength, Berney's attractive wife, Marcelle, joined the caravan in Mexico City. She had been separated from her explorer husband for two years. She now serves as expedition nurse and secretary.

Zoppa, the interpreter, says, "We call our overland trip across the three Americas "Terre de Feu, Terre de Glace," which means "Land of Fire, Land of Ice."

H. M. Berney, leader of the Swiss expedition, makes a tape recording of the head-hunting Jivaro Indians of the Upper Amazon. Not only did the explorers leave with their own heads attached but several shrunken heads which they bartered from the Indians, as well. Note the drum and pipes held by the native in the rear.



This picture shows the four explorers when they reached Mexico City after nearly two years in the South American jungles. Their car and trailer carried all their equipment. The trip will total 62,000 miles when completed by Christmas 1957. Left to right are: Andre Happersberger, Marcel Haubansak, Renato Della Zoppa and H. M. Berney.

"The object of the trip is to make tape recordings and gather detailed information for the press, and cinema about the countries covered. Conferences, exhibits and books will be shown later as a result of this trip.

"It's even possible that we'll issue some phonograph records or recorded tapes from the tapes we made of primitive music in the South American jungles," Zoppa said.

Most expeditions have relied on photographs and notes, but the Berney group will have hundreds of tapes—recorded on the spot—for even more thorough documentation.

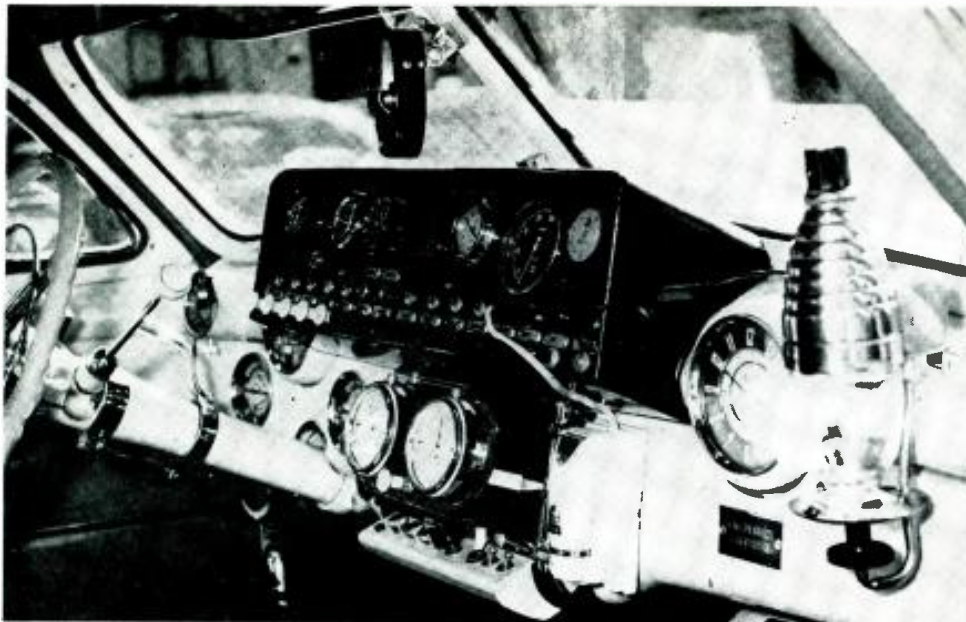
Still another object of this trip is promotion of better knowledge of the countries and regions traversed, in order to encourage new tourist traffic.

On October 23, 1953, they left Le Havre for Rio de Janeiro, Brazil. By land, the expedition went south through Brazil, Uruguay and Argentina, arriving at Tierra del Fuego at the tip of South America. Then they drove up the Pacific Coast through South and Central America, sometimes carving their own roads out of the jungle, but making tape recordings and taking pictures all the time.

Miserable muddy roads—sometimes as much as 1,000 miles of uninterrupted quagmire—slowed their progress, but as they went, they tape recorded, filmed and sketched what they saw.

In Chile they drove across the waterless Atacama Desert—2,000 miles of dust, sand and wind. It took 21 days to cross this wasteland. North of the desert they tackled the Andes.

At one place—Chacaltaya, Boliva—the car climbed a 17,000 foot summit. A few days later they were weaving through the Amazon jungle. And in Ecuador, they were seized by soldiers who thought they were spies.



The instrument panel of the Buick looks more like a DC-3 than a car. Note the special microphone clamped to the steering post below the gearshift lever. Tape recorder and vibrator power-supply controls are under the dashboard in the middle. The object on the extreme right of the picture is an electric perculator. The dash also carries a six band short wave receiver providing broadcast reception from home anywhere in the world.

Some of the back corners of South America provided unsolicited thrills for the quartet. Indian tribes in Peru and Ecuador displayed little friendliness. Gifts, in the form of trinkets, mirrors and cloth usually prevented incidents, fortunately.

From there, the party took the partially completed Pan American highway northward to Mexico City, then up to California. After roaming the United States, touring and photographing the many national parks, they went to Seattle to prepare for the Alaskan leg of their journey.

Of special interest to tape recording enthusiasts is the equipment used in conjunction with their tape recorder.

In order to power their standard 110 volt Webcor machine, they equipped their car with a Swiss-built vibrator power unit operating off the car's battery.

For their Alaskan trip they will carry a new Berlant stereophonic tape recorder and hope to make several movies—with sound on magnetic tape—of a documentary nature.

Since arriving in the United States, they have equipped their car with a new convertor to run the tape recorder. In

addition, they now have a portable generator unit driven by a gasoline motor.

This will enable them to take their tape recorder into the backwoods areas of Canada and Alaska past all points of travel by automobile.

Of interest to the tape fan is the special control panel for their tape equipment mounted under the dashboard. Here are switches for turning the power unit off and on and a switch for the special microphone mounted on the steering column for recording as they drive along.

The trip represents also an extraordinary endurance test for the equipment which they are using—especially in view of the different climates and altitudes through which the expedition passes.

From sea level, they climbed over the Andes to more than 17,500 feet which is the highest point in the world passable by automobile (Chacaltaya, in Boliva).

An interesting point is that they used standard acetate-base "Scotch" No. 111 magnetic tape for all their recordings. In spite of extremes of temperature and humidity encountered all along the way, Zoppa says they encountered no problems in handling or storage of the tape.

However, for the Alaskan leg of their trip, they will be recording both on acetate and polyester base tapes for comparative purposes.

Only special care the tape had was to store it in waterproof cases—just in case it ended up at the bottom of a river during one of their many crossings where no bridge was provided.

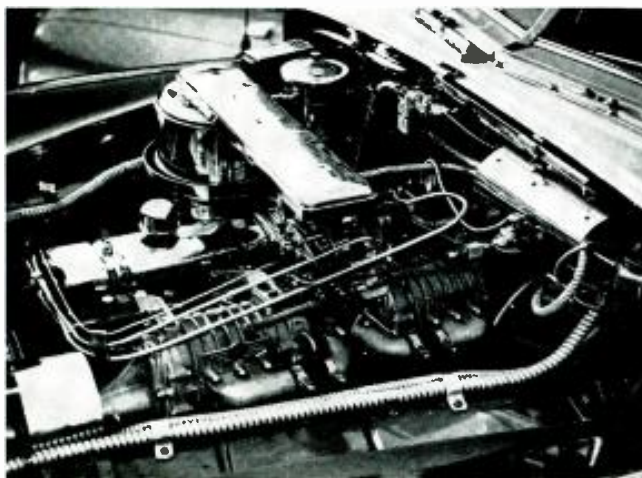
For such crossings, incidentally, they equipped their car with snorkel-like "breathing" tubes which enabled them to drive through water up to the windshield.

Though on its last leg, the expedition hopes that the "Lucky Tiger"—as they call their car—will carry them to journey's end, in spite of ordeals that would tax a tank.

"Christmas 1957 we will be back home in Lausanne," Zoppa says with a smile.

He says the total cost of the expedition will reach \$60,000 in cash spent and almost four years in time before they see Switzerland again.

But whatever, it will be the only one of its kind. What's more, they've got it all on tape!



View of the car's motor shows many accessories including compressors for high altitude driving. Flexible hoses running along fender in foreground are "snorkel" type breathers enabling the car to run in water up to the windshield. Vibrator power supply for operating tape recorder is the square box with louvers at extreme top center of picture.

Indoor Stereo Recording

by Robert Oakes Jordan
and James Cunningham

... a challenge to the amateur recordist.

LAST month we discussed outdoor stereo recording, which differs in many ways from indoor stereo recording. Certainly, indoor stereo is more of a challenge to the amateur recordist. We will, therefore, reconsider what we are trying to accomplish with stereo recording.

The ideal of any recording system is to present to the listener's ears, as he sits in his favorite easy chair, the same sounds that exist at the best seat of a concert hall, or wherever the music might be played. In this way, he can relax in the privacy of his own living room yet still have all the clarity of a live performance. As you might expect, this goal is a bit beyond our present day hi-fi systems. To understand why, imagine for a moment that your living room, with its four walls, floor and ceiling, has been set down in the middle of a concert hall. Now if you cut a 15 inch hole in the wall facing the stage, you might expect the sound that came out of that hole to shame any hi-fi system in existence, since there are no am-

plifiers, pickups, or speakers to color the sound. The fact is, however, that what would come out of this hole in the wall would be a pretty bad muddle. But, if you knocked down the walls and ceiling of your room, you would, of course, have the true concert hall sound.

Why is all this true? The answer is simple if you realize that sound waves are reflected from solid objects similar to the way light is reflected from a mirror. Therefore if you stand in a big concert hall and clap your hands the sound bounces around the place in an amazingly complex manner and it is often several seconds before the sound dies out. If you do the same thing in your living room, however, the sound bounces around much less and dies out almost immediately. All of these reflections reach your ears *from different directions* as they bounce around the concert hall. Somehow, in a way not yet known to science, our mind translates all these reflections into a spatial sense so that we know whether we are in



The set-up used for making a recording of a soloist and group. This type of recording will be covered in detail in next month's article.



Monitoring of the stereo set-up is a necessity. James Cunningham is shown listening to a set of monitors in a backstage room during a recording session going on in the school auditorium.

a big room, even if we are blindfolded. Also we can tell, amid this barrage of sound, the direction of the sound that started all these reflections; that is we can identify the sound that first reaches our ears as being to our left or right even though reflections of this same sound are reaching our ears from every conceivable direction and only fractions of a second later. Here then, is why that 15 inch hole in the wall didn't sound right: we were trying to choke both the direct and reflected sound into this little opening and our mind could not translate what it was hearing because both the direct and reflected sound came from *only one direction*, the direction of that hole.

One solution to this problem would be to put our room, with its 15 inch hole in the wall, in a new type of concert hall that had no reflections at all—then we could bask in the reflections that occur in our own room. While this solution might work for someone who had never heard music before, the fact is that we are accustomed to hearing most music in a large hall of some kind where the many reflections seem to enhance the music. Suppose, as another solution, we cut *two* holes in the wall, about 6 feet apart. Now the direct and reflected sounds have a chance to reach us from different directions and our mind can sort these sounds to form a spatial impression. The sound will have clarity and definition instead of being just a muddle—individual instruments in the orchestra can be heard clearly not only because we can tell their direction but we can now separate them from all the reflected sound. As you have no doubt guessed, this is stereo.

The sound is still not exactly the same, in our room, as it was in the concert hall, because cutting two holes in the wall is not the same as tearing down the walls and ceiling, which was our ideal. Because of this we must sometimes resort to tricks in stereo recording, just as in monaural recording, to maintain the proper illusion. But the idea of the two holes in the wall is still a good one to keep in mind when you are setting up to make a stereo recording. This will help you avoid exaggerated effects such as dividing an orchestra in half and picking up each half exclusive of each other on the two microphones. This would result in an entirely unnatural effect, something like build-

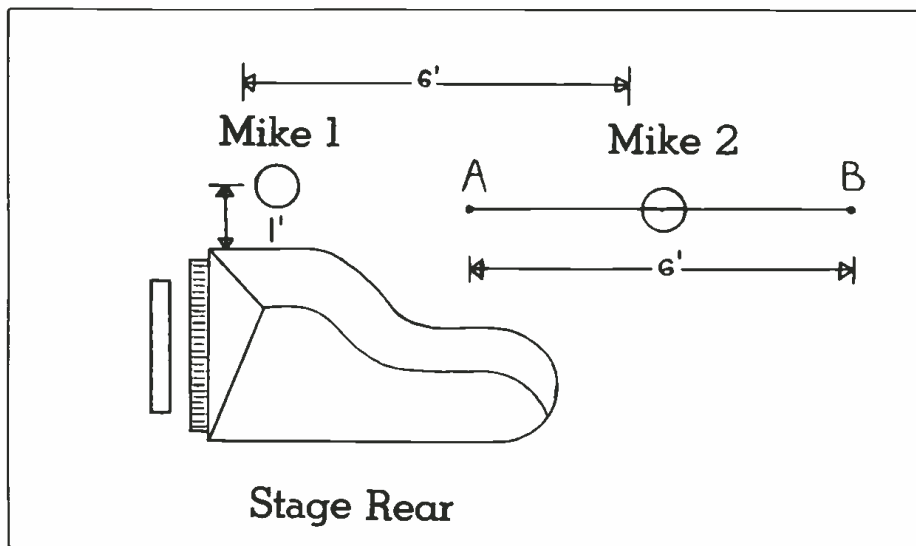


Experimental set-up for recording piano and vocalist in stereo. The art of stereo recording is so new that few hard and fast rules on mike placement have been discovered.



Mike set-up used for a stereo recording of a quartette. This group is the Moderns which appear in Concertapes release 508. In addition to the problems of mike placement, the room acoustics must be considered also.

Figure 1: To determine the best placement for the microphones set up microphone 1 at the spot where the monaural pickup is good. Then have an assistant move the second mike along line A-B. Listen to a monitor, as described in the text to determine the best position for the second mike.



ing a wall down the middle of the concert hall and right through the body of the listener.

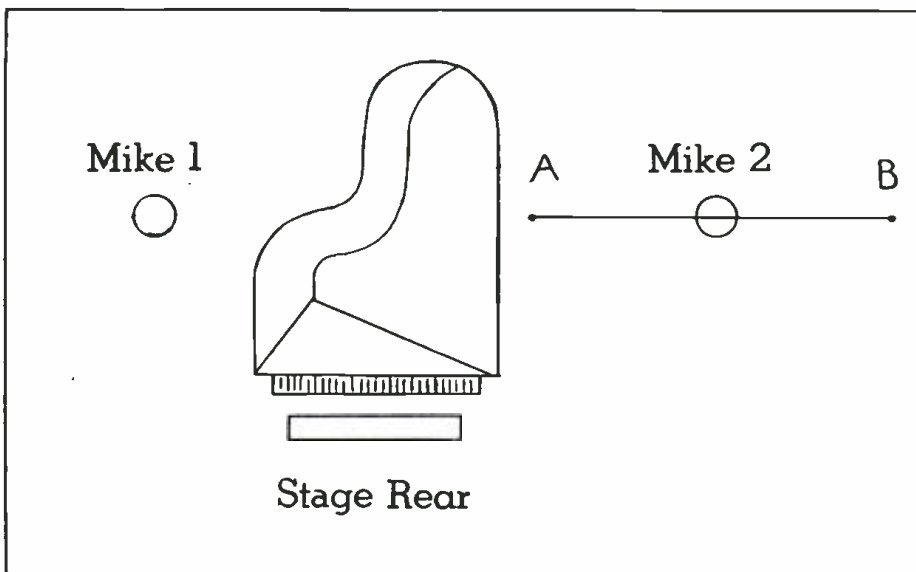
We are now ready to consider the actual placement of the microphones in a stereo recording session. A simple situation will best illustrate how to place the microphones. Let us suppose we are recording a grand piano on the stage of a school auditorium. The first thing to look for is a room backstage where the recording equipment can be set up. A must is two loudspeakers on which to monitor the stereo—earphones will not do. At this point an experiment will prove most enlightening: use the set-up shown in Figure one, which illustrates a grand piano with the top up on the long stick and the microphones about six feet apart, about one foot from the piano, and five feet from the floor. Whether you use cardioid or omnidirectional microphones will depend partly on the acoustics of the auditorium and perhaps partly on which kind you happen to own. If you can muster both kinds, by all means try first the omnidirectional then the cardioid and determine which gives the best sound. Now have an assistant move microphone two (see Figure one) over to point A; then have him slowly move the microphone to point B, pausing for a moment each foot of the distance, audibly indicating where the microphone is at each pause. Then each time he pauses, shut off this channel

(leaving channel one on at all times) for a few seconds and listen carefully to what happens to the sound. There will be one point along AB where the stereo effect will be the greatest and you will recognize this when you shut channel two off for a second, then turn it on again. You will hear a sudden loss of the spatial feeling when the channel is shut off—then it will return when the channel is turned on again. All you have to do is find the point along AB where the effect is the greatest and you will have the essence of stereo, the ability to transport the listener and his room to the scene of the performance.

If you feel inclined to experiment further, try moving the microphones back several feet from the piano and repeat the previous experiments. Still more can be learned about stereo by using a placement similar to the one illustrated in Figure two and moving the microphone as before. We strongly urge that you try these experiments before attempting any serious stereo recording in order to become familiar with the stereo effect. Words cannot tell you what this effect is—you must hear it to understand it. Be sure to make recordings of these experiments for later study in your own listening room.

Next month we will explain how to record groups of various sizes as well as make some suggestions that will give unusual stereo effects.

Figure 2: This is another suggested starting point for stereo recording experimentation. The effect must be heard and only by listening over the monitors can you tell whether your recording will have the proper feeling of spaciousness.





An all-inmate show, *Our Town* stresses both vocal and musical groups. Here part of the *Our Town* glee club rehearses under the direction of Peter Vermuelin, an inmate who now directs a choir in a non-prison community. Lincoln Caver accompanies the glee club and smiles over the results of Peter's direction.

OUR TOWN

by Don Lowry

... from inside the world's largest prison comes an excellent show—on tape.

FROM within the walls of Jackson's southern Michigan prison comes a weekly half-hour radio program. Engineers from Detroit's WXYZ to Iron River's WIKB say it is among the best-engineered and taped of the "canned" programs. Prisoners, who call themselves "canned Manpower," provide the show's musical parts and the technical work needed to get the show on the air.

Don Young, director of music in the 6,000-man state prison, feels his amateur entertainers and technicians do a remarkable job. Radio listeners and station managers agree with Don. In two years the program has grown into a professional-like show. When it started in the fall of 1953 with a portable Revere tape recorder and one mike, Don planned on a few novelty programs over the local Jackson station, WKHM. Today it is carried over 17 Michigan stations using an economical yet elaborate technical set of equipment.

When people first hear of the program, they ask, "Why

a radio program originating from inside a state prison?" The answer is unique. Primarily, the show's purpose is to show that "prisoners are people." Secondly its aim is to keep Michigan taxpayers informed of what their corrections department is doing.

"But," says Gordon Fuller, director of individual treatment in the 57-acre, walled-in community, "we have another motive for sponsoring *Our Town*. Group association and interaction through the musical group and show production provide an excellent therapeutic medium. And the show's production allows technical training. Each week over a hundred prisoners spend their spare time helping to produce and record *Our Town*."

Most stations carry the show Saturday or Sunday evening. Variety is the aim of each program. Jazz, both progressive and Dixieland, is featured along with instrumental and vocal solos. Hillbilly groups and a forty-man glee club alternate with a concert band and a twelve piece orchestra.

From these latter groups combos are selected regularly for novelty and variety.

Don Young himself is the regular program announcer and each week a guest speaker is scheduled from the corrections department. These speakers explain briefly the function and purpose of their branch of the administration. Much entertainment and information is packed into the half-hour weekly show.

Don and his prisoners made a modest start in 1953. With a domestic recorder and one mike they set up shop on the stage of the prison auditorium. Don faced the same problems encountered by other amateurs in schools, churches and community halls—little equipment, a scanty knowledge of what was needed, and facilities not intended for recording.

His first problem was the 35x90-foot stage devoid of curtains. (They had been destroyed in the 1952 prison riot.) On a bare stage, the purpose of which was to throw sound out into the 2,000-man auditorium, Don's first Our Town tapes were far from suitable for broadcasting.

He tackled this problem by hanging heavy cotton curtains to provide a four-sided enclosure. This helped but his acoustics were far from what he needed.

The ceiling was 100 feet over the heads of the musicians and vocalists. Having only one mike, he just couldn't get the sound he desired. So much of the music was lost in the barn-like space that his amateurs might just as well have performed in a high school gym. The only decent production he could get was that of small vocal groups. There was still too much echo.

To overcome the echo Don hung another curtain down, about halfway from the back of the stage. This narrowed the space for musicians and vocalists to about ten feet instead of the thirty-five-foot stage width. Unable to improvise a curtained ceiling because of props for other auditorium activities, Don tried a floor covering to absorb the echoing sounds. He salvaged some old velvet curtains and found them adequate for his floor needs. There was a considerable improvement. The high ceiling now actually helped—it allowed a release effect.

Don found some talented and ingenious technicians



Don Young, director of music at Jackson's southern Michigan prison, has a unique way of getting his announcements on the Our Town weekly tape. Combos, band, orchestra and vocalists are taped at different times during the week. These different features of the show are spliced together into a continuous half-hour program. At the same time the announcer's comments are embodied into the taped show that goes out to 17 Michigan radio stations each week.

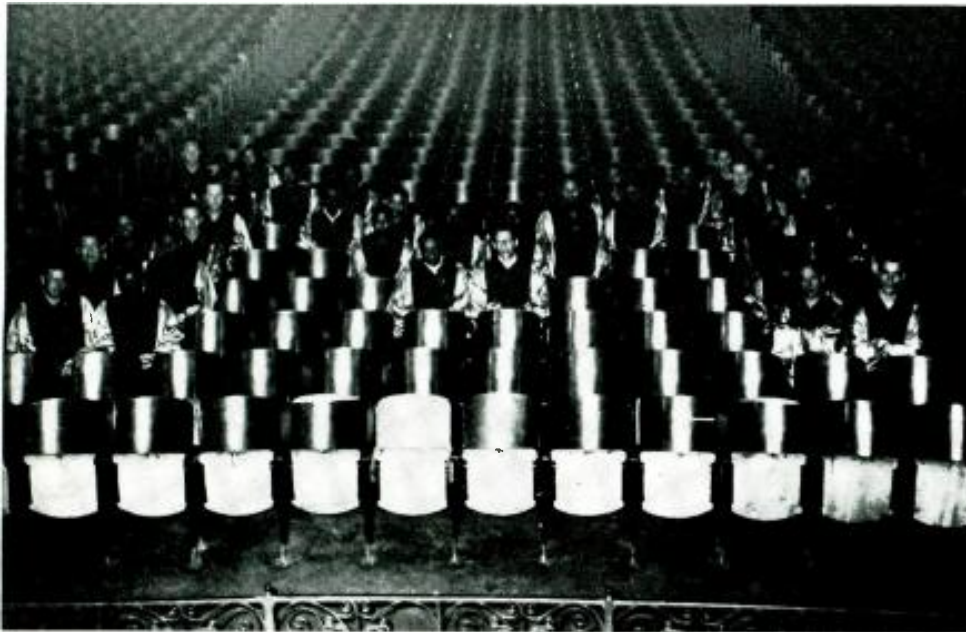
among his Our Town prisoners. As they acquired knowledge and experience they revealed the resourcefulness and skill needed to improvise on a trial and error basis in the technical field. One of the boys built a homemade amplifier and a mixer.

The mixer allowed them to use more mikes with small combos and a piano-bass drum-guitar combo. He found the additional mikes brought the desired sound even to a greater degree. Then Don tried using a separate mike for each instrument and vocalist. By experimenting and constantly making changes to improve quality and tone, he got an even more intimate sound. With larger groups, the glee club, band or orchestra, he found one mike still gives the best results.

The homemade amplifier finally burned out and Don replaced it with a Heathkit, one-mike input, pre-amplifier.

More than technical training and musical accomplishment evolves around the Our Town show in the 6,000-man prison at Jackson. Gordon Fuller, left, director of individual treatment, congratulates Don Young on what he has done in the way of reeducation and rehabilitation. Musical and recording groups among the inmates have provided much in the way of group therapy for the prisoners. "When they work out technical problems together, they soon become conditioned to working out personal and social problems that have contributed to their imprisonment," says Fuller.





One of the earlier seating arrangements of the Our Town glee club was in the front center of the prison auditorium. It wasn't much better than when on the stage. The final move to the upper balcony solved the recording problem and today all the glee club recordings are done from the upper balcony. Taxpayers in Michigan don't pay a dime for prison recreation, including the Our Town show. A unique method is used to pay for prisoner entertainment and recreation. Inmate store prices are a little higher than those in downtown Jackson stores. The profit from this store pays for the recreation-entertainment program in the 6000-man state prison.

Having a larger base and treble boost this balanced the rhythm section with the reed and brass sections. Of the needed funds for equipment, the greater part was needed for musical instruments. Don often thinks today this was a good thing. Forced to exercise their ingenuity and get by with a minimum of equipment, the amateur technicians quickly grasped an understanding of recording problems and learned by improvising.

To get a background effect with a minimum of equipment, Don and his prisoners made a separate mike switch allowing the announcer to come in as the music faded in the background.

Through trial-and-error the prison music director and his "walled-in" technicians discovered something that all station engineers and experienced amateurs know—get the best mike money can buy even if the purchase of other equipment has to be put off until a later date. They also found, if the budget will only allow the purchase of one mike, that the dynamic type is best. Don says he found it most adaptable for all-purpose work, musical and vocal. As he added to his equipment, Don also found the velocity or ribbon type mike best for music. Now he uses the dynamic for vocal arrangements, announcing and speeches.

The Our Town show's present equipment is all Ampex, including recorders, amplifiers and play-back units. Don uses an Ampex 600 recorder, a 620 amp. and speaker. With a Pentron mike mixer and a Varitran voltage regulator, he finds he gets best results for radio tapes. The Ampex play-back is, according to Don, a necessity when so many tapes have to be made weekly. He uses a Pentron channel mixer whenever a series of mikes are used.

Don likes a full track recorder. He says he gets a better reproduction and cooperates with the radio stations which use full track play-backs. At first he felt the home type half-track would be economical through getting twice as much programming by reversing the tape. But he found, in using both tracks, the result was a garbled production unsuitable for broadcasting.

Using a recorder and play-back unit, Don finds he can record an instrumental group; run it through the play-back unit into his recorder; and, at the same time, record the group again through mikes providing a novel multiple re-

ording system. This provides an excellent background arrangement for the glee club and speakers. On one year's special Mother's Day show the system allowed background music for a poetic presentation.

The Jackson prison music director has just completed the equipping of a new recording room. It uses a former storeroom next to his office, a flight above and off to one side of the stage itself. A 12x15-foot room with a 15-foot ceiling, its walls, floor and ceiling are of solid concrete—as one of his prison helpers says—definitely never intended for a recording room! But the Our Town crew have demonstrated their ingenuity again. Tapes produced in this room are, according to station engineers, "just about perfect!"

At first, Don tried his stage method of hanging cotton curtains from ceiling to floor. It didn't work. For other than speech recording, the room proved impractical for making tapes. Even for announcing he found trouble in the "cotton-over-concrete" room. Sound waves bounced from floor to ceiling creating havoc in "G sharp minor," as one of the prisoners said. It sounded like a production coming from 'a steel-studded ballroom!'

Don solved this problem by covering walls and ceiling with acoustical tile and planking. Then he added a deep pile carpet as a floor surface. From the former concrete, vault-like room—impossible for adequate acoustical effects—he and his boys came up with an ideal recording room from the standpoint of tone and quality. He uses it for speech recording, piano, vocals and instrumentals where the groups contain less than seven pieces.

This room is furnished with a piano and posture seating facilities for speakers and instrumentalists. It is equipped with tape recording equipment, a disc recorder, hi-fi console record player and the Our Town record and tape library.

Of interest to schools and amateur community groups is Don's way of getting the best taped reproduction of the Our Town 40-man glee club. At first he just couldn't get a natural reproduction of the vocal group. He felt it was purely a matter of equipment and technical difficulties. One of his ingenious prisoner-technicians came up with the idea of moving the songsters into different parts of the auditorium. With "time on their hands" the prisoners have ade-

quate time for improvising and experimenting. In this respect they have an advantage over most show producers.

Moving the glee club from the stage to different locations in the auditorium they finally settled for the balcony. He tried one mike and a series of mikes and ended using only one. He placed the 40 singers in the center row just below the projection booth and hung a dynamic type mike so that its position was two feet over the heads of the front row. The glee club occupies four rows. For those who might want to try a similar arrangement in a school or church auditorium, the prison auditorium balcony seats approximately 700 and has the standard seating arrangement with a center section of thirty-three seats and two side sections ten seats wide. The Our Town glee club's ideal spot for recording is the four center back rows.

This spot, which provides the best tone and quality when recording is made in the auditorium, allowed reproduction on the play-back revealing little if any difference between the tones of live voices. It comes off the tape with a "big hall" effect and is so good that, every time the glee club appears on the program, listeners and choir directors write in, "How do you do it?"

Don says, "we're not professionals. Anyone can have the same fun we had, and learn as we did. It's a matter of experimenting and trying groups in different ways. We learned as we went along and are proud of the Our Town show. We do have one problem that is unsolvable. And yet we are happy that we cannot find the answer! Every time we get one of our boys to the point where he is skilled in some aspect of technical work, he leaves via parole or transfer to Trustyland outside the walls. It seems that we just cannot sign a man to a long term contract!"

Don's Our Town weekly production schedule contains some valuable tips for amateurs. Like other amateur productions, prisoners have only their spare time available for the show's rehearsals and recording. Some groups find time during the day and others come into the auditorium at nights after their day's work in prison industry shops. Through the week, vocal and instrumental groups rehearse at allocated times. At first it was felt the show would never

be produced because not all of the cast could be together at the same time. Tape recording and splicing makes possible the half-hour variety show without the entire personnel being together at one time.

Recording at odd times and later inserting announcements and the speech of the week's guest speaker calls for a lot of splicing. Don says his cheapest but most useful piece of equipment is the handy hand-splicer.

The original tape is retained in the Our Town tape library and each week 17 copies are made regularly and mailed to radio stations. From time to time requests come in asking for the loan of a special program and these master tapes are taken from the library and used to make the requested program. Once used at the stations, tapes are returned to the prison, erased and used over again for succeeding shows. 130 tapes are in constant use to keep the weekly show on the air. Our Town tapes are available free on request from interested groups.

Don stresses, "get a tape recorder with a hi-fi amplifier and a monitor. Then you can listen to the music when it is recorded or when it comes off the tape. This makes possible monitoring of the musical group and the tape as well." He also recommends a recorder with a playback for binaural tapes.

When Don started his Our Town show he wasn't able to hire technicians and other skilled personnel. His prisoners, in many cases, had never heard of tape recording. He found three invaluable sources of help that are available for any amateur group: local hi-fi shop proprietors, electronic suppliers and radio engineers. Don says almost everyone in the trade is willing to give any amateur group a hand. He even found them willing to come inside the prison walls to aid in setting up the program.

This assistance, the ingenuity of prisoners and Don's trial-and-error method have paid off. A recent letter from a Detroit writer says, "the Our Town program has a tone and clarity of a live program; excellently prepared and produced; and darn fine entertainment." And, as Don Young says, "it's a lot of fun and does a lot of good for everyone!" That's tape recording.



Prisoners in the world's largest prison do all the technical work for the Our Town weekly program. Al Daly, a 28-year-old lifer, had never heard of tape recording before becoming a member of the Our Town team. Today, radio station engineers on the 17-station network say Daly can come to work for them any time.

Sound of Your Life

BY SHELDON O'CONNELL

... BE AN AMATEUR "PROFESSIONAL" SOUND EFFECTS MAN—IT'S EASY.

GERALD MCBOING BOING, junior hero of television cartoon series has a real life counterpart in the Sound Effects man. Gerald you'll remember couldn't utter a word but was never lost for a sound. On cue he could produce the wail of a speeding express, roar like a lion, scream like a siren. As he grew older Gerald added to his repertoire of sounds, though words always failed him.

Sound men in films, radio, television are often heard but seldom speak, and like Gerald, can produce any number of spine chilling effects with a minimum of equipment. They can add that touch of realism, complete with grunts and groans that make a listener feel he's ringside at the Gardens, or within "Pow" reach of a domestic quarrel.

You can have the sound of your life by duplicating on a smaller scale some of the effects used by the professional effects man. Some effects can be produced orally, others suggested by existing effects, requiring only slight modification to produce an entirely different sound, or one that can be adapted to a variety of situations.

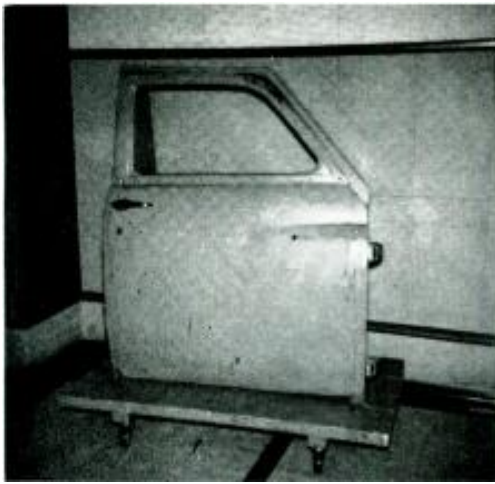
Add to the fun of tape recording by trying a few of these on your machine. They can be used for tape parties, amateur productions, comedy relief, dramatic impact, and offer great possibilities to anyone wanting to break or badly bend a difficult lease. Your friends will enjoy trying them too, especially the ones that can be produced by hand. It rivals television viewing as a spectator sport; just watch the action when one person attempts to bring off an involved set of footsteps, door slams and gallops.

The first sound effect man goes back a long way before the 20th century. Tomb carvings of early Egyptians depict whistles of clay molded in the form of birds together with snares and nets. The North American Indians used animal mimicry as a means of communication when hunting and trapping; just as their medicine men relied on a succession of rattles and treated gourds to frighten away the evil spirits.

Effects have been put to good use by more than one frustrated hunter to bag his share of game, draw a moose into the sights of a rifle, or decoy a flock of wild geese.



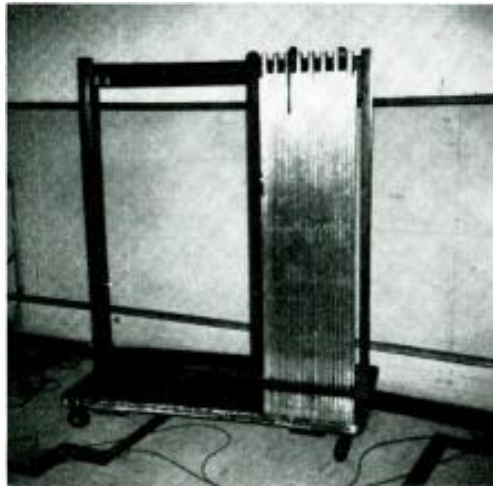
Effects man follows dialogue on his own copy of the program script, so he can anticipate the cues for sound. Effect in use here is a glass crusher, notice its position in relation to the microphone. Other effects are kept within arm's reach to avoid lost time and motion.



Left: "Follow that Car!"—no winter or spring tune up needed for this model. Regulation size door and frame are affixed to block on casters.



Right: This sturdy door has a handle added to each side of the frame to allow it to be pulled along to a convenient microphone and readied for action.



This elevator never gets off the ground except in the listener's imagination. A roller skate will produce the same effect if you don't have a small section of elevator door handy. Right: the "Cocktail Bar" has three turntables and six pickup arms for double cueing and continuity of sound. The piano sized chassis is mobile, easily pushed along to convenient outlets.



Sound men are listeners first, who develop and expand their repertoire faster than you can say Milton Berle by taking an interest in the sounds around them, listening for identifying characteristics and mentally tagging them for future reference. They don't rely on established effects, new situations call for a large share of inventiveness. New tricks find their way to all levels of the sound department, they're tried and kept or discarded, depending on size, speed of production, realism and other factors that determine the worth of various effects. Any Audiophile can do the same thing and add greater professionalism to many tape recorded productions.

Before embarking on this fascinating side interest of sound collecting we might do well to remember the advice of experts who tell us how to break the cigaret habit. "Tell your friends" they say, so they'll know what you're up against and make allowances. It works well in this case too, helps avoid any misunderstanding that might arise when they notice you breaking off conversation to open an unseen creaking door, dialling an invisible phone, or casting for bass with a pocket comb.

First, let's take a tour through the Sound Effects department of a major broadcast station, examine the effects at close range and perhaps slam a few doors in the process. This is the room where all the effects are kept. Many are

piled one on top of another, others are lined along the wall. In spite of appearances, there is method to all of this; the effects most often used are easily accessible. Those rarely called for are shelved, covered or boxed. A neatly catalogued file of effect recordings stands in one corner.

Hard to miss is the Sound Door, though it appears to be a single door of regulation size, a closer look reveals that it isn't one but several doors, panels screens and drawers all neatly fitted together with matching hardware. When the manual effect is needed, it can be produced on the spot easily and naturally. The screen door slaps into a conventional wing clasp, an overhead "garage door" of two heavy pulleys squeals along a metal track, the lid of a trunk thumps tight; the whole affair mounted on wheels is rolled along to the studio and primed for action.

Graduated platforms and wooden walking areas are also in evidence. The Walk Boards vary in size and detail and appear to consist of no more than an overturned box about four feet square, five inches deep and solidly constructed. They must be firm enough to bear the weight of a man stomping heavily; running, strolling or shuffling footsteps.

When footsteps along a gravel path are scheduled, one of the forms is reversed before broadcast and filled with gravel or brick halves. To carry the effect of climbing stairs, a three platform box is used. The effects man steps up

and down, up and down. There's no official record for the dizzying height sound men may have reached if all their climbings were totalled, but it's a safe guess that the final figure would have them somewhere around the summit of Everest.

A piece of equipment that has drawn many gasps from radio listeners has often been used when the villain shouts, "You'll never take me alive!", then jumps through the picture window of a penthouse apartment. The accompanying crash of glass is produced by a Glass Crasher.

Crasher is not unlike a medieval torture rack in appearance. Senior size comes in a console model cage surrounded by wire netting. A pane of glass is placed in the cage on metal supports. Lifted high above the glass are two steel balls on metal arms. These balls of steel swing free when they've been triggered, a hinged top lid is closed to prevent effects man and cast from becoming real-life casualties. On a signal the release bar lets the two steel fists swing free and CCcrrraassh! another pane of glass becomes a splintered memory.

Crasher Junior, less formidable in appearance has the advantage of being portable. A box-like arrangement two feet square, the Junior size is also lined with screening, allowing the sound to carry through. Glass is supported in the same manner but broken by a metal bar when the sound man slams a handle resting on the case top.

Light switches, toggle switches and assorted hardware are all mounted into individual wooden blocks. In this manner the effect can be used and discarded without study. One small block for each effect or set rather than several mounted on a large block. Buzzers, the ring of a phone, doorbell, etc., are often battery operated self-contained units.

Another corner of the sound department houses a rectangular piece of equipment that would bring back many memories to army veterans. This contrivance when activated by an electric switch, fires sound bullets at single shot or machine gun rate. Loaded with primers it's realistic enough to make the most seasoned effects man wince when it's time to fire a few rounds.

Live effects are often used to complement recorded sounds. Major and Standard are two of many effect recording companies who serve up action impossible to duplicate in any way but through actual recordings; compressors, factory backgrounds, road building equipment, the heavy throb of pistons in a ship's engine room, specialized types of aircraft and a variety of others defy most attempts to duplicate short of a major construction job itself. A matter of turntable economics enters the picture too. The Cocktail Bar, a three turntable rig with extra speakers and six pickup arms can take three records. Since playing time might average only five or ten seconds before the next recording must be readied, anything that can be done live to take part of the action will make for an easier production.

A library of choice sound effect recordings to accompany other effects an Audiophile will enjoy building or developing needn't involve a great deal of expense. One method of course is to contact an effect recording company and request a copy of their catalog, these offer a wide range of specialized sounds, and though expensive since the average cost per effect is two dollars, you're assured of receiving exactly the effect you want.

Another way of collecting excellent effects on record but for only a fraction of the cost is to haunt the Kiddies

corner in the local record shop. The companies who distribute children's records purchase master sounds from top firms who specialize in effects, Major, Standard, Speedy Q, Masque and others. Here are random titles of children's records on unbreakable vinyl. "Tower of London," "Range Warfare," "Train Travel," "Fire Engine 14," "Harbor Tugs" and many more that would cost a small fortune if the sounds were purchased individually. The only drawback develops in cueing up the desired sound to the exclusion of others. It requires a skillful touch of the grease stick to isolate the effect so it can be found and spotted easily. A red or yellow grease pencil won't harm the effects disc and makes identifying simpler.

On some children's records, ten or fifteen dollars worth of effects may have been used, smoothly balanced to develop action and set the scene. One spine-chilling junior disc selling for fifty cents features enough haunted house effects to fill a couple of cauldrons.

Home grown manual effects require considerable preparation and may have to be scaled down in size. That Sound Door for example would be a tedious thing to wheel around a budget-sized apartment, but a five inch model can be had from the local hardware store, a versatile model adapted from one of the many Lilliputian doors used to display knobs, slide bolts and various accessories. The hardware merchant may be willing to part with one from his stock of replacements or make one to order.

Addition of toggle switches and click buttons to a few sanded blocks of wood is easily done for those effects. A recess large enough to allow the moving part free play is made in the wood, fasteners are added in the normal way to secure the face plate.

In preparing sound equipment patterned after the effects examined earlier you may prefer to settle for the suggestion rather than duplication of certain effects. The phone dial on a desk memorandum pad, though far removed from the real thing, gives a fair illusion of dialling. Short of visiting an auto body shop or wrecker for an automobile door and frame that's seen better days, the slam of a refrigerator door will produce the sound of a car door closing.

Of all the means of duplicating bird calls including painstaking study of different species at first hand, the easiest at least for a novice can be had at a pet shop. This appears to be no more than a tiny bullet head turned and squeaked in a tight wooden jacket, it can produce a variety of intricate and beautiful calls after a little practice.

Producing the sound of a typewriter in action calls for a pencil, glass tumbler and a pocket comb. The pencil is tapped against a hard surface, struck against the glass to produce line bell, then drawn along comb to indicate carriage return, sort of a Stone Age portable. A better effect is created if the pencil is tapped against an alternate surface from time to time for the spacer bar.

Fifteen lethal rounds of machine gun fire can be triggered with an ordinary kitchen spatula, the broad blade, is held firm against a hard surface and the handle struck once or twice. On the same theme, a knife blade held in a similar manner, suggests an airplane warmup when its handle, extending over the table is kept in motion by being struck with the free hand. The sound varies in intensity when the length of blade is changed.

Draw cords of a venetian blind when pulled open, closed, open, closed, simulate the gyrator action of a washing machine.

Two more effects can be had from kitchen utensils, a "cash register" records well if three knives, forks or spoons are dropped into the cutlery drawer, a glass tumbler tapped, and the drawer slammed shut. A hand held egg beater with revolving blades sounds very much like a sewing machine if the rotary wheel is turned quickly some distance from the microphone.

The indoor sound man who doesn't want to get his feet wet can fly cast a fishing scene with a pocket comb. The thumbnail is drawn along the teeth of a comb in one motion to simulate a cast, "winding the reel" back is accomplished by flicking the nail back and forth over comb teeth rapidly.

A "creaking door" opens if the vocal cords in the throat are sounded while breath is taken through the mouth, though real-

istic this last can be hazardous too. One experimenter tried it as kind of an after-thought, while his mouth was full of mapping pins, it took two handstands and an industrial magnet to get them all back and accounted for, now he's grown wary of that oral effect and prefers to settle for the twist of a dry cork in a bottle.

A reasonable facsimile of the glass crasher is possible when a series of metal plates or laminate strips are looped together, something on the order of a suspended house of cards, then dropped to a floor or other hard surface.

Where realism is important and space no object, that house door with the many effects fitted into it, doors, panels, windows and drawers, can be tailored to something between the tiny display door at the hardware

store, and the massive one used in broadcast studios. Demolition firms the companies who tear down old homes and buildings have warehouses chock full of frames, shutters, salvaged lumber and the like; for a dollar or so you can come home with enough material, including basic door and frame to produce all the noises of a day sleeper's nightmare. One of the drawers can be for real, housing lengths of cable, spare tape parts, microphone accessories and other effects.

Hard knocks, soft touches and quick cues are the Effect man's stock in trade, offering a fascinating side interest to complement tape recording. Practice and experimenting can be fun, and are all that are needed to develop a variety of realistic, identifying sounds of your life!

NEW PRODUCTS

NEW PENTRON LINE



A completely new portable tape recorder line has been unveiled by The Pentron Corporation, 777 S. Tripp Ave., Chicago 24, Ill. Top: Model NL-3—the Aristocrat. Features include four speakers, two LC crossover networks at 600 cps and

2000 cps, 10 watt push-pull amplifier, illuminated VU recording meter, automatic shut-off at end of reel, frequency response of 40-15,000 cycles, automatic index counter and full horizontal plastic-wrapped decor-handle. Price: \$189.95; stereophonic version—\$219.95. Center: Model NL-2—the Champion. Features include 2 matched extended range speakers, crossover network system, full 5 watt beam power amplifier output, frequency response of 40-13,000 cycles, automatic index counter and magic eye record level indicator. Price: \$149.95; stereophonic version—\$179.95. Bottom: Model NL-1—the Century. Features include Finger-Flite single rotary control, Quick-Flip speed change control for 7½" and 3¾" speeds, frequency response 40-11,000 cps, 6" round PM extended range speaker, automatic braking, neon bulb record level indicator, and two inputs and two outputs. Price: \$109.95; stereophonic version—\$139.95. For details, write The Pentron Corp.

SOUNDScriBER "24"



The SoundScriber Corporation of New Haven, Conn. has released to the market a compact, magnetic tape recorder-reproducer capable of recording continuously for 24 hours. This new unit, called the "24", has an extremely slow tape speed of 2½ inches per minute. The recording pattern is such that alteration of the recording is impossible without detection. "24" is designed for use in either fixed installations or as a portable unit. Accessory brackets adapt the SoundScriber unit for stationary

mounting in standard, 19-inch communication racks. For use portably, the front access cover is equipped with a carrying handle. The price is quoted at \$950 for the "24" recorder-reproducer and tape reusable indefinitely, at \$8.50 per reel. For additional information, contact R. S. Heath, The SoundScriber Corp.

ELECTRO-VOICE 951



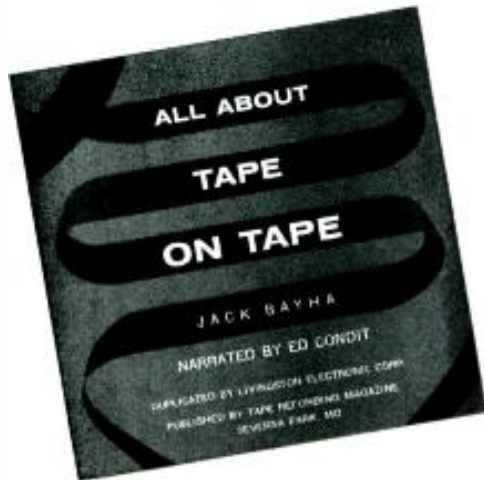
Electro-Voice, Inc., 425 Carroll St., Buchanan, Michigan, is marketing its Model 951 cardioid microphone of the crystal type, which uses the new Variable D principle for obtaining cardioid directivity. The cardioid pattern is obtained through the use of two sound entrances located in the microphone case at different distances in back of the diaphragm. These sound entrances, each utilizing the proper acoustical impedance, combine to form one effective back entrance which varies in distance from the diaphragm inversely with the frequency. Other features include frequency response 50 to 11,000 cps, output level—55 db, the case is high-pressure die-cast zinc and the finish is satin chromium. For price and additional details, contact Electro-Voice, above address.

NOW HEAR THIS . . .

ALL ABOUT TAPE—ON TAPE

. . . THE WORLD'S FIRST

TAPE BOOK®



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

. . . . authored by Jack Bayha a book to which you listen the first book specifically designed and produced on tape instead of the printed page Now you can actually HEAR what good recording, 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

TECHNICALLY SOUND— NOT HIGHLY TECHNICAL



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

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

ASK YOUR DEALER OR USE COUPON AT RIGHT

BOOK DEPT.
Hi-Fi TAPE RECORDING
SEVERNA PARK, MD.

Please ship immediately the following items checked.

I enclose

- TAPE RECORDERS AND TAPE RECORDING\$2.95
- ALL ABOUT TAPE—ON TAPE. 7 1/2 ips, 7" REEL\$6.95
- ALL ABOUT TAPE—ON TAPE. 3 3/4 ips, 5" REEL\$5.95

NAME

ADDRESS

CITY..... ZONE.....

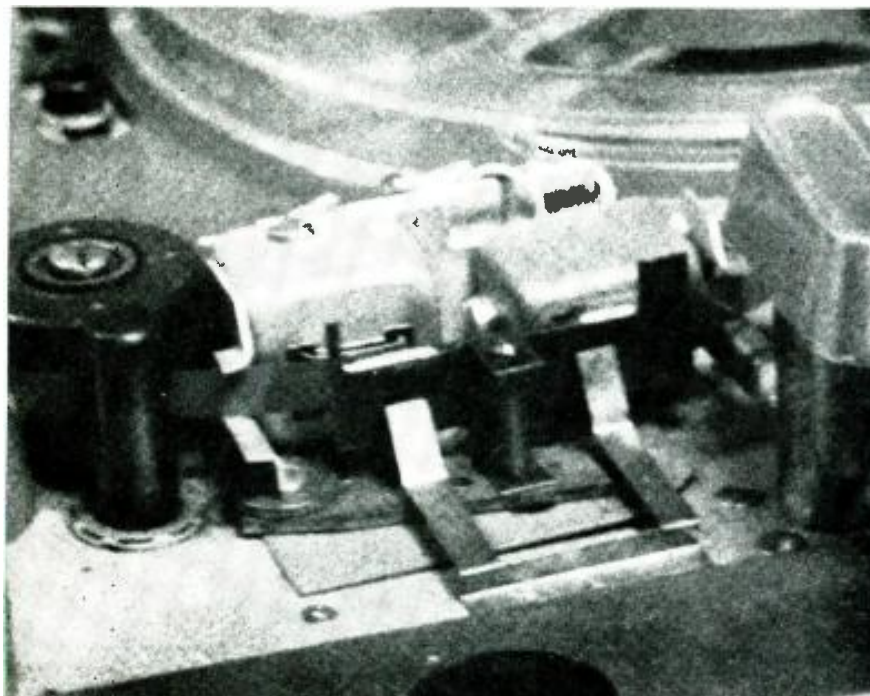
STATE

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

NEW PRODUCT REPORT

STA **F**OKSTED

Product: Stereo Conversion Kit
Price: \$16.95
Manufacturer: The Pentron Corporation, 777 S. Tripp Ave. Chicago 24, Ill.



PENTRON STEREO CONVERSION KIT

stereo playback is now possible on old or new Pentron recorders

WITH the increasing popularity of stereo sound, which tops "hi-fi" in realism, many recorder owners are looking for ways in which to convert their present machines to stereo without a large investment.

Pentron has brought out three kits, for its recorders, the SA-1, a staggered-head kit for older models, the SA-2, a stacked head kit for the older machines and the SA-3 a stacked head kit for the new models just coming on the market.

The kits contain the new head, a pre-

amplifier, output cable and necessary hardware. The conversion may be made by a serviceman or you may do-it-yourself if you have a good acquaintance with soldering and wiring techniques.

The installation of the heads naturally entails some disassembly of the recorder and full directions are included in the kits. We found the directions to be adequate for a person having some knowledge of wiring. A person with little or no knowledge could, by carefully following the diagrams and directions, make the conversion also. However, if your knowledge is limited to plugging the unit into the wall outlet, you had better let a serviceman do it for you.

The components furnished in the kit are of good quality and well made.

Basically, the conversion consists of removing the mechanism from the case, taking off the head covers to expose the heads, removing the old pressure pads and replacing them with the new ones from the kit and removing the old head assembly. This requires that all the head leads be unsoldered. In the staggered kit, which is the one we

tested, the pole piece of the head is removed and turned over. The new head is mounted and then the assembly is replaced.

The pre-amplifier is mounted on the lower left side of the chassis with the tube facing the rear of the machine and the color coded leads are soldered to the appropriate terminal strips or socket lugs in the amplifier chassis.

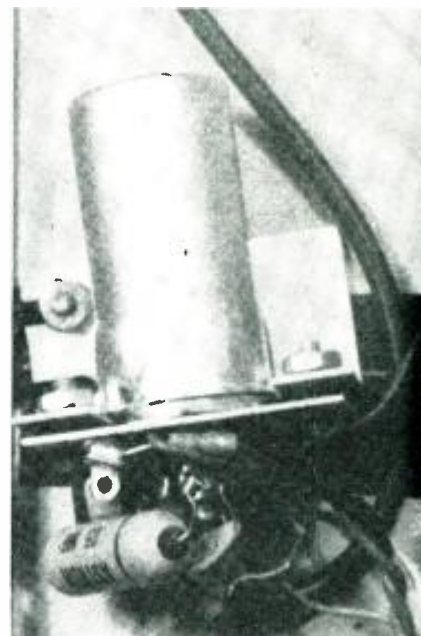
The shielded cable for the output is brought through the backboard and after tying a knot for strain relief is soldered to the preamplifier terminal board.

The final step is to align the heads for maximum output by rocking them back and forth with the recorder in operation. A check should be made to see that the machine will record monaurally. When satisfied that all connections are right and the unit is working properly, it is reinstalled in the case and the job is complete.

The output cable is plugged into any amplifier, radio, TV or phonograph to provide the second channel.



The Pentron "Stereo-Magic" kit, available through dealers, can be had in three different types as explained in the text.



The preamplifier is wired and tested and needs only be installed on the chassis and wired in. Above, heads installed on machine using kit parts.

HI-FI RECORDING TAPES!

Fresh, new A-I tapes. Uniform red oxide coating. 40 to 15,000 cycles.
 5" reels
 600' 95c PLASTIC 1200' \$1.39
 900' \$1.20 PLASTIC 1800' \$1.85
 900' \$1.50 MYLAR 1800' \$2.40
 Add postage: 30c for 1st reel, 10c each additional reel. Mail to:
 TOWER DIST., BOX 155, PHILA. 5, PA.
 FREE Catalog! Recorders—Phonos—Radios

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.

Buy your next recorder from a specialist in recording for over 8 years. Highest trade-in allowances toward professional equipment—Ampex, Berlant, Crown, Ferroglyph, Presto, etc. Full line of accessories.

BOYNTON STUDIO
 10 Pennsylvania Ave., Dept. TR
 Tuckahoe, N. Y. Tel. SP. 9-5278

TAPE RECORDERS

EXCEPTIONAL VALUES
HI-FI COMPONENTS
 NATIONAL BRANDS

WRITE FOR FREE CATALOGUE
CARSTON 215-C E. 88 ST.
 NEW YORK 28, N. Y.

SHOP OR SWAP

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

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

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

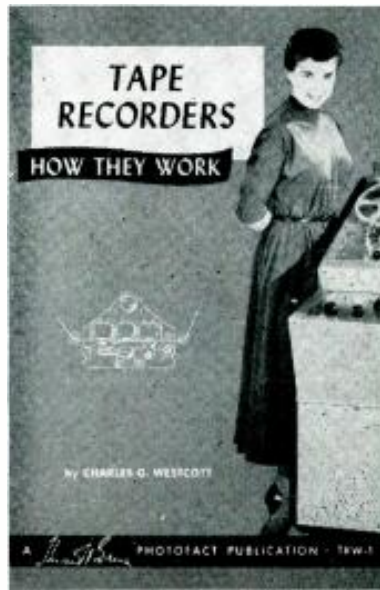
FOR SALE: Audak 16" Arm L-6 Diamond-Sapphire Head, \$30; B-J 12" Tone Arm, New \$15; 24 Watt ACA-100 DC Amplifier 20-20M CPS \$75; 2-18" Cinaudigraph PM Speakers \$25 each; 2—Jensen PM-18J 18" Speakers \$75 each; 2—Jim Lansing D-123 12" Speakers, New \$40 each. Speakers Sold, Pairs Only. Hallicrafters S-47 AM-FM Radio, \$100. I. A. Eilers, Box C, Gladbrook, Iowa.

HI-FI RECORDING TAPE, 1½ mil-4", 450', 94c; 5", 900', \$1.42; 7", 1800', \$1.84. 2 mil tapes-300', 4", 72c; 600', 5", \$1.08; 1200', 7", \$1.44. Money back guarantee. Please include postage. Free catalogue. Recording Services, Box 231, Wallingford, Conn.

TPR-1 PREAMP, new. Scott dynaural scratch filter. Plans and components for AM tuner. Powered crossover. Hiway Hi-Fi unit. Everything half price. S. W. Hayter, 1858 B Peach St., Los Alamos, N. Mexico.

HI-FI RECORDING TAPE: Plastic base 1800' extra play on 7" reels—\$1.86 each. 1200', on 7" reels—\$1.65 each. Minimum order 3 rolls. Top quality guaranteed. Include sufficient postage. Florman & Babb, Inc., 68 West 45th Street, New York 36, N. Y.

HERE'S A BOOK THAT TELLS YOU WHAT'S "UNDER THE HOOD"



5½ x 8½", illustrated, 177 pages, tough paper binding.

At your dealers or book department, Hi-Fi Tape Recording, Severna Park, Md.

Written in a popular style—prafusely 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.

\$2.75
 Postpaid

SELL . . . Precision Radiation Geiger Counter 106C "Lucky Strike" Never used; Retail \$100, sac, \$35. Bill Welzenbach, 266 Bronwood Ave., Los Angeles 49, Calif.

FOR SALE: DeJur TK-820 Tape Recorder, new condition, \$300; Ampro 16 mm Sound Projector, excellent, \$125; Wagner-Nichols Microgroove Disc Recorder, \$75; Five 5" reels Scotch Recording Tape, unused, \$5. V. R. Hein, 418 Gregory, Rockford, Illinois.

RECORDER ACCESSORIES. "Build-it-Yourself" plans and kits. Details free. Le Roi Engineering, Box 251, Elmhurst, Illinois.

LEARN HYPNOTISM, SELF-HYPNOSIS from tape! Other helpful recordings! Free information. Drawer TR6-697, Ruidoso, New Mexico.

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

FOR SALE: Tape Recorder. Viking Stereo; FF-75SU, complete with two No. PB60 play-back pre-amplifiers used 4 hrs. Cost \$170. sell \$130. John E. Oliveras, 912 5th St., N. W., Wash., D. C.

DISCOVER OUR "SIX UNIQUE Services" and Rock Bottom Prices on Recorders; Hi-Fi; Stereo. Write The Silver Trumpet, 406T Walnut, Alexandria, Indiana.

FAMOUS MAKE RECORDING TAPE. Boxed 7" reels, 1200', 1-½ mil acetate, \$1.40 or 3 for \$3.90; 1800', 1 mil acetate, \$2.00; 1800', 1 mil Mylar, \$2.70; 2400', ½ mil Mylar, \$3.25; add 20c postage per reel, 40c postage for 3 reels. Write for complete price list. Tape Company of America, Dep't. B-3, Box 50, Jersey City 3, N. J.

RECORDS FROM YOUR TAPES. Average price \$3.00. Box 287, Bellingham, Wash.

RCA 44BX AND 77D Microphones—reasonable. Other Equipment. Reco-Art Studios, 1305 Market, Philadelphia, Pennsylvania.

WANTED—AMPEX Speaker-Amplifier, either Model 620 or A692. Must be in good condition and reasonably priced. Clausen, 303 New England Bldg., Topeka, Kansas.

SCHOOL BANDS—RECORDING FANS, Attention: Disc Cuttings, Multiple Pressings from your tapes. Professional quality, lowest prices. Also, nationally advertised high fidelity components. Write for quotations. Patmor Sound Systems, 92 Pinehurst Ave., New York 33, N. Y.

ANSWER TO COVER QUIZ

Back Row—Train whistle, squeak box, French taxi, broom bristles for crackling undergrowth, marching men, comic zip slide whistle, sleigh bells, wagon wheel, toy piano, ticket punch.

Fourth row—Old fashioned record player, cow bell, lion roar, barking dog, school bell, siren, ratchet, factory machine.

Third row—Tea bells, telephone, elevator door, chimes, ratchet, horse's hooves on pavement, bird whistle.

Second row—Crashes, rhythm instruments, distant train whistles, sheep's bell.

Front row—Horns, squeaking hinge, effect discs, pot used with two filled syringes for milking cow, horse's hooves on soil.

YES!

2400 ft.

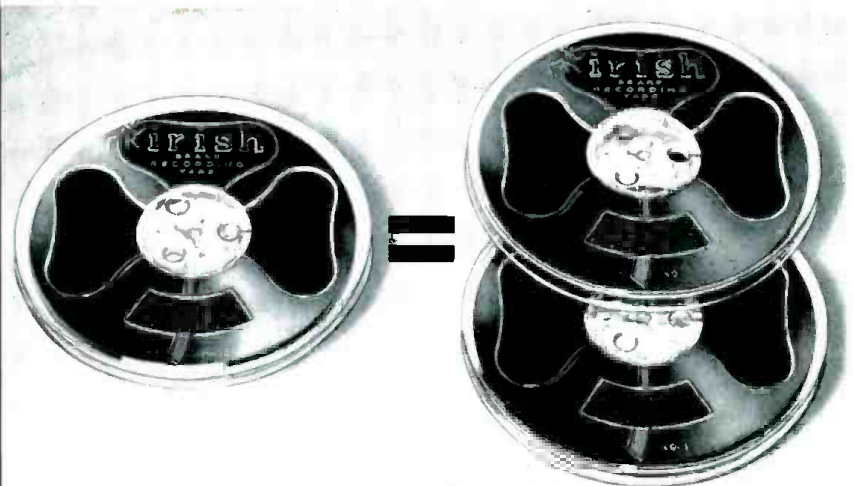
ON A STANDARD

7" REEL!

You get **DOUBLE** the **PLAYING TIME** with

irish BRAND *Double-Play*

RECORDING TAPE



One 7" Reel of New irish *Double-Play* Tape
Has As Much Playing Time - 2400 Feet -
As Two 7" Reels of Ordinary Tape!



Like most tape recorders, your instrument will probably handle nothing larger than a 7" reel. This limitation often forces you to stop to change reels, leaving important

material unrecorded.

Double-Play gives you 2400 ft. on a 7" reel, enough to record a full-length opera, an entire football game, or a complete church meeting.

Double-Play is made on strong, tough Mylar, Dupont's new miracle film, and will withstand a pull of almost four pounds. This tape is recommended for applications requiring long, uninterrupted operation and where tape tension is not excessive.

Double-Play is produced by the exclusive Ferro-Sheen process, the most outstanding tape development in the

If not available at your local dealer's, write:

last eight years. This super-smooth-surfaced tape offers you greatly reduced head wear and flatter frequency response, does not shed its oxide coating, and reduces "print through" and "dropouts."

irish Double-Play - 2400 ft on 7" Plastic Reel

COMPARE PLAYING TIMES!

Single Track*

	Double-Play Tape	Standard Tape
1 7/8 ips.	4 hours	2 hours
3 3/4 ips.	2 hours	1 hour
7 1/2 ips.	1 hour	30 minutes

*Multiply by 2 for dual track

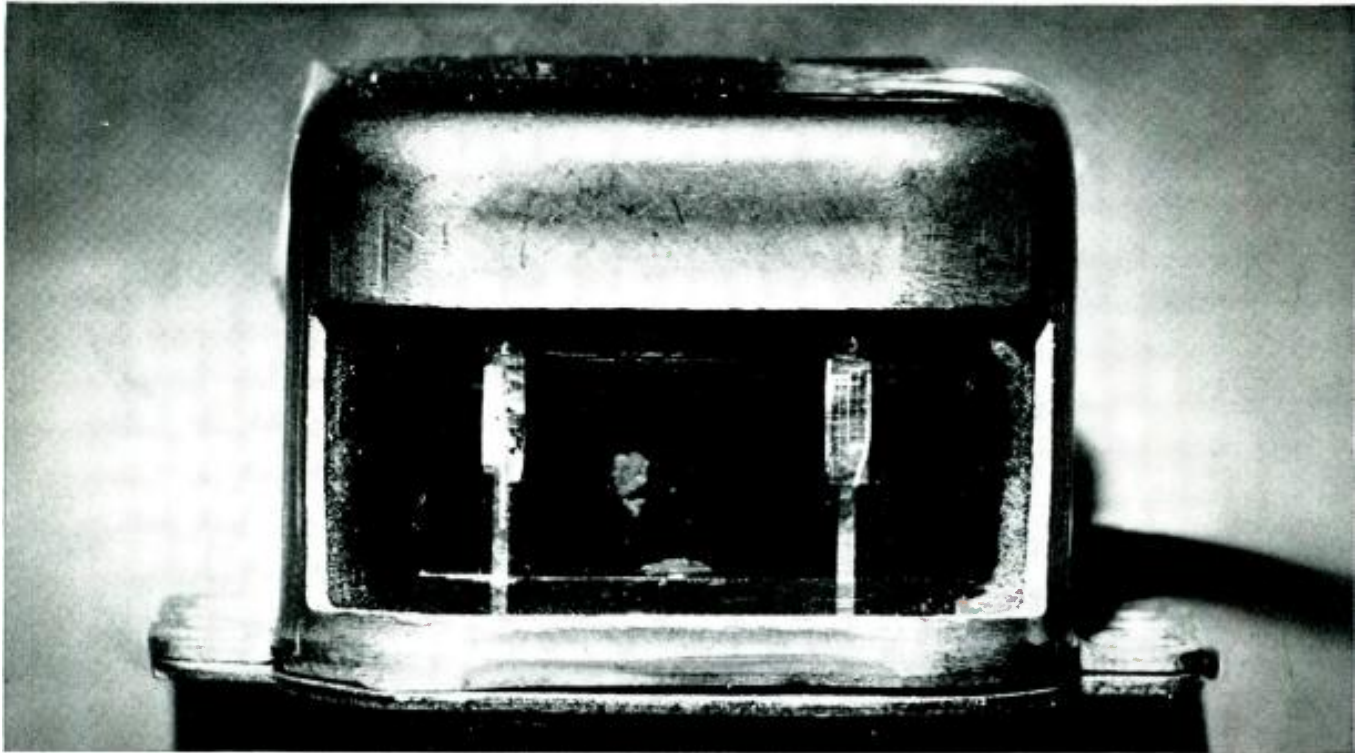


ORRADIO INDUSTRIES, INC., Opelika 4, Alabama
World's Largest Exclusive Magnetic Tape Manufacturer

Export Division: Morhan Exporting Corp., New York City
IN CANADA: Atlas Radio Corp., Ltd., Toronto, Canada

"Scotch" Brand's dry lubrication

stops magnetic head wear



Enlargement of badly worn and pitted recorder head. Heads in this condition cause loss of high frequency response.

Know what's the most *vulnerable* part of your recorder? It's the sensitive magnetic head—the tiny, precision-made part where dirt or lack of proper lubrication can cause annoying wow, flutter and harmful friction.

It's relatively easy to keep your recorder head free of grime. But how do you keep it well lubricated?

"SCOTCH" Brand Magnetic Tapes do the job for you! *All of these fine tapes are "self-lubricating"*. Thanks to "SCOTCH" Brand's

exclusive silicone lubrication process, these tapes glide smoothly over the magnetic head. No sticking . . . less friction . . . wow and flutter are cut noticeably, even in hot, humid climates!

"SCOTCH" Brand's dry lubrication stays put . . . lasts the life of the tape. And what a difference it makes in the sound of your recordings! You'll *hear* what we mean the next time you play a reel of silicone-lubricated "SCOTCH" Magnetic Tape.



Extra playing time

Extra strength

Higher fidelity

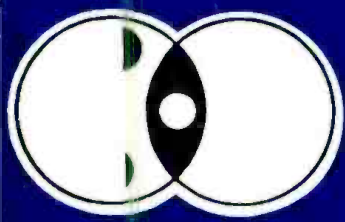
True economy



Your guarantee of quality

only "Scotch" Brand has silicone lubrication

The term "SCOTCH" and the plaid design are registered trademarks for Magnetic Tape made in U.S.A. by MINNESOTA MINING AND MFG. CO., St. Paul 6, Minn. Export Sales Office: 99 Park Avenue, New York 16, N. Y. © 3M Co. 1957.



TAPE RECORDING



Mr. Sydney G. Brooks
Brooks Jewelry
Cadiz, Ohio

Revere



Stereo



New Revere Recorders feature Automatic Stop, Matched Bass and Treble Speakers, Simple Drop-in Load and Light-weight Compactness!

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

MODEL T-204 STEREOPHONIC TAPE RECORDER—Stereo playback and monaural recording—with microphone, hi-fi cable, stereo cable, radio-TV attachment cord, two reels and tape **\$237⁵⁰**

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

Revere

HI-FIDELITY TAPE RECORDERS

GUARANTEED SPECIFICATIONS—Playing time up to 4 hours, using LP tape $3\frac{3}{4}$ ips, 7" reel. Frequency Response—Upper Channel: 40-15,000 cps. ± 3 db. at $7\frac{1}{2}$ ips.; 40-8,000 cps. ± 3 db. at $3\frac{3}{4}$ ips.; Lower Channel: 40-15,000 cps. ± 3 db. at $7\frac{1}{2}$ ips. (NARTB Standard Equalization). Wow and flutter less than 0.3%; Signal to noise ratio greater than 50 db.; Signal from lower channel pre-amp output 0.5—1.5 volts; Crosstalk—50 db.



REVERE T-1120 STEREO IN-LINE RECORDER

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

T-1100—Monaural—single knob control, **\$162.50**

REVERE CAMERA COMPANY, CHICAGO 16, LOS ANGELES 7

CROSSTALK

from the Editors

WE GET SICK and tired of hearing of the "difficulties" of threading a tape recorder. This statement has appeared time and again in many places, so often that some people actually believe it.

* * * * *

ANYONE WHO doesn't have more than one thumb on each hand can load a recorder and thread the tape mighty fast. And, so far as the woman's angle is concerned, any gal who can thread a sewing machine will have no trouble with a tape recorder.

* * * * *

NO ONE MENTIONS the difficulties with record players, of threading record holes on bent shafts, of trying to locate the first groove on the record when you've misplaced your bifocals, of keeping the needle free of grit that grinds away the grooves, of the care necessary to keep a record in top condition, of the wiping cloths, of anti-static brushes, of record sprays in pressurized cans, of tiny scales to measure the stylus pressure, of turntable rumble, strobe speed checks and the like. This is all taken for granted. But to place a piece of plastic ribbon in a groove and attach it to a reel hub. Brother that's a job . . . so they say.

* * * * *

SORRY KIDS but we won't buy that loose talk. Tape is not hard to thread and it never has been. Its care is simple and convenient. And, to top it all off—it sounds better . . . and you can record on it, too.

* * * * *

WE GET A KICK out of some of the ads for hi-fi equipment. Most of them are in an atmosphere of pleasant living where there are no chairs, everyone sits on the floor. Guess where the records are shown. Lying about on the rugs. At least you could do this with tape without harm. Maybe the ad men should switch to tape.

* * * * *

WHY DO THEY put handles on tape recorders? The obvious answer is to make them portable. Anything with a handle on it is portable, even though, with some models, when you pick them up your feet sink in the pavement up to the ankles. But weight aside, where are the models for the living room?

* * * * *

WE NOTICED THIS at the music show in New York. Manufacturers of phonos wrapped beautiful cabinets around their machinery, cabinets that were works of art, fine woods, wonderful finishes. Some of the complete music systems jobs did include a tape recorder along with an AM-FM tuner, and record player. With one sole exception we failed to note a single recorder in a fine cabinet comparable to the disc units.

* * * * *

LET US NOT kid ourselves. The little woman has a lot to say about what is bought for the home, and especially what is put in the living room. Something that has eye appeal is already half sold so far as she is concerned. The auto makers found this out the hard way. While papa looked under the hood and discussed tires and mileage, mama glimpsed the upholstery, considered the effect of the paint job on the neighbors, etc.

* * * * *

NOW THAT recorded tape is about to take its rightful place as the medium for music in the home, this industry had better start to provide living room recorders to play it on.

TAPE IS VERSATILE. This is the theme of the Magnetic Recording Industry and also of our cover for this month. While most of the noise is made about playing music, or recording it, there are still a vast number of uses for a recorder. That's the beautiful part of it—not only does it play music better but it can do other jobs as well.

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HI-FI

TAPE RECORDING

VOL. 6 NO. 10

SEPTEMBER 1959

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New Stereo Tape Recorder

Cybernetically engineered for intuitive operation

Fluid smooth, whisper quiet...with feather-light touch you control tape movement with the central joystick of your Newcomb SM-310. This exciting new stereophonic record-playback tape machine has been cybernetically engineered to fit you. Intuitively, you sense how to operate this handsome instrument. The natural movement, you find, is the correct movement. Loading is utterly simple. It is almost impossible to make a mistake. The transport handles tape with remarkable gentleness, avoids stretch and spilling.

The Newcomb SM-310 records stereophonically live from microphones or from broadcast or recorded material. There are

mixing controls on both channels for combining "mike" and "line." The SM-310 records and plays back half-track monaural also. So versatile is the machine that you may record and playback on either or both channels in the same direction.

The SM-310 is a truly portable unit which combines the features required by the professional and desired by the amateur for on-location making of master stereo tapes. For example, the SM-310 takes reels up to 10 $\frac{1}{2}$ ", has two lighted recording level meters arranged pointer-to-pointer for ready comparison, has a 4 digit counter to pinpoint position without repeating on any size reel. For playback there are a "balance" control and a

ganged volume control. Head cover removes, giving direct access to tape for easy editing.

The Newcomb SM-310 is a sleek, rugged, compact machine, discreetly styled by an eminent industrial designer in easy-to-live-with shades of warm gray and satin aluminum...a gratifying, precision instrument for the creative individual who is deep in the art of tape recording. Eight, tightly-spaced pages are required in a new brochure to describe the SM-310 in detail; send for your free copy.

Advance showings in New York and Los Angeles proves an unprecedented demand for this instrument. We urge those who desire early delivery to place their orders now.



NEWCOMB AUDIO PRODUCTS CO., DEPT. B-9, 6824 LEXINGTON AVENUE, HOLLYWOOD 38, CALIFORNIA

NEW TAPES

CLASSICAL BALLET

COPLAND'S BILLY THE KID AND RODEO

Morton Gould and His Orchestra

RCA KSC-6000

4-track stereo, 3¾ ips, cartridge

\$9.95...44 mins.

We appreciate fully the masterful musical expressions Copland wrings forth from these two Western-type ballets. This composer must have deep-rooted feelings, plus the ability to skillfully give them to others through music. He is immensely creative.

Perhaps the Beatniks aren't so "way out" after all when they claim they "feel" music. Anyone can hear musical melodies, harmonies, rhythm, arrangements go into one ear and pass unnoticed out the other, but they lose so much in the transition. This they do not realize. Only those who linger on the thoughts provoked by the music, whether they be the same as the composers or not, thoroughly enjoy what the carefully placed notes on a musical bar express.

With these ballets, however, we are told what the composer is conveying, and following the story through the music is sheer delight. We would suggest you read the accompanying sheet before playing the tape.

Billy The Kid has an excitement-packed Western plot with a sad ending, and with the pioneer spirit of the frontier prominently displayed.

Rodeo, on the other hand, has a lighter plot in which Cowgirl wins Cowboy and also has a livelier score. We liked the honky-tonk piano in the Honky Tonk Interlude.

We find the fidelity on this cartridge tape to be more in line with the excellence of RCA's recording engineering skill and thoroughly enjoyed it.

SYMPHONIES

MENDELSSOHN'S ITALIAN AND REFORMATION SYMPHONIES

Sequence A: Symphony No. 5 in D Minor.

Op. 107 ("Reformation")

Sequence B: Symphony No. 4 in A.

Op. 90 ("Italian")

Charles Munch conducting Boston Symphony Orchestra

RCA KCS-6006

4-track stereo, 3¾ ips, cartridge

\$9.95...55 mins.

Shortly after Mendelssohn's twentieth birthday he toured Europe. Between pleasures during his travels he composed three symphonies, two of which we hear on this release.

"Reformation" was composed while Mendelssohn was in North Wales in September 1829. The author had in mind

the celebration planned the following year of the Tercentenary of the Augsburg Confession, the drawing up of the constitution of the Protestant faith. As it turned out, the anniversary celebration was not held and the Symphony was introduced as a concert piece two years later.

The sunshine of Naples put Mendelssohn in the mood for the "Italian" Symphony. The finale of this symphony is a de-latinized saltarello (Italian dance).

These compositions are powerful works, dynamically interpreted by the Boston Symphony Orchestra. You think of this orchestra as one, rather than a group—there is such a placid smoothness when they play.

The pickup from all sections is expertly controlled and there is an overall orchestral tone which is neither too strong nor too weak, but quite firm.

Any symphony must be listened to in an undisturbed atmosphere through which the music can filter unhindered to really be appreciated. We found this tape to be a well-balanced, well-recorded release which should be pleasing to collectors of classics.

WALTZES

VIENNA

Sequence A: Weber: Invitation to the Dance; Johann Strauss, Jr.: Morning Papers

Sequence B: Johann Strauss, Jr.: On the Beautiful Blue Danube; Richard Strauss, Waltzes from "Der Rosenkavalier"

Chicago Symphony Orchestra, Fritz Reiner, conductor

RCA KCS-4006

4-track stereo, 3¾ ips, cartridge

\$8.95...38 mins.

Vienna is a city of music and its name is synonymous with the waltz. The waltz was at first nixed by society, but it was just too good to be ignored. Its popularity grew rapidly and soon people all over Vienna were dancing, whistling, humming, singing the ¾ time compositions.

Fritz Reiner conducts with a magnetism which draws from the musicians the depth, orchestral tone, the force, the melodic blandness and overall harmonious sweep that makes for a fine musical production of these beautiful waltzes. The strings, percussion, horns, even the crystal clear ring of the triangle are artfully blended into a musical extravaganza.

We were especially noting the Waltzes "Der Rosenkavalier" and believe the best descriptive adjective we could find would be "powerful." The stirring impact the tape concludes with leaves the music still ringing in your ears.

To borrow from Mr. Winchell, orchids to you Mr. Reiner, Chicago Symphony, and RCA for this simply delicious, rich musical reproduction.

OPERAS

MEMORIES OF POPULAR OPERAS

Un bel di (Madama Butterfly), Waltz from "Faust", My Heart at Thy Sweet Voice (Samson and Delilah), Barcarolle (The Tales of Hoffman), Che gelida manina (La Boheme), Musetta's Waltz (La Boheme)

George Feyer, piano

RCA BPS-201

2-track stereo, 7½ ips, reel-to-reel

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\$6.95 18 mins.

Our first impression here is that the performer, George Feyer, is truly an artist who immensely enjoys his hours spent at the piano. You have a rather cozy responsiveness as if you were comfortably seated in a warm living room listening to Mr. Feyer leisurely playing close by.

So often, when reviewing tapes, we have mentioned that too much of a good thing eventually lessens one's interest in it and such seems to be the case here. After a bit you begin to wish you could hear a violin or some other instrument join in.

We feel also that the arias and pieces played here can never really be done justice unless played by a full orchestra.

We believe the notion that the sound from a piano is difficult to record is gradually diminishing what with the expert facilities and equipment now available. In any event, the fidelity and clearness reproduced here is rated tops.

SHOWS

PORGY AND BESS

Overture, Summertime, A Woman Is a Sometime Thing, The Wake: Gone, Gone, Gone; Porgy's Prayer, My Man's Gone Now, I Got Plenty o' Nothin', Bess, You Is My Woman Now, Morning; Catfish Row, I Can't Sit Down, It Ain't Necessarily So, I Ain't Got No Shame, What You Want with Bess?, Street Cries: Strawberry Woman; Crab Man, I Loves You, Porgy, A Red Headed Woman, Clara, Clara, There's a Boat That's Leavin' Soon for New York, Oh, Where's My Bess?, I'm on My Way

Original Sound Track recording from the motion picture

COLUMBIA TOB 51 (double reel)
2-track stereo, 7 1/2 ips, reel-to-reel
\$18.95... 55 mins.

Porgy and Bess has been with us since its introduction in 1935 and now it has finally reached the motion picture screen with a brilliant cast and magnificent music giving it impact. This great folk opera story is adapted from DuBose Heyward's novel and DuBose and Dorothy Heyward's play. In the movie Porgy is portrayed by Sidney Poitier and Bess by Dorothy Dandridge, with Pearl Bailey as Maria and Sammy Davis, Jr. as Sportin' Life.

The human emotions in the struggle for happiness by a crippled beggar and a "wicked, loose-living" woman are expressed in the superb music. Many of the songs are most familiar, such as Summertime, I Got Plenty o' Nothin', and It Ain't Necessarily So.

The intensity and power George Gershwin gave to the music, coupled with the deep feeling with which it is sung on this recording are a desirable combination indeed.

So many musical shows are filled with catchy, bright music which is entirely likable, but lacks feeling. Not so with Porgy and Bess.

Columbia's engineers have added their competent dexterity to the excellent recording equipment and superior reproduction of tape to come up with a real gem.

JAMAICA

Sequence A: Introduction, Savannah, Savannah's Wedding, Pretty to Walk

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TRADE MARK

With, Push the Button, Incompatibility, Little Biscuit, Coconut Sweet
Sequence B: Take It Slow, Joe, Yankee Dollar, Monkey in the Mango Tree, Ain't It the Truth, Leave the Atom Alone
Napoleon, I Don't Think I'll End It All Today

An original cast recording featuring Lena Horne and Ricardo Montalban
RCA KPS-4002
4-track stereo, 3 3/4 ips cartridge
\$8.95... 44 mins.

We have often wondered why some Broadway show music is recorded at all. While the show itself, with the glittering stage sets, costumes, performers, and appropriate music may be a wondrous spectacle, to those who have not had the opportunity to attend the real thing, just hearing the music does not stir too much enthusiasm. Such is our feeling about most of the music from Jamaica.

The music could hardly touch that from "South Pacific," "Gigi," "My Fair Lady," or "Oklahoma" to mention a few. We have no doubt about the attraction and pull Jamaica has to the public as a stage musical, but as simply music in itself Jamaica is not nearly as popular.

We concur with most all reviews of this production, however, in that Lena Horne sings her share of the Harold Arlen score like she had felt it before it was written. She is a superb entertainer whom we believe possesses the quality associated with Judy Garland. The inner expressions pour forth and are heard in the lyrics she alternately purrs, or dynamically belts out.

RCA has recorded this with a skillful clarity of detail—very clean and clear.

POPULAR


LENA HORNE AT THE WALDORF-ASTORIA

Sequence A: Today I Love Everybody,

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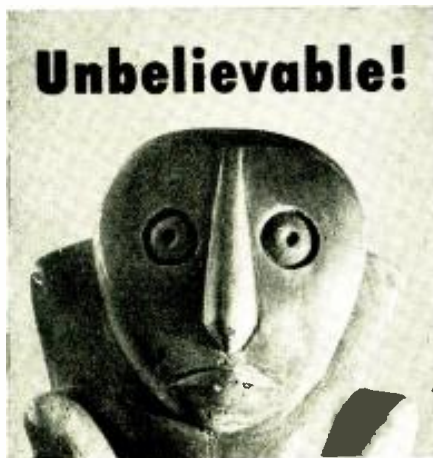
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Tapeco

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Let Me Love You, Come Runnin', Mood Indigo, I'm Beginning to See the Light, Honeysuckle Rose
Sequence B: How You Say It, Day In-Day Out, New-Fangled Tango, I Love to Love, From This Moment On

With Nat Brandwynne's Orchestra, conducted by Lennie Hayton
RCA KPS-3005

4-track stereo, 3¾ ips, cartridge
\$6.95...32 mins.

Lena Horne opened at the Empire Room of the Waldorf-Astoria on December 31, 1956 and proceeded to break attendance records for the next eight weeks. One evening RCA Victor sent its engineers down to catch her act and as a result were able to capture her electric presentation and the customer-audience's enthusiastic reception and appreciation.

Miss Horne has a most versatile voice with a wide range, and a style no-one could replace. Her pronunciation is most distinct and she can sing in an extremely fast tempo without losing any words or melody. At times she sizzles, and we mean sizzles.

Some of the selections Lena renders on this tape are slated more for adult listening.

RCA's engineers may have been outside the home studio, but this nevertheless did not lessen the recording perfection they usually achieve.

SATURDAY NIGHT WITH MR. C

Sequence A: Theme (Dream Along With Me); Accentuate the Positive; Letters (Medley: Almost Like Being in Love, Little Man, You've Had a Busy Day, Gypsy in My Soul, and Whiffenpoof Song); Red Sails in the Sunset

Sequence B: Birth of the Blues; When I Fall in Love; Come Rain or Come Shine; It Had To Be You; Twilight on the Trail
Perry Como with Mitchell Ayres Orchestra and The Ray Charles Singers

RCA KPS-3015

4-track stereo, 3¾ ips, cartridge
\$6.95...30 mins.

Perry—we love you. Mr. Como's popularity with folks of all ages and likes cannot be denied. The naturalness and easy-swinging smoothness this performer maintains makes for pleasant listening any time.

Congratulations RCA for releasing some of the better-known, and liked, stars on tape. We'd like to see and hear more.

We like the variety of this tape's selections as well as Mitchell Ayres' orchestra and the Ray Charles Singers backing.

Combines top talent, appropriate music, excellent recording, perfect reproduction fidelity—what more could you ask for.

THE NEW GLENN MILLER ORCHESTRA IN HI FI

Sequence A: Don't Be That Way, I'm Thrilled, Whistle Stop, Mine and Anything Goes

Sequence B: I Almost Lost My Mind, Accentuate the Positive, On the Street Where You Live, Lullaby of Birdland

Directed by Ray McKinley

RCA KPS-3007

4-track stereo, 3¾ ips, cartridge.
\$6.95...31 mins.

Glenn Miller was without a doubt one of the greatest dance band leaders of his

time, certainly he was one of the most popular. After his fateful and sudden disappearance in a plane which faded into nonexistence during the Second World War, his friend, Ray McKinley, proceeded to carry on his music.

While the Miller touch is not evident, much of the Miller style has remained. Mr. McKinley has added his own touch, which is only natural. He is due credit for his keeping much of the band together and for his unending enthusiasm for good showmanship.

This tape is grand for dancing. We note, however, that at times you are enjoyably listening to a rather soft passage and quite suddenly are rocked from a blaring trumpet or raucous boom from the drums.

We felt that we should keep our hand on the volume control and alternately increase or decrease the sound according to the prominent instruments. Our recollections of the old Miller group include a delightful air of smoothness, even with the brass lending its touches when needed.

Mr. McKinley's vocal talents leave much to be desired.

We feel the clear, precise fidelity heretofore found on a great percentage of RCA's tapes is somewhat lacking on this cartridge. That extra precision of RCA's previous tapes is just not there.

ESQUIVEL EXPLORING NEW SOUNDS IN STEREO

My Blue Heaven, Bella Mora, Boulevard of Broken Dreams, Lazy Bones, Spellbound
Esquivel and His Orchestra

RCA APS-226

2-track stereo, 7½ ips, reel-to-reel
\$4.95...15 mins.

For those tape collectors who like the unusual, here we have another addition. The popular Esquivel has combined his performing talent with his arranging skills and come up with a tape of five selections which are played like we've never heard before. Some of the effects are eerie and weird. Some are most appealing, others just don't seem to belong at all.

Now while all this new tal-de-ral may be okay to a certain extent, we believe if we listened to too much of this sort of thing, we'd soon be resting upon a head-shrinker's couch. Reminds one of the feeling you get looking at a "modernistic" painting. You know—scrambled eggs with coloring.

Nevertheless, there is that inner motivation which prods you forward, perhaps because you have become fascinated by what you are hearing.

Of the selections here we actually were captivated with the imaginative instrumentation used in Lazy Bones. However, Bella Mora tempted us to push fast-forward and move on to pleasanter listening.

The assortment of instruments (and we use the word questioningly) is most odd.

We do not question, however, the reproduction capabilities of RCA's engineers—fidelity is great. Whether you decide to get this one or not is strictly up to you—we're still trying to make up our minds about it.

JAZZ

BETWEEN 18th and 19th ON ANY STREET

Sequence A: Struttin' with Some Barbe-

cue; Medley: West End Blues, Muggles, Save It, Pretty Mama; Bob's Blues; Between 18th and 19th on Chestnut Street Sequence B: The Five Piece Band; Cake Walking Babies from Home; Medley: A Sunday Kind of Love, Black and Blue, I'm Not Rough; Woodchopper's Ball Bob Scobey's Frisco Jazz Band with Clancy Hayes

RCA KPS-3012

4-track stereo, 3 3/4 ips, cartridge
\$6.95 30 mins.

Teamwork—that's what this band has, or maybe a more modern word would be togetherness. However you call it, they play as a group, not as individualists.

This tape is pure Dixieland jazz, some fast—some slow, and if you are not an advocate of same, you probably won't want this one.

But for those of you who do go for jazz, this RCA release is a natural.

The beat is definitely there and you get the feeling that the musicians were in another world as they play.

We cannot locate any flaws in the fidelity.

NOVELTY

BOB AND RAY THROW A STEREO SPECTACULAR

Sequence A: Bob and Ray Visit Dr. Ahkbar at the Castle; Riders in the Sky, George Melachrino conducts his orchestra; Minuet on the Rocks, Skitch Henderson and his orchestra; Bob and Ray in the Round Room; Buck Dance, Dick Schory's New Percussion Ensemble; New-Fangled Tango, Lena Horne; Bob and Ray: The Thing; Second Hungarian Rhapsody, The Guckenheimer Sour Kraut Band.

Sequence B: The First Noel, Radio City Music Hall Organ; We'll Gather Lilacs in the Spring, Julie Andrews; Song of the Volga Boatman, The Sauter-Finegan Orchestra; Bob and Ray in the Laboratory; Whatever Lola Wants, Abbe Lane; The Ox Drivers, The Belafonte Singers; Bob and Ray: The End

RCA KPS-3024

4-track stereo, 3 3/4 ips, cartridge
\$6.95 40 mins.

Crazy, but wonderful. You've got to hear it to understand and if we tried to describe some of the shenanigans Bob and Ray have whipped up on this tape—you wouldn't believe it. We're speaking of Bob Hollard, who produced the tape and Ray Hall, engineer.

The gist of the thing is that Bob and Ray pay a visit to Dr. Ahkbar, their crazed research scientist, at his castle. What they run into at the mysterious castle shouldn't happen to a tsetse fly.

These fellows have incorporated sound effects into a wild figment of somebody's imagination. For those of you familiar with Mad magazine, listening to this tape is like glancing through its pages.

The boys have also included throughout the tape, however, some jaunty—some lovely—some nutty selections by top RCA performers such as Julie Andrews, Skitch Henderson and his orchestra, Lena Horne, the Sauter-Finegan Orchestra, the Guckenheimer Sour Kraut Band, etc.

All of this is woven together in a well-knit pattern.

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Just one small point here, in some spots during the script reading, the sound level dropped so low we could hardly distinguish what the fellows were saying and we found it difficult to establish a good balance for listening.

Other than this the tape was quite good and we most heartedly enjoyed it.

SOUND IN THE ROUND

Side 1: Ping-Pong Game, Steam Train, Electric Train, Birds, Air Hammer, Fireworks, Parade, DC-7, Jet Plane, Roller-Coaster, Subway, Thunder And Rainstorm, Laura

Side 2: Foghorn, Rain, Boat Whistles, Horse And Cart, Nickelodeon, Football Game, Sirens, Roller-Skating Rink, War-Airplanes, Ack-Ack, Carrillon, Bagpipers Produced and recorded by James C. Cunningham and Robert Oakes Jordan Narrated by Tom Mercein

CONCERTAPES 4T-3001

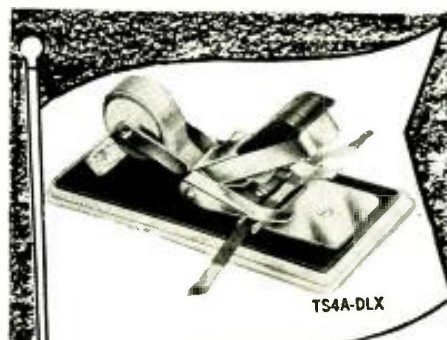
4-track stereo, 7 1/2 ips, reel-to-reel
\$6.95 30 mins.

Concertapes has combined its two Sound in the Round tapes on this one 4-track release, and a most impressive array of sounds it is.

How many folks stop to marvel at the wonderous sense of hearing they possess?

There are so many sounds we hear often and really don't appreciate—just take for granted. Some we disapprove of, others perhaps we have never yet even heard, still others are no longer in existence. A tape of such sounds realistically reproduced in true stereo is a wonderful keepsake.

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Severna Park, Md.

QUESTIONS AND ANSWERS

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

Reels Warp

Q—In using my recorder I often have trouble with the reels warping and not letting out, or taking up the tape properly. This also causes the reels to sit unevenly on the turntables and as they revolve they rub on the recorder deck. I have tried several different brands and sizes of reels but have the same problem with every reel. Is there some way in which this warping can be prevented or is there a type of reel that will not warp. The reels are used and stored only under normal conditions and have not been exposed to excessive heat.—W. A. R., Mechanicsburg, Pa.

A—Since all of the reels seem to cause trouble we would suggest that you check the recorder. It is possible that the tape guide may be out of line thus causing the tape itself to ride high or low as it is pulled off the reel. Another possibility is that the shafts on which the reels rest are not true and are causing the reels to rub the deck. Since the reels have not been exposed to excessive heat, which is the primary cause of warping, this possibility has been ruled out. In storing them, we would suggest that they be kept on edge in their boxes.

Speed Trouble

Q—Recently I purchased a portable recorder that runs slow when set at the 3¾ ips speed for tapesponding. Of course it doesn't matter when I play my own tapes on my own machine but when I send tapes to others they complain that they all sound fast and I have noticed that tapes sent to me all sound slow.

I am getting nowhere in my "fight" with the store that sold me the tape recorder. They insist that the machine plays at the correct speed and will do nothing more about it. However, there is no doubt that the machine actually runs slow. I cut a tape 675 inches long which should go through the machine in 3 minutes but it takes 3 minutes and 21 seconds. So my machine runs 7 seconds late per minute.

What company makes a stroboscope which is used to show if a machine runs fast or slow? I understand there is such a tape made but I have written to several tape companies and none of them has ever heard of it. Secondly, can you tell me how to prove my machine runs slow? How do most repair shops test for speed?—C. P. Jr., Peekskill, N. Y.

A—The best test to show the speed of the machine is the one you already made—that of actually running a measured tape through it. This gives you the actual time that it is out. A stroboscope will show whether a machine is running fast or slow

and such a device can be obtained from ORR Industries, Opelika, Alabama or through any dealer in Irish tape. It is useful to keep on hand as a check. If you are interested in winning your fight with the dealer we would suggest you take the machine to his shop and run the tape through it in his presence. . . . but maybe it isn't worth the trouble.

You do not mention if the 7½ ips speed is also slow. If such were the case, then the motor speed could be too low, or there may be too much drag on the tape as it comes from the reel, either from too tight pressure pads or from the slipping clutch being too tight. It might pay to check these points anyhow.

If the 7½ ips speed is right and only the 3¾ ips speed is off, you may have a worn drive roller which has changed size, or something has either worn or was originally the wrong size on the recorder. We would suggest checking the entire drive mechanism.

Increasing the size of the capstan by slipping a sleeve over it will cure the trouble but it will make the other speed too fast if it is now correct.

In checking speeds, repair shops will either use a strobe device or a measured tape.

Livingston Audio Products, Box 202, Caldwell, N. J. has an excellent test tape with strobe markings on it. You might write to them concerning price and availability.

Head Demagnetization

Q—Is it necessary to demagnetize the head of my Revere T-1100 tape recorder after a certain number of hours use? In other words, would failure to demagnetize the head impair either the quality of the recording or the playback?

Which is the best medium to use to remove the accumulated oxide which I find becoming very hard? Can hardened felt pressure pads cause a squeal to appear on the recording tape? Is there any way to soften them or must they be replaced?—T. H. P., M.D., Bay Head, N. J.

A—Ordinarily tape recorder heads should be demagnetized after every 10 to 15 hours of use. If the head becomes magnetized it will have a tendency to add hiss to the tape and also to wipe off the high frequencies. The effect is generally a very sly one and is not noticed. The Revere T-1100 has automatic head demagnetization built-in and the machine will take care of itself in that respect.

Regarding the pressure pads, hardened ones will cause the squeal you mention. If they are very far gone, they should be replaced. If you wish to try cleaning them, use carbon tetrachloride or a commercially available cleaner and a nail file to restore the nap.

FEEDBACK

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

Study Tapes

To the Editor:

Your magazine is always welcome. I thoroughly enjoy reading through it immediately upon its receipt. I want to submit some information to you that you might find worthy of listing in your "Feedback" column.

In addition to serving as President of Mid-American Life Insurance Company, I have the privilege of serving as Secretary of the Christian Anti-Communism Crusade. We currently have between 250-300 hours of tape recordings available for study purposes, on the subject of Communism and what we as Americans must do if we are to survive. I am enclosing a manual on "How to Establish A Local Study Group" which lists a number of the tapes available. You will note that these speakers are some of the top men in this country on this subject. The majority of the tapes are recorded on 1800' tapes, with a message on each side of the tape.

These tape recordings are in use now in public schools and churches throughout the country, as well as civic clubs helping to educate the people on a grass roots level, which is the first step in effective counter-action. Action without knowledge breeds confusion and chaos. Our legislative process is dependent upon political expediency, which must be created from the grass roots.

I would be happy to see to it that any of your subscribers that desired it, received a copy of the manual on "How to Establish A Local Study Group." Request for same can be sent to me in care of The Christian Anti-Communism Crusade, P. O. Box 6422, Houston 6, Texas.—W. P. Strube, Jr., Houston, Texas.

Tape Fan

To the Editor:

Referring to July '59 issue of Tape Recording, I wish to give Frank Zeman, Cincinnati, Ohio a good pat on the back for his answer to Mr. Curtis D. Janke who has such a warped opinion of tape, which was published in May '59 issue of Tape Recording.

I have been a tape recording fan for many years. Having some four hundred thousand feet of recorded tape, I'll match my tapes with the best professionally recorded tapes you can buy.

When I purchase or am given a new disc, first thing I do is put it on tape. Tape is far superior to discs and my vote goes to tape and tape recording.

Have been a subscriber to Hi-Fi Tape Recording Magazine for many years. Its a fine, interesting magazine, and sure fills the bill for the person interested in tape and tape recording. I look forward to its monthly arrival.—A. A. Yundt, Chicago, Ill.

Customer Courtesy

To the Editor:

In the July issue I noticed a letter in the "Feedback" from Mr. Peter F. Gilles of Cleveland, Ohio, complaining about companies not sending information upon request. This may be true in some cases but I can give an example of just the opposite.

I recently purchased an Ampex 960 and had minor difficulties with it. I wrote Ampex Audio, Inc. and asked for some information. Not only did I receive a very prompt courteous reply with complete answers to my questions but they enclosed a group of technical books free of charge.

Just recently I received orders to Japan where 50 cycle current is used. Again I sent a letter to Ampex requesting information on how to convert my tape recorder to 50 cycle current. I immediately received the information requested plus the necessary conversion parts, again free of charge.

In the last few years I've sent many letters to different companies producing all types of Hi-Fi components and I've never had such fast and courteous service

as I received from the Ampex Corporation.

I hope you publish this letter to show that some tape companies are very interested in their customers—John J. Clancy, NAAS, Kingville, Texas.

Reader Helps Reader

To the Editor:

Recently while cleaning and oiling my Crestwood Model 304, I made note of the motor number for your reader who was unable to find the proper replacement for his. The motor was made by The General Industries Co., Elyria, Ohio, Mod. D-10, Part No. 20340. I hope this is of help to Mr. Szanyos. George Stallings, Seaford, N. Y.

Longer Play Tapes

To the Editor:

I believe there would be a demand for tapes that play longer rather than trying to compete price-wise with records. I think there would be a market for tapes on double-play tape, 4-track, 7½ inch, giving two hours of music on one tape even though the tape might sell for \$18.95.—David Beatty, Kansas City, Mo.

Bernstein TV Shows

To the Editor:

I would like to know if any of your readers have a good tape of any or all of the Leonard Bernstein television shows from the 1958-1959 season. If I could borrow such tapes, I have access to Ampex equipment with which to make my own copies.—E. B. Asplundh, 501 York Road, Jenkintown, Pa.

(Continued on page 31)

WHERE
THERE'S
A FINE
TAPE
RECORDER...



there's
irish
ferro-sheen tape

note to
PENTRON owners

To insure optimum recording quality with your machine, the recommended tape is **irish Long Play #602**. Send for technical bulletin.

ORR INDUSTRIES INC
Opelika, Alabama

EXP: 458 B'way, N. Y. C. CAN: 50 Wingold Ave., Tor.

TAPE CLUB NEWS

Congratulations



Kenneth deCourcy Low of Warwick, Australia, and his bride, the former Miss Evelyne Pierce of Long Island, New York, are shown leaving the church after their wedding. Miss Pierce and Mr. Low met through membership in World Tape Pals.

When Kenneth deCourcy Low, director of youth activities at Radio Station 4WK, Warwick, Australia, and Miss Evelyne Pierce, musician-artist-teacher in Long Island, New York, arranged for tape exchanges between their students through the World Tapes for Education Program of WTP, they did not suspect that these common interests would lead to romance.

From strictly educational tape exchanges, the couple progressed to personal tape exchanges. They were amazed at the similarity of their ideas and ideals. The tape exchange was continued after Evelyne accepted a position as teacher at the American Family School in Landstuhl, Germany. In May, after many thousands of taped ideas had been exchanged, she flew from Germany to Australia to meet her fiancé in person for the first time and to complete wedding plans first made on tape.

The wedding took place June 1 at the Central Methodist Church in Warwick. Evelyne wore an emerald green velvet streetlength frock purchased in London and a green feathered headdress. Their attendants were Mr. and Mrs. A. Billington, parents of WTP Miss Margaret Billington. Margaret will be remembered by WTP members as one of the student team which won an international debate between the Warwick International Club and the Choate School, Wallingford, Conn., which was set up through WTE.

Besides his work at Radio Station 4WK, Ken is also art and theater critic for the Warwick Daily News, where his columns appear under the pseudonym "Apollo." The Australian press gave the wedding unusual publicity because of the aspects of courtship by tape recording.

Although World Tape Pals does not

guarantee the outcome of romances begun on tape, the wedding of Evelyne and Ken adds to evidence already accumulated by WTP's first couple, Alan and Daphne Wilson, now of Colombo, Ceylon, to the ability of tape exchange to promote friendship and understanding.

Special Edition

The British Tape Recording Society announces the publication of a special edition combining "The Recordist" (club house journal) and "Call Book Supplement" listing all new members of the Society. Members in the U. S. and Canada will receive copies shortly.

Club Expansion

Due to the untiring efforts of Ted Yates, founder and executive secretary of the British Tape Recording Society, assisted by overseas representatives, the club now spans the world as Britain's first and foremost international English speaking tape recording organization.

Formal links and affiliations have now been established with well-known clubs in Canada, South Africa, New Zealand and the A.T.R.A. of Australia.

Membership increased by over 50 new members from the U. S. A. during the first part of this year and continues to increase due to the efforts of B.T.R.S. representative for the U. S. A. and Canada, Mr. Peter M. Bardach of New York.

New Headquarters

The British Tape Recording Society reports the opening of a new headquarters at 52a, 64 Hough Green, Chester, Cheshire. From these headquarters the new club tape magazine "T.C.N." (tape club news) will soon be issued. Among other features, the first issue will contain a 15 minute interview with Tony Schwartz, leading American documentary recordist.

Sounds of Britain #1

British Tape Recording Society members on this side of the Atlantic are offered free copies of a new one hour documentary program from the Society tape library. Called "Sounds of Britain #1," the tape features two half hour programs . . . one a sound picture of Edinburgh, the other an actuality recording made in London's famed Petticoat Lane market. U. S. and Canadian members should send a five inch reel of tape (enclosing 25 cents for return postage) to the U. S. representative (see address in box). Dubbing time will be 2-3 weeks.

New A.T.E. Appointments

Charles Riecke III has been appointed to form and head the new American Tape Exchange Tape Library. Lee Holm will head the revised Tape Network. Carl Wilcocks has been appointed as the Club's South African representative and Dale Louis is looking into the cost and details of printed mailing labels for the use of members for sending tapes through the mail.

Service Committee

The Service Committee of The Voicepondence Club, composed of volunteer

members who genuinely want to serve their fellows, offers its help to any Club member, but particularly to those with physical handicaps. The largest group of handicapped members are the sightless, who compose about 15 to 20% of the Club's world-wide membership. Each sightless member receives as a gift a 5-inch tape on which is listed all the special services available through the Club, the names and listings of many of the blind members, a listing of the tapes available in the Club's Tape Library, and other important information. The tape, as well as some of the recorded issues of the Club's magazine, "The Voicepondent," are distributed in cooperation with Ways and Means for the Blind, Inc.

JOIN A CLUB

AMERICAN TAPE EXCHANGE

Stuart Crouner, Secretary
181 E. Main St.
Gouverneur, N. Y.

AURORA SCIENCE TAPE SOCIETY

Walt Richard Sheasby, Jr.
215 North Baldwin Ave.
Sierra Madre, Calif.

BILINGUAL RECORDING CLUB OF CANADA

J. P. Paquette, Recruiter
1993 Morgan Boulevard
Montreal, Quebec, Canada

CATHOLIC TAPE RECORDERS OF AMERICA, INTERNATIONAL

Jerome W. Ciarracchi, Secretary
26 South Mount Vernon Avenue
Uniontown, Pennsylvania

CLUB DU RUBAN SONORE

J. A. Freddy Masson, Secretary
Grosse Ile, Cte, Montmagny,
P. Que., Canada

ORGAN MUSIC ENTHUSIASTS

Carl Williams, Secretary
19 Van Derveer St.
Amsterdam, New York

TAPE RESPONDENTS INTERNATIONAL

Jim Greene, Secretary
P. O. Box 416, Dept. T, St. Louis 66, Mo.

THE VOICESPONDENCE CLUB

Charles Owen, Secretary
Noel, Virginia

UNITED RECORDING CLUB

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

WORLD TAPE PALS, Inc.

Marjorie Matthews, Secretary
P. O. Box 9211, Dallas 15, Texas

FOREIGN

AUSTRALIAN TAPE RECORDISTS ASSOC.

John F. Waijen, Hon. Secretary
Box 970M, 6, P.O. Adelaide, South Australia

BRITISH TAPE RECORDING SOCIETY

Peter M. Bardach, U. S. Representative
210-16 Grand Central Parkway
Queens Village 27, N. Y.

TAPE RECORDER CLUB

A. Alexander, Secretary
123 Sutton Common Rd.
Sutton, Surrey, England

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

TAPE IN EDUCATION

BY MAJOR JOSEPH J. KRAMP, USAF, RET.

THE Armed services have long been faced with the problem of rapid training of men for the complicated jobs of operating and maintaining modern electronic military equipment. Many advanced techniques have been tried by the Armed services to improve the quality of instruction and to reduce the training period. The latest experimental technique to come to our attention is the one being used presently by the U. S. Army at the Ordnance Guided Missile School, Redstone Arsenal, Huntsville, Alabama.

Results of a new audio-visual approach to guided missile instruction have been reported by the Army via a study by Dr. C. D. Leatherman, senior educational advisor to the OGMS, and its success has justified the faith placed in the program by top Army officers.

Initially set up by the Army because it realized a cut-down in training time was a "must," the program has been termed an unqualified success by Army officials. In the past the OGMS spent as much as 14 months in training men for skilled jobs, only to see them leave the service at the expiration of their 2 year enlistments. And some quarters estimated the annual cost of training skilled replacements for the entire U. S. Army to be in excess of 2 billion dollars. To assist in initiating and streamlining a skilled replacement training program, the Army called in TelePrompTer Corporation, planned group communications specialists.

The study by Dr. Leatherman revealed that experimental groups, enjoying a unique variety of TelePrompTer Corporation audio and visual techniques, effected a time savings of 27% and at the same time achieved 5% better grades and retained 7% more knowledge than the control groups.

The results were gleaned from technical instruction given during the Nike-Hercules Acquisition and Computer Course at the OGMS. Total hours for the course amounted to 1,096. Each experimental period consisted of a total of 102 hours, including 9 hours for examinations. The evaluation study was repeated three times with only minor modifications for improvements in techniques or procedures.

The basic course contained three blocks of instruction which were generally considered to be the most difficult of the 12 blocks of instruction taught in the course. The three blocks of instruction chosen for the evaluation studies included Fundamentals of Electronics (37 hours); Plan Position Indicator for Radars (21 hours); and Steering for the Internal Guidance portion of the missiles (35 hours). The hours of instruction in the three evaluation studies represented about 10% of the total hours of instruction in the course.

TelePrompTer techniques include the Multi-Matic screen, whereby the component parts of a missile can be projected simultaneously on several smaller screens surrounding a large central screen. Another effective piece of TelePrompTer Corporation equipment is a device called "TeleMation," which automatically synchronizes up to 12 separate or simultaneous staging effects with a speaker's voice.

Imagine, for example, an instructor giving a lecture on the Nike guided missile. He could be talking about the missile and then point out any specific detail like the instrumentation in the nose cone by referring to one of the smaller screens on which a picture of the instrumentation could be flashed.

A fourth study is currently under way to determine whether the time savings are due to the group communications equipment itself or to the subtle, disciplined teaching techniques (including script writing), or to a combination of both.

The experimental group is using TelePrompTer Group Communications equipment as before. The control group, with identical equipment, excludes the use of a prepared script and the TeleMation device (slides for this group are being operated by hand).

In each instance, however, the student was to get the impression that no changes had been made, that the instructor continued to use a prepared script and not his own lesson plan and that he was using group communications equipment.

The results, thus far, from the Evaluation Study #4 are as follows:

	Experi- mental Group	Control Group	Dif- fer- ence
Fundamentals of Electronics* (exam scores)	77.1	81.2	4.1
AGCT	128.7	131.9	3.2
Electronic Inventory Test	61.1	64.4	3.3
* 33% time savings			

The important thing to note from this study is that on general basic mental ability (AGCT) the experimental group was at a slight disadvantage since they were 3.2 points lower than the control group. Similarly, in the Electronic Inventory, the experimental group was 3.3 points below the control group.

Results of the first examination (Fundamentals of Electronics) indicate that the experimental group remained slightly lower than the control group (4.1) which was according to predictions. The instruction, however, was accomplished with a 33% time savings with no statistically reliable difference in mean scores for Fundamentals of Electronics.

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COMPARE the price \$5700

with any other lavalier and you'll know why Turner's Model No. 58 Dynamic is the **LARGEST SELLING LAVALIER**



Prove it yourself. Try it in your studio subject to your own work conditions, your own recorder, your own performance standards. You'll see why no other lavalier microphone can match it.

Model 58 wired for selection of high or low impedance; Model 58A wired for selection of 50 or 200 ohms impedance.

Weight—3½ oz. (less cable)
Cable—25 ft. attached
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Converts to a desk microphone when used with matching stand. G-4 Stand \$5.75

New TransFlyweight*

Professional Transistorized
Electric-Motor Battery-Operated
PORTABLE FIELD RECORDER



Check These Unusual Features:

- ✓ Weight: 8 lbs.; Size: 5½ x 9 x 12 inches.
- ✓ Exceeds NARTB Broadcast Standards.
- ✓ Newest Noise-Free Motor; No Microphonics.
- ✓ Low Noise Input Stage (0.25 microvolts).
- ✓ Overall Gain 110 db.
- ✓ Dry Rechargeable or Replaceable Batteries.
- ✓ 10 Selected Transistors Used.
- ✓ Meter for VU, Amplifier and Motor Batteries.
- ✓ Battery Life: Amplifier 125 hrs., Motor 40 hrs.
- ✓ Modular plug-in construction.
- ✓ High Speed Rewind (3 minutes).
- ✓ Choice of 5 Single-Speed Models.
- ✓ Full unconditional Two Year Guarantee.
- ✓ Prices from \$386. to \$446.

Write for complete information to Dept. HF

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for superb recording
and playback!

RCA Sound Tape is famous for incomparable high-fidelity reproduction. Available in the popular and economical 5" and 7" reel sizes, on splice-free Mylar* and acetate bases. Ask for RCA Sound Tape wherever superior quality magnetic recording products are sold!

*DuPont Reg. TM



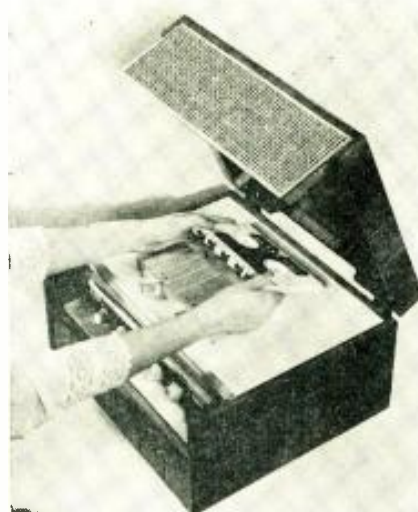
**RADIO CORPORATION
OF AMERICA**

Electron Tube Division

Harrison, N. J.

NEW PRODUCTS

BELL STEREO•PAK



Bell Sound Division, Thompson Ramo Wooldridge Inc., 555 Marion Road, Columbus 7, Ohio, has introduced the Bell Stereo•Pak cartridge players and recorders, designed to accommodate the RCA-type stereo tape cartridge. The Bell Stereo•Pak mechanical design is simple, with a minimum of moving parts. Two controls perform all operating functions. Wow and flutter has been maintained at a low level of 0.25% RMS. Other features include a precision snap-action shutoff switch, frequency response from below 50 cps to 15,000 cps. All models of the Bell Stereo•Pak incorporate a completely transistorized stereo record-playback preamplifier with extremely low hum and noise. Three models include a built-in component type 14-watt stereo power amplifier. Bass and treble controls, separate channel volume controls and an input selector switch provide complete flexibility of operation. A matching pair of speakers is all that is required for a complete integrated stereo music system. For complete details and prices, write to the manufacturer above.

TAPE KARE KIT



In order to help maintain tape, Robins Industries Corp., Flushing 54, N. Y., has announced the Gibson Girl Tape Kare Kit (TK-4H). The kit contains a Hobbyist

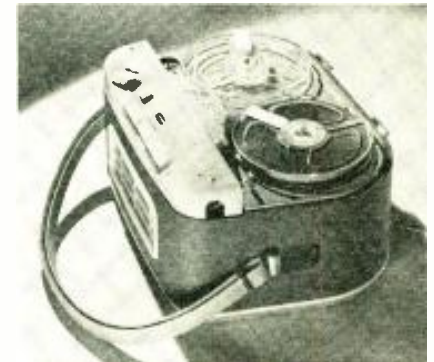
H-4 splicer, a JCT-2 Jockey Cloth for cleaning tape, a roll of ST-500 splicing tape, a box of ST-500 tape clips, and TE-24, a tape editing book. This kit is priced at \$3.50. For additional information, contact Robins Industries.

AUTO SPEAKER KIT



The Minneapolis Speaker Company, 3806 Grand Avenue South, Minneapolis 9, Minn. has unveiled a new line of rear seat auto speaker kits. These speakers feature an attractive, pliable cone, distinctively red in color. The "Red Line" speaker kits are available in either 5 x 7 or 6 x 9 size, with either a dual or single cone, and with either 1.47 or 3.16 magnets. There is also a choice of 3-position switch or fader control, and either a chrome or gray grille. These kits are sold through electronic distributors throughout the country. Further information and literature is available from the above manufacturer.

BUTOBA MT4



The Turning Corporation of America, 60 East 42nd St., New York 17, N. Y. (sole U. S. distributor of the Butoba range of self-powered tape recorders) has announced the introduction of the new Butoba MT4 which may either be operated on eight ordinary flashlight batteries or on electrical current. It is both small and light enough to be carried and used everywhere with ease. The recorder has speeds of 1⅞ and 3¾ ips. with a playing time of up to two hours on each track. Frequency response is 50-13,000 cps at the faster speed. Other features include seven transistors, push-button operation, fast rewind and fast forward, tone and volume controls and volume indicator. For price and additional details, contact the Turning Corporation of America.

BOOK REVIEWS

The Audio Cyclopedia by Howard M. Tremaine, 1269 pages, 6" x 9 1/4", cloth bound, illustrated, \$19.95. Howard W. Sams & Co., Inc., 2201 East 46th Street, Indianapolis 6, Indiana.

On the front jacket of this book appears the line "7 years in preparation"—and we can well believe it. It would take seven years to cover the more than 3400 audio topics which the book includes and to amass the more than 1600 illustrations.

The book is a practical engineering guide for the person who has some understanding of electronics and wishes to apply that knowledge to the recording and reproduction of sound. Even though it may take some knowledge of electronics to get top value from all the information, the serious tape recorderist or audiophile will find the work a valuable addition to his library.

The entire book is in question and answer form. For convenience, it is divided into twenty-six sections and has a complete index.

The sections include: Basic Principles of Sound, Acoustics and Studio Techniques, Constant Speed Devices, Motors and Generators, Microphones, Attenuators, Equalizers, Wave Filters, Transformers and Coils, Sound Mixers, VU and Volume Indicator Meters, Vacuum Tubes, Transistors and Diodes, Audio Amplifiers, Disc Recording, Cutting Heads, Recording and Reproducing Styli, Pickups, Magnetic Recording, Optical Film Recording, Motion Picture Projection Equipment, Loudspeakers, Enclosures and Headphones, Power Supplies, Test Equipment, Audio-Frequency Measurements, Installation Techniques, General Information, Charts and Tables, Stereophonic Recording and Reproduction of Disc Records and the Index.

The author is to be congratulated on two counts. First, because of its completeness and second because of his courage in attempting it. Mr. Tremaine has been in audio work since before World War I, including service with the early Victor Talking Machine Co.

At first glance, the price of this book may seem high but considering the amount of information it contains it is practically five or six ordinary books in one.

Stereo . . . How It Works by Herman Burstein, 224 pages, 5 1/2" x 8 1/2", paper bound, illustrated, \$2.90. Gernsback Library, Inc., 154 West 14th Street, New York 11, N. Y.

It is assumed that those reading this book will have at least a rudimentary acquaintance with high fidelity and the terms associated with same. It is written as much for the nontechnical fan as for those familiar with electronics.

With the strides toward perfect sound reproduction steadily increasing since the introduction of stereo, the audiophile's collection of equipment is also steadily expanding and his need to understand stereo has thusly been upped.

This book is designed to enlighten such understanding. It is concerned not only with the playback aspect of stereo, but with tech-

niques of microphoning it over the air as well. Tracing stereo from its beginning, Mr. Burstein explains just what it is.

Chapters include: Forms of Audio Reproduction, The Stereo Effect, Stereo on the Air, Stereo on Discs—Other Systems, Stereo on Tape, Stereo Microphone Techniques, Amplifiers for Stereo, Speakers for Stereo, and Installing a Stereo System.

This book handles the stereophonic phase of sound reproduction quite well and we recommend it for those keeping up with developments in this field.

From Microphone to Ear, second revised and enlarged edition, by G. Slot, 258 pages, 6" x 8 1/4", cloth bound, illustrated, \$4.50. The Macmillan Company, 60 Fifth Avenue, New York 11, N. Y.

Keeping up with the rapidity of new developments in sound reproduction today is an enormous task indeed. Mr. Slot has revised this edition to include the latest information, especially on stereophonic reproduction.

Among the chapters are: From Tinfoil to Stereophony, From Sound to Record, Amplifiers, Loudspeakers: Operation and Characteristics, Stereophony, High-Fidelity—Evaluation and Testing, Magnetic Tape Recordings, etc.

In the text, the author gives descriptions of sound-recording and sound-reproducing techniques in a manner so as to be understood by readers without technical training as well as those with. The book is intended to answer questions posed by gramophone and tape recorder owners, and to explain the relation to one another of the most important technical problems. There are numerous instructive diagrams throughout.

Mr. Slot has made every effort to describe what happens to sound between the microphone and the ear, in this up to date volume.

Practical Electronics by Robert Hertzberg, 136 pages, 6 3/4" x 9 3/4", cloth bound, illustrated, \$2.50. Arco Publishing Company, 480 Lexington Avenue, New York 17, N. Y.

In this book we have another addition for the do-it-yourself hobbyist's shelf. The amateur radio operators and audiophiles will want this one.

Mr. Hertzberg, in simple, clear text, describes electronic components and their functions, he analyzes test equipment, and he has assembled and reports on construction kit projects. In addition to this, the volume also contains feature articles on microwave and the latest experimental devices.

There are hundreds of photographs and drawings in this handy guide.

Included in the articles are: Complex Ham Receiver Simplified, All-Band Transistor Radio, Hi-Fi Where You Want It, Radio's Newest Workhorse—Microwave, Introduction to Troubleshooting, Know Your Components, Transistor Care and Testing, Novice Ham Station, The Cathode-Ray Oscilloscope, An ABC of the FCC, etc.

Very good for all dabblers in electronics.



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LECTURE SOUND FACILITIES



by Joel Ehrlich

... new method of tape recording lectures solves transcription problem.

The lecture hall during the Audio Engineering Society's 1958 convention. In order to facilitate tape recording these lectures for later transcription and use in the Society's Journal, it was proposed that the recording setup be incorporated with the P.A. system—have all mikes fed to one mixer.

A GREAT number of important technical papers are presented each year to the members of the Audio Engineering Society, the largest American society dedicated wholly to Audio Engineering. The organization is a national one, and the papers presented in New York, are of equal interest in California. For some time now, the question of how to get these lectures to the other side of the nation, has been a major one.

The A.E.S. has a journal all its own—a medium ideally suited to the propagation of this information. Since all members receive the Journal, and since the content of the Journal is strictly limited to these technical papers, some method of

transcribing the technical papers had to be found. Tape recording was the obvious answer, but even this had its limitations.

How, for instance, to get the questions asked of the lecturer from the floor as well as the lecturer's answer? What if there were many people in the audience—how to get their reactions? How to ensure that *all* questions asked from the floor were recorded.

A novel approach was dreamed up by George Cohen, Facilities Chairman of the Society—incorporate the recording set-up with the P. A. system, and make the audience and lecturer dependent upon the P. A. system. In short, the mikes

all fed one mixer. The lecturer gets his own mike, and several mikes are scattered about the audience in the hands of assistants who carry the mikes to the questioners. The mixer feeds only the tape recorder. The input monitor of the tape recorder feeds the P. A. system. The level of the P. A. system is so adjusted, that unless the mike is getting enough signal, or—to rephrase it—unless there is enough signal getting on to the tape, there is no appreciable output from the P. A. speakers. This keeps the lecturer on his toes, he can hear when his voice level is fluctuating, and forces the questioner to wait for a microphone in order to be heard. To further ensure the recording of every word, a loud buzzer was built into the input of the P. A. amplifier, on the off chance that someone might shout to make himself heard without a mike. A button was pushed, and a mildly loud buzz filled the hall.

After adopting this basic system, halls had to be found which would suit its use. Time was limited as a sure-fire system had to be adopted in time for the annual New York Convention and Technical Session.

Fortunately, a long series of technical sessions was scheduled during which the system could be tested and, if need be, modified. Beginning with the technical papers presented at the 1957 A.E.S. convention in New York, when the basic system described above was developed and tested, the components were varied and many. By the time the 1958 convention dawned, the system was perfected.

At the 1957 convention, an assortment of dynamic, velocity and capacitor mikes (Electro-Voice dynamic, Fen-Tone velocity and Altec capacitor mikes) fed a Bogen P. A. mixer. This, in turn, fed the Bogen P. A. amplifier. From the high impedance output of the amplifier, a tap was run to a Ferrograph tape recorder. Connected to the monitor output of this Ferrograph was an extension to the input of a second Ferrograph. A single speaker was connected to the low impedance output of the P. A. amplifier.

The main difficulty of this system was the fact that, if the

level of the floor mike(s) was turned up, there was severe feed-back caused by the high level of the single speaker. In addition, the system did not have sufficient flexibility to permit the use of the large number of mikes required for the recording of a symposium. However, it did perform the main function of having one agency controlling the overall sound level. This meant that the level of the P. A. amplifier could be adjusted so that the level of the mixer "pots" had to be high enough, when there was adequate P. A. level, that there was a good level to the tape recorder.

Following the convention, the 4th lecture series got under way. This series of lectures was subscribed to fairly well, and was held in a fair sized room in New York's R.C.A. Institute. A new system was adopted for this set-up.

At first, we tried to work without a P. A. system, this proved to be impossible, due to our selection of a room that would fit the initial requirement—that for a room which would depend upon the P. A. system. The system then adopted consisted of several Electro-Voice dynamic mikes for the floor (one #655-C probe type dynamic and one #654 based probe type dynamic), one high sensitivity, directional dynamic for overall pick-up (Electro-Voice #655 cardioid dynamic) and two velocity mikes on neck stands for the lecturers (Fen-Tone Reslo RBM ribbon/velocity mikes, on Atlas "Necky" chest stands) all feeding the five input mike mixer. The output of this mixer was connected to a transistorized preamplifier. This was provided to guarantee sufficient signal, no matter how little appeared at the output of the mixer.

The output of the preamp (a Fisher TR-1) was connected to a specially designed tape recorder (not designed for this function, but rather designed for extreme serviceability and exceptional ruggedness as well as the ability to record up to 2½ hours at a time, without reel change). The recorder was comparable to any conventional recorder as far as electronics and functions were concerned. The reason for its use was,



An assistant holds a mike for the lecturer during a section meeting after the convention. A smaller recording system is required for these meetings and this system has been adopted as standard by the New York section of the A.E.S.



Preparing Cannon connectors for the extensions while getting equipment organized for recording lecture. The technique used for recording the A.E.S. lectures has also been used with success by individuals for the recording of neighborhood plays, concerts, and the like.

the entire system had to be "torn down" at the end of each lecture and carried off. The following week, it had to be set up no more than a half hour before the lecture. It had to be a very sturdy recorder in order to take this sort of carrying about. In point of fact, it made 48-35 mile trips in the trunk of an auto, over not too good roads, and never required any service of any kind—this, after three years of flying about the country for similar types of recording sessions!

The output, (monitor) of this recorder was fed to a Fairchild 25 watt amplifier which, in turn, fed a Goodman 8" speaker in a small baffle. This system had the advantage of permitting the level control of the tape recorder to control the P. A. level. In setting up the system, an assistant whispered into the lowest sensitivity mike and the levels of the recording system adjusted. Only *after* this was done, was the P. A. system adjusted. This ensured that the level of the P. A. system, while adequate, was a function of the level into the recorder, and thus, the level getting onto the tape.

Later on, during the lecture series, we tried feeding the P. A. amplifier through a split-feed from the preamp. We found this to be a practical method of feeding the P. A. system, even though it meant operating the P. A. amplifier a bit differently. Since we had no control over the P. A. system from the recorder, but only through the mixer, we had to modify our set-up. We first adjusted the tape recorder levels so that we got good level onto the tape with the mixer controls set at 50% rotation from a person speaking in a normal voice three feet from the mike. We then set the P. A. system level so that it would not cause feedback with the mixer pots set at 100% rotation with the same input to the mike. Thus, no matter what we had to do at the mixer in order to get a signal onto the tape, the level never went high enough to cause feedback in the P. A. system. However, there was always adequate level at the P. A. speaker.

After the lecture series ended, we adopted a similar technique for all regular section meetings. In some instances, we experimented further. One session saw us use a Ferrograph with two mikes and a small mixer, with the tape recorder picking up from the output of the P. A. system. This was not too successful as the prime ingredient, the control of the entire system by the tape recorder was lacking. In later ses-

sions, we were always careful to leave the overall control of level at the tape recorder. Even in the case of a split-feed from the mixer, P. A. level was set only on the basis of adequate (plus a safety factor) recording level.

As the New York convention for 1958 drew to a close, we began assembling the many components that would be required. We decided upon the use of Presto R-800 professional tape recorders (the same as those used for the Fred Waring recording described in the article "Pros Record Amateurs" in the August '58 issue of *Hi-Fi Tape Recording*). These were to be run at $7\frac{1}{2}$ ips speed using $10\frac{1}{2}$ " reels of 1 mil Audiotape. The mikes were all supplied by Electro-Voice and consisted of six #666 cardioid dynamic mikes (for use on the floor for questions) and two #649 lavalier mikes for use on the lecturers. These mikes were connected to two Bogen P. A. mixers, one of which fed into the other. This gave us a total of eight inputs—the most we would require at any time. We used a split-feed from the second mixer, one output (600 ohm balanced) to the tape recorders and the other (high impedance unbalanced) to the P. A. amplifier (70 volt output of 50 watts). We split the feed to the tape recorders also, and fed each directly from the mixer.

For loudspeakers, we turned to University loudspeakers for several of their small P. A. speakers. These were fed from the 70 volt line output of the Bogen amplifier. Levels were adjusted so that the speakers further from the front of the auditorium operated at a higher level than those close to the front of the auditorium. In addition, another speaker was set up at the recording position for monitoring. In addition to this, earphones were connected to each recorder for monitoring off the tape. Further, two University S-11 high quality speaker systems were set up on the front of the stage for demonstrations. When not being used for this purpose, they were connected into the P. A. line and run at low level. Another pair of Bogen P. A. amplifiers were used to drive these two speakers. They had their own level controls.

Both mixers had their own level meters (V. U. type), so we covered the meter on the mixer which had its output connected to the other mixer. The meters on the recorders were adjusted to match the level indications on the mixer

AMPEX 960

STEREOPHONIC RECORDER REPRODUCER

AMPEX 960

STEREOPHONIC RECORDER REPRODUCER

AMPEX 960

STEREOPHONIC

RECORDER/REPRODUCER



RECORDS STEREO
OR MONOPHONIC

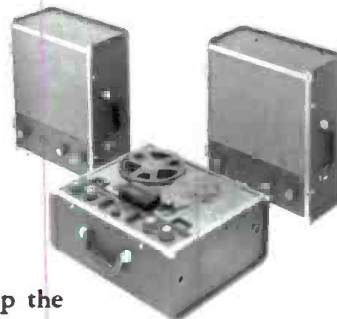
Stereo Portable PLUS!

Guiding the Ampex engineers who created the 960 was a dual objective—that of building a machine which was not only a superb example of engineering skill, but one which would also offer its user a range of capabilities far exceeding that of any other recorder made today. The result was not merely an improved stereo recorder, but *an entirely new concept in home entertainment.*

The STEREO 960 fits into family life in literally dozens of ways, contributing many tangible benefits in musical, educational and recreational fun. You'll use it to keep up the family correspondence by sending "letters in sound", to tape stereo programs off the air, to preserve your best monaural and stereo discs on tape, and to acquire new musical and language skills. You'll have endless fun exploring the 960's many fascinating recording capabilities, including sound-on-sound, echo chamber effects, and other advanced techniques.

ABOVE--960 PORTABLE STEREO
RECORDER/REPRODUCER

BELOW--MODEL 2560 PORTABLE
STEREO SYSTEM CONSISTING OF
960 AND PAIR OF 2010
AMPLIFIER-SPEAKERS



AMPEX STEREO

SIGNATURE OF PERFECTION IN SOUND

www.americanradiohistory.com

RECORDER/REPRODUCER SPECIFICATIONS

The true values of a recorder are best assessed through careful evaluation of its performance specifications and operating features. It is worthwhile noting here that these specifications are based not on theoretical design parameters but on actual performance tests. They are specifications which the recorder not only meets or exceeds today, but which years from now will still hold true.

The Ampex Model 960 Stereophonic Recorder/Reproducer is capable of essentially distortionless frequency response from 30 to 20,000 cycles per second at the operating speed of 7 1/2 inches per second, and from 30 to 15,000 cycles per second at 3 3/4 inches per second. Its precision-engineered timing accuracy is such that it offers perfection of pitch held to tolerances of less than one-third of a half-tone. Playing times, using standard (.002"), long play (.0015"), and extra-long play (.001") tapes are as follows:

	(a) 4-Track Stereo Tapes	(b) 2-Track Stereo Tapes	(c) Monaural Tapes, half-track
1200 foot reel	3 3/4 ips - 2 hrs. 8 min. 7 1/2 ips - 1 hr 4 min.	3 3/4 ips - 1 hr. 4 min. 7 1/2 ips - 32 minutes	3 3/4 ips - 2 hrs. 8 min. 7 1/2 ips - 1 hr 4 min.
1800 foot reel	3 3/4 ips - 3 hrs. 12 min. 7 1/2 ips - 1 hr 36 min.	3 3/4 ips - 1 hr. 36 min. 7 1/2 ips - 48 minutes	3 3/4 ips - 3 hrs. 12 min. 7 1/2 ips - 1 hr 36 min.
2400 foot reel	3 3/4 ips - 4 hrs. 16 min. 7 1/2 ips - 2 hrs. 8 min.	3 3/4 ips - 2 hrs. 8 min. 7 1/2 ips - 1 hr. 4 min.	3 3/4 ips - 4 hrs. 16 min. 7 1/2 ips - 2 hrs. 8 min.

RECORD INPUTS: High impedance line inputs (radio/TV/phono/auxiliary) 0.3V rms for program level; high impedance microphone inputs

PLAYBACK OUTPUTS: Approximately 0.5V rms from cathode follower when playing program level tapes

PLAYBACK FREQUENCY RESPONSE: 30-20,000 cps at 7 1/2 ips; 30-15,000 cps at 3 3/4 ips

Within ±2 db 50-15,000 cps at 7 1/2 ips, 55 db dynamic range

Within ±2 db 50-10,000 cps at 3 3/4 ips, 50 db dynamic range

FLUTTER AND WOW: Under 0.2% rms at 7 1/2 ips; under 0.25% rms at 3 3/4 ips

HEADS: Manufactured to the same standards of precision that exist in Ampex broadcast and recording studio equipment. Surfaces are lapped to an optical flatness so precise that they reflect specified wavelengths of light, resulting in uniform performance characteristics and greatly minimizing the effects of head wear. Azimuth alignment of stereo head gaps in the same stack is held within 20 seconds of arc, equivalent to less than 10 millionths of an inch—a degree of precision achieved through use of a unique process involving micro-accurate optical measurements within a controlled environment. Head gap width is 90 millionths of an inch ±5 millionths of an Inch.

KEY TO THE EXCITING FUN FEATURES OF THE 960--

THE AMPEX STEREO-GRAPH

Here's the simplest, quickest answer to almost every question about how to perform the operations illustrated at right and numerous other recording functions. The Ampex Stereo-Graph shows you, quickly and clearly, the proper dial settings to make for more than a dozen of the most popular uses for the 960... including sound-on-sound, language and music instruction,



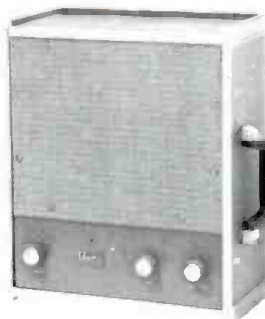
and other special effects. A convenient tape footage/playing time indicator is included on the reverse side.

MODEL 2010

MATCHING AMPLIFIER-SPEAKER

The Ampex Model 2010's ten-watt (20 watts peak) amplifier section provides operating characteristics (unequalized) flat within ±0.1 db, with total harmonic distortion less than 0.5 of 1%, throughout the maximum range of human hearing ability, at rated output. Noise and hum are 80 db below rated output, and input sensitivity is 0.18V to develop rated power.

The specially designed 8" speaker provides smooth, peak-free response throughout a remarkably wide audio range. Such superior design features as its massive die-cast frame and edgewise-wound ribbon coil contribute effectively to higher levels of performance than ever before achieved with a speaker this size.



MODEL 960 DIMENSIONS: Portable cases 9" x 15" x 17 1/2". Unmounted recorder 13" x 15" x 6 1/4" depth below top plate, 1 3/4" above. Recorder weight 36 lbs., speaker amplifier 31 lbs.

Relax and enjoy the show—let your Ampex do the narration! With the commentary on tape, your color slide shows are more professional, more complete, and more fun!

Your favorite LP's and Stereo Discs are at their exciting best while they're new and unscratched. That's when to tape them on your Ampex, and preserve their original quality for keeps!

When you tape it "off the air" your only cost is for blank tape. Yet your musical repertoire can soon equal that of all the stations you hear!

There's a real future in family fun like this—with your Ampex you can live such happy moments over and over again, with a quality so lifelike you're almost literally carried back.

In the Ampex "Speech Testing Game", you pit your wits against the trigger-quick memory of the Ampex recorder/reproducer. You can't win, but it's fun trying.

Letter-writing is no longer a problem, with an Ampex in the house... now it's a family project. And even more fun than sending letters in sound is receiving them!

For "letters in sound", the 3" tape reel holds as much as a 10-page letter, mails first class anywhere in the United States for 8c.

A command performance, exclusively for you! Whether you prefer jazz, pops, or classical, the privacy of headphone listening is a unique pleasure. You don't disturb the rest of the family, and they don't disturb you!

The Ampex, in private rehearsal, can be a wonderful confidence-builder for people who normally develop rubber knees when faced with the prospect of speaking before a group.

Learning to speak a new language is made immeasurably easier on the Ampex; you can record your own phrases side-by-side with those of the instructor, and play them back for comparison at any time.

When you strike up the band in stereo, you don't need professional musicians to make a professional recording. Advanced techniques are amazingly easy on the Ampex.

meters. This ensured that the operator only had to read the mixer meters.

The playback level of both recorders was adjusted to exactly match the input level. This permitted the operator to read the level actually on the tape by meter and to compare it with the level being fed to the tape in order to ensure adequate recording level at all times. After this was done, the level of the P. A. amplifier was adjusted to give adequate level all over the hall. The individual speaker levels were set by actually having someone in the auditorium advising us of level while we adjusted the taps on the transformers which were mounted upon the speakers.

All mikes were run through extensions. These extensions were concealed as well as possible and were, in all cases, covered so that a careless person would not trip over them. This not only protected the audience, it made sure we would not have our recording interrupted.

Once all this was done, the operator only had to watch his mixer meter and adjust his mixer pots to obtain correct recording level. P. A. level was automatically correct if the recording level was properly set. The only other thing the operator had to do was change reels on the tape recorders. He started one recorder just before the first ran out. After the first did run out, he took the reel off and marked it. He returned it to the box and then put another reel on the recorder. He then checked the level on the tape by means of the earphones and the playback level against the input level. Then all he had to do was watch his meter and levels. He also timed each talk, and kept this record on the back of the tape reel box. He had two assistants on the floor with probe mikes for questions from the floor.

This system worked without trouble during the entire convention. In addition, during the annual banquet, a similar system was used to record the speeches of the guest speakers and to provide public address for the dining hall.

Following the convention, a smaller system was seen as being required for sectional meetings. An Ampex #601 recorder was used, along with two Electro-Voice mikes; one #666 and one #655-C. The #666 was either hand held (by an assistant) or floor stand mounted, for the speaker. The #655-C was hand held (by an assistant) for questions from the floor. Where required, the P. A. system was split-fed from the mixer. The system used for the P. A. system was the Ampex amplifier/speaker system complimenting the #601.

The accompanying photos show the equipment used at the convention as well as a section meeting after the end of the convention. In all cases the systems adopted worked without any trouble at all. The small system has been adopted as the standard system by the New York section of the A.E.S. for the recording of all lectures. The larger system has been adopted as the standard for all convention and large scale lectures.

After recording, the tapes are turned over to a stenographic service where a speed typist transcribes the tape with three copies. These are then returned to the Society. One copy is sent to the lecturer. He corrects the text and returns it to the Society. This is then turned over to the editor of the Journal, and the lecture later appears in printed form in the Journal for the benefit of the entire Society. In addition, important papers are printed for the industry as a whole. The 4th lecture series was also printed in book form for any interested parties. This is all a result of the efficient recording of the lecture, questions and answers.

This technique has also been used with success by the individual parties concerned, for the recording of neighborhood plays, concerts, lectures and the like. It has been used in schools and parks. In short, wherever P. A. and recording is required, the technique used, is more than adequate. Of the many ideas proposed for the recording and amplifying of this type of material, this technique has been the most successful. The split-feed to the recorder from the mixer has been found to be superior to the feeding of the P. A. amplifier from the recorder due to its greater flexibility. The adjustment of levels in such a manner as to ensure adequate recorder level, no matter how high the level has to be adjusted, without causing feed-back in the P. A. system has its obvious advantages. With this system, any mikes may be used without danger of feedback. It is important to *first* adjust recorder level for good signal (plus a small safety factor) with the mixer pots set to no more than 50% rotation with an average source level. It is also important to adjust the P. A. amplifier level to adequate with the mixer pots at 50% rotation and yet low enough so that there is no feedback with the mixer pots at 100% rotation.

Provided this is done, there is no danger of feedback, no matter how difficult the recording conditions may be. In addition, adequate level for recording is always found. Professional equipment need not be used, as is proven by the fact that a Bell recorder was used for a similar session with a Bell 20 watt amplifier and a small speaker system. Crystal mikes were used as sound sources and a Pentron mixer for mike mixing.

The split feed is accomplished through the use of a patch cord having a splice in it. Thus, it is a cable having one input and two outputs. This is a split feed. It is important to remember *never* to change the input level on either unit once the split-feed is working. Changing one may affect the other. Always adjust one, then the other. Then recheck the first and adjust if needed. Then recheck the second and adjust if need be, and so on. Once both are properly set, *all* level control must be at the mixer or other device from which the split-feed is taken.

This system is further proof of the versatility of the tape recorder and should prove of usefulness to all people who ever have the need to record something and also provide P. A. sound.



Getting set up for the 1958 convention. The mixers are in the foreground and two Presto recorders are on the table in the rear.



The illustration shows a setup for handling either hi-fi, lo-fi or stereo. The base is an old Wilcox-Gay unit with a Livingston tone arm added containing a stereo cartridge. For lo-fi copying, the small arm is used with a steel needle, for hi-fi, the large arm is employed and the output taken from the right hand jack which connects both channels together. For stereo, separate cords are run to right and left jacks.

Dubbing Stereo Records

BACK in the "good old days" BS (Before Stereo) it was widely advocated among tape fans that a new record be copied on tape as soon as it was purchased and that thereafter the music be played from the tape. This preserved the disc in prime condition and formed a reserve unit in case anything happened to the tape.

Since the advent of the stereo disc, this old method has become even more important for stereo discs do not seem to wear as well as monaural and are more expensive. Hence putting them on tape is a good investment.

Copying a monaural record was easy. The current from the cartridge was simply fed into the microphone jack, if a magnetic cartridge was used, or run through the phono amplifier and into the radio/ phono input on the recorder for other types of cartridges. Other than setting the recording level, little more had to be done.

Copying a stereo disc, however presents more problems. For one thing, the signal has been split into two channels. Each channel is engraved on one side of the groove of the record.

Thus, if a monaural copy of a stereo disc is desired, you will not get it by simply using one of the pairs of leads from the cartridge. This will result in an unbalanced

recording.

To copy a stereo disc monaurally, you must connect the two outputs together to get a full signal. Then the recording will sound normal and you will get, in monaural, the full range of the sounds.

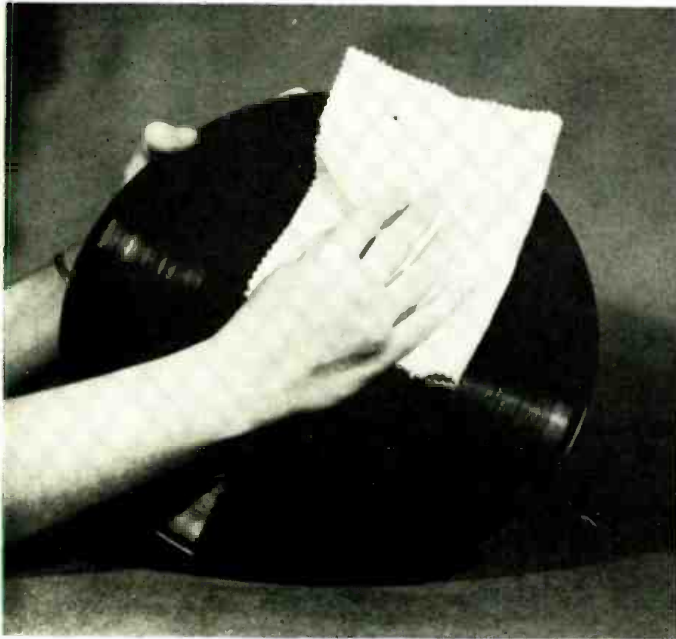
Now that stereo recorders have come on the market, and more will be along, it is possible to copy stereo records in stereo.

The first thing to check is the cleanliness of the record and it is recommended that it be wiped off with one of the anti-static cloths. The newer the record the better the final result will be and if you can copy it on the first play you will be better off.

One of the audio test records, such as that put out by Walsco Electronics, Rockford, Ill., will be found helpful in balancing the two channels to make sure they are equal before the recording is made.

After checking this point, the record should be played to see that the recording level is adequate. Any changes in the recording level should be made exactly the same for both channels otherwise an imbalance will be recorded on the tape.

Of course this could be taken care of in playback by



Left: cleanliness is next to Godliness in making copies of records for each tick and pop will be faithfully reproduced on your tape along with the music. An anti-static cloth does a good job of removing dust. Be sure to use a stereo cartridge and needle on stereo records—the use of a monaural needle will ruin them. Right: the jack box which is connected to the arms. By plugging into the tight channel, both outputs are mixed for monaural recording from a stereo cartridge. The lo-fi output connects to the 78 RPM arm and the other jack to the disc recorder. Use shielded cables on all leads to the arms.

an adjustment of the volume controls but it is best to get it on the tape the first time.

Once the recording has been started, let the volume controls alone. Any adjustments during recording will cause a shift in the sound perspective, just as though one of the mikes had been moved during the original recording.

The point of sound pickup for your recorder will depend upon the equipment you have. Actually it is just a duplication of a monaural pickup on each channel. If you have a "package" stereo phono you can tap off the volume control or at the speaker terminals.

If you are blessed with a stereo amplifier you can feed from that into the phono input of the recorder or, lacking an amplifier, you can feed into the mike jack for

cartridges with a weak output, such as a magnetic cartridge. Crystal cartridges, with their greater output may cause distortion of the sound if fed directly to the microphone input of your recorder.

To make stereo recordings you must have a stereo recorder. This would seem obvious but, because of a lack of a better term, some recorders are called stereo recorders when actually they will only play back stereo and their recording is restricted to monaural. A stereo recorder will have two inputs, one for each channel.

If you live in an area where there are stereo broadcasts you can let the station play the records and hook your stereo recorder to an AM-FM combination, a stereo tuner or an FM multiplex unit.



Cuing a record. The needle is placed in the groove and the record run until the first note starts. The finger is then placed on the record and the disc backed off a half turn. If the turntable motor is strong enough it will spin the turntable while the record is held still with the finger. On cue, lift the finger and the record will play.



Reverend Alfred R. Desautels, S. J., Chairman of the Holy Cross College modern languages department, shown monitoring a master tape during a lab exercise. Rev. Desautels has done considerable research in the use of magnetic tape in teaching languages.

Tape Language Laboratory

by Hiland Holt

*. . . language instruction on tape proves superiority
over old teaching methods.*

ONE of the major contributions that magnetic tape is making in the teaching of languages is its amazingly successful applications and achievements in language laboratories, used in conjunction with language courses. Those progressive schools which have been pioneering in the potentials magnetic tape offers to language instructors who believe that good instruction is 90% research effort to improve language quality level, and 10% instruction, are discovering that the magnetic tape language laboratory is no

longer an experiment, but rather a definitely-needed and effective working tool which provides vast improvements in pronunciation, oral comprehension, and diction.

Probably the most advanced and latest type language laboratory in New England, and possibly in the United States, is the Modern Languages Laboratory at the College of The Holy Cross, Worcester, Massachusetts. Established in September, 1957, or on the 114th birthday of the college, it is now far from its experimental stage and is in its third

successful year. It is attracting an increasing number of educators, who, after a most impressionable and interesting visit at the "lab," are convinced that a language laboratory should be standard procedure and an integral part of language courses, no matter what level or grade the language is taught.

The lion's share of the success in the language laboratory at Holy Cross belongs to a quiet, modest, and most personable top-flight educator, Reverend Alfred R. Desautels, S.J., Chairman of the Modern Language Department. One of the most brilliant students to earn a Ph.D. in French literature, at the University of Paris, Reverend Desautels had done considerable research and experimentation in the use of magnetic tape as an aid in the teaching of language. Having discovered the effectiveness of magnetic tape for language laboratories, he was selected by the College of the Holy Cross to set up a Modern Language Laboratory which would be ready for the September 1957 classes. Under his skillful leadership, this language laboratory became a success shortly after its inception, because it offers unusual versatility and recording facilities for the language professors who make the master tapes, and for the entire student body of 700 young men, all of whom study languages, and spend one hour a week at the language laboratory.

The laboratory is about 30 feet wide, and 40 feet long. At one end is the master console with five Webcor Royals which are operated by Mrs. Gertrude LeBlanc, Laboratory Technician, and which can handle five different languages simultaneously. There are forty individual soundproofed booths for the students, each booth equipped with a Webcor Royal, a goose-neck Electro-Voice microphone (915 Crystal), a channel and volume selector, and inputs for the student's earphones, and the monitor's, whenever desired. The walls of the booths are made of Masonite which is perforated. Two pieces of this material were used to form a partition of about two inches thick, and then filled with Fibreglass to form an almost soundproof type of wall structure. The ceiling is acoustically tiled. There is a desk for the



The master console at the Language Laboratory has five Webcor Royals which can handle five different languages simultaneously. Laboratory technician, Mrs. Gertrude LeBlanc, is shown in background.

Laboratory Technician located at one end of the master console, where the mimeographed lessons are handled, and another desk, near the entrance, where Mrs. LeBlanc performs secretarial duties.

The system, which was developed by Reverend Desautels, comprises the following steps and procedures:

(1) Every Friday, each student is given a sheet of paper, listing approximately 60 sentences in English. The student is required to spend one hour at the laboratory the following week, and is expected to be prepared to express these sentences correctly in the language which he is studying. A master tape of this material is also made by the professor of each language studied.

(2) Master tapes are placed on the master console re-



General wide-angle view of Language Laboratory at Holy Cross College, Worcester, Mass.



Top: Students holding sheets listing approximately 60 sentences in English, listen to master tape and hear each sentence spoken by the professor. There is a pause after each sentence, and the student repeats this sentence into the mike and onto his own tape. Middle: During the second twenty-minute period, students listen to the playback which has both the professor's and the student's recordings. Students study original list while listening. Bottom: For the last twenty minutes, the student is handed a small slip of paper listing approximately 10 sentences selected from the original list. He is allowed 8 to 10 minutes to say these sentences, in the language he is studying, into the mike, and onto the tape, which is picked up by the laboratory technician, and which will be reviewed and graded by the professor.

orders by the Laboratory Technician, who might also give further instructions to the students through a mike and loudspeaker.

(3) Putting on his earphones, the student turns on his own recorder, and selects the channel for his particular lesson. For the first twenty minutes, he hears the sentences spoken on the master tape, and repeats the lesson onto his own tape. There is a pause after each sentence on the master tape so that the student has time to repeat this sentence on his own tape, via the microphone.

(4) For the next twenty minutes, the student listens to the playback, while studying the original list of sentences in English. Sometimes the professor can plug in his own earphones on the side of the booth for criticism.

(5) For the last twenty minutes, the student is handed a slip of paper listing approximately 10 sentences selected from the original list. He is allowed 8 to 10 minutes to say these sentences, in the language he is studying, into the mike, and onto his own "test tape," which is picked up by the Laboratory Technician, and which will be reviewed and graded by the professor.

Although not all language laboratories use the same approach and techniques which are used at Holy Cross, Reverend Desautels feels that the three breakdowns of twenty minutes each provide the climate for developing maximum student capacities and abilities within the shortest period of time. Being a very serious and devoted researcher, always seeking an improvement in his own system, he stated that educational experiments with magnetic tape haven't "even scratched the surface" yet, and that magnetic tape and electronics will offer even richer rewards in the educational field for those who persevere in research, in addition to instructing and teaching.

Certainly the latest technique of using language laboratories, in conjunction with language learning, is not confined to the college level of instruction. Reverend Desautels' system can be used effectively at any level of instruction. Holy Cross College happens to be one of the best and strongest language schools in the country. And with the entire student body of 700 students required to take languages, it is not surprising to learn that this top-flight college hand-picked a master craftsman in Reverend Desautels to set up this language laboratory.

Reverend Desautels' system of the breaking down of the one-hour lab time into twenty-minute periods, and the various exercises performed by the student during each period, is the "secret formula" to a successful language laboratory. This is the working tool which enriches the quality level in pronunciation, oral comprehension, and diction. While the terrific workload at Holy Cross requires a sizeable investment in equipment, any elementary, junior high, or senior high school, can adopt Reverend Desautels' system with only two or three magnetic tape recorders, and achieve the same quality level that Holy Cross does.

It is the fondest hope of this writer that the day is not far off when all public and private schools will include the establishment of language laboratories, as an integral part of language learning, in the current re-evaluations now in process throughout American school systems. As one visitor at the Holy Cross Laboratory commented: "I have just realized that we have several magnetic tape recorders at our school which aren't being used very much, and haven't been given much attention by the language department, but believe me, when I get back, I'll know just what to do!"

Quiz on New Four-Track

. . . . test your knowledge—see if you can answer before reading our answer.

Q—What are 4-track stereo tapes? How do they differ from other tapes?

A—Ordinary stereo tapes have two tracks, one for each channel. The new 4-track tapes have two pairs of tracks, one pair in each direction, so that no rewinding is necessary. The use of 4 tracks on the tapes has meant that double the amount of music can be put on the same amount of tape.

Q—Has the use of four tracks degraded the quality we have come to expect from tape?

A—No. Improved heads and duplicating methods have, if anything, increased the quality of the new tapes so that they are superior to the old.

Q—What is the estimated number of four-track machines?

A—750,000 four-track recorders will have been produced this year and last. Add to that more than a half-million machines in the country that can be easily converted and you have a large audience that will make new tape production worthwhile from the commercial standpoint.

Q—Are these tapes on reels? At what speed do they run?

A—Yes, the tapes are on standard reels and play at the 7½-inch per second speed. This speed gives quality superior to any other means of playing stereo.

Q—Will well known artists and numbers be available?

A—Yes. The present tapes now available include ten which are in the top 30 on the charts. Included are such items as: the MGM original cast recording of *GiGi*, Billy Vaughn in *Blue Hawaii*, Lawrence Welk in *Mr. Music Maker*, Ella Fitzgerald and Louis Armstrong in *Porgy and Bess*, Roger Williams, David Carroll, the *1812 Overture* by Tchaikovsky. Both pops and classical are well represented.

Q—Will the tapes be expensive?

A—No. On the average the single album tapes will be only \$1 or \$2 more than the discs. Double albums will be the same price or less than the stereo discs. In some cases the savings are dramatic, in one instance there is a saving of \$5.00 over disc costs on a double album.

Q—Will four track machines obsolete present tape libraries?

A—No. Four track machines will play *any* tapes now on the market, including those made on two track machines.

Q—Will there be an adequate library of music of all kinds so that a person will feel the purchase of a tape machine is worthwhile?

A—Yes. 170 tapes are now available. By fall there will be a total of 500 and the supply will continue to increase.

Q—Will I have difficulty securing these tapes? Will dealers be able to get them?

A—No. The tape producers have established a gigantic one-stop operation in addition to their regular distribution to assure every dealer he will obtain the tapes he needs quickly and easily.

Q—Why should dealers stock and sell these tapes when there are already stereo disc records on the market?

A—Reel-to-reel stereo tapes at the 7½-inch speed are the ultimate in sound reproduction. In addition, tape has no problem of wear, as do the discs, the equivalent of two records can be put on one tape. There is no danger of channel shifting with tape, nor can dust or scratches affect the music on the tape.

The dealer who wishes to sell his customers the best will have to sell them tape.

In four-track 7½ speed tape offers

- 1—a superior product at a competitive or lower price.
- 2—greater customer satisfaction.
- 3—the highest fidelity commercially obtainable today.
- 4—a product proven by 10 years of field use. Reel-to-reel recorders at 7½ speed have proved their reliability.

Q—Since the number of tracks has been increased won't this increase the problem of channel separation and crosstalk.

A—No. The separation between any pair of tracks is actually greater than in two track. On the machines which we have heard, there has been no noticeable crosstalk.

Q—How, with thinner tracks can the claim of higher fidelity be justified?

A—New duplicating techniques using half-inch master tapes plus better heads on both duplicators and home machines have made the big difference. More about this will appear in later issues.

Q—Will I be able to record four track stereo?

A—On some machines yes, on others you will have means of playing stereo tapes but the recordings will be monaural, using a pair of tracks for a single recording.

National Tape Repository Operation

by Frank Hall

. . . . a wealth of educational material is housed here for use by schools and organizations.

"SERVICE to the nation" is the motto established at Kent State (Ohio) University, the home of the National Tape Repository. It was established by a joint committee of the Association for Education by Radio and Television and the Division of Audio Visual Instruction, N.E.A., in December, 1954. Since that time more than five thousand programs have been sent to schools and organizations throughout the world.

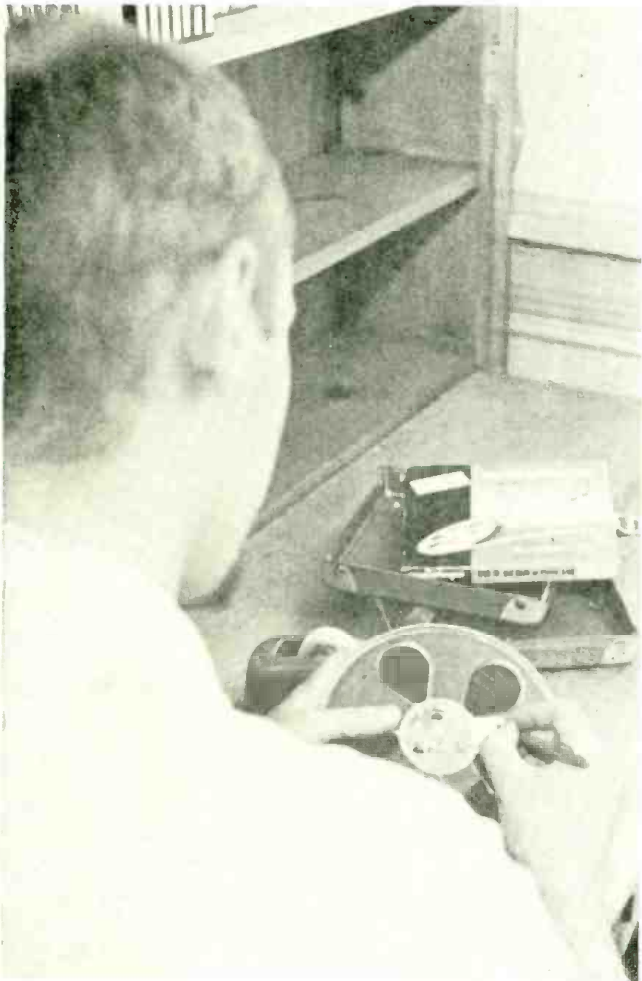
To handle this segment of the entire Audio-Visual Program at Kent State University a business type organization

has been developed. Dr. Anna Hyer, DAVI, develops the catalog and secures the new masters to be placed in the expanding collection. Evaluation centers composed of Universities and public school systems throughout the United States determine if the material has top educational value.

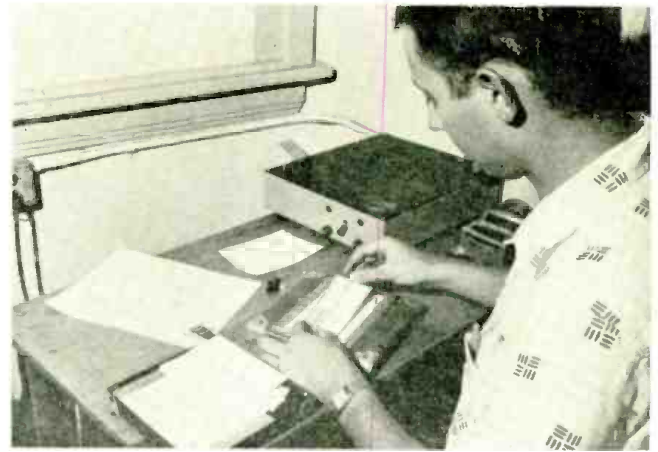
To help school systems with their in-service education programs K.S.U. has developed a filmstrip with sound on tape entitled "Tips On Tape." In a fifteen minute period it can help teachers see the value of tape and tape recorders in the classroom.



Top, left: Over sixty pieces of correspondence per month are handled in coordinating the evaluation service centers for educational material alone. Top, right: Tapes and orders are received by the secretary, who, in turn, sends them to the Tape Repository. Bottom, left: Masters are removed from the racks according to the orders. Bottom, right: The masters and blank tape are placed on the duplicator. Duplication is done single track $3\frac{3}{4}$ or $7\frac{1}{2}$ ips as desired. Two programs can be duplicated simultaneously on the Magnecord single copy equipment.



Above: Each taped copy is labeled for the user. Below: Invoices are prepared. The charge is nominal, fifty cents per fifteen minutes of program plus postage. The center supplies tape when requested.



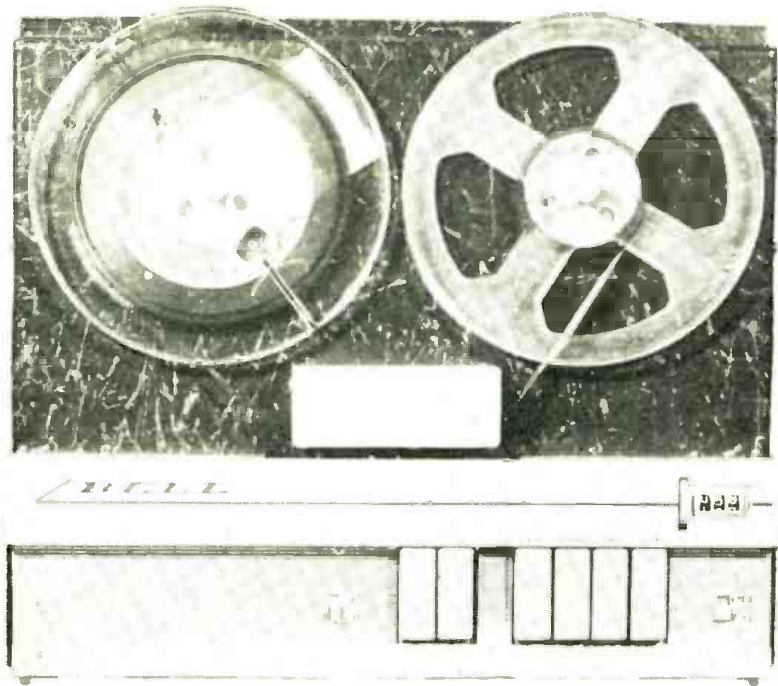
The completed tape is replaced in the mailing carton and labeled. Like any product of a mechanical or electrical machine there sometimes results a bad product. The average, however, has been less than one program per year of center operation (eight years—seven programs), and the center will replace any program reported faulty without charge.



Since mailing costs differ according to zone, the material is weighed and stamped.

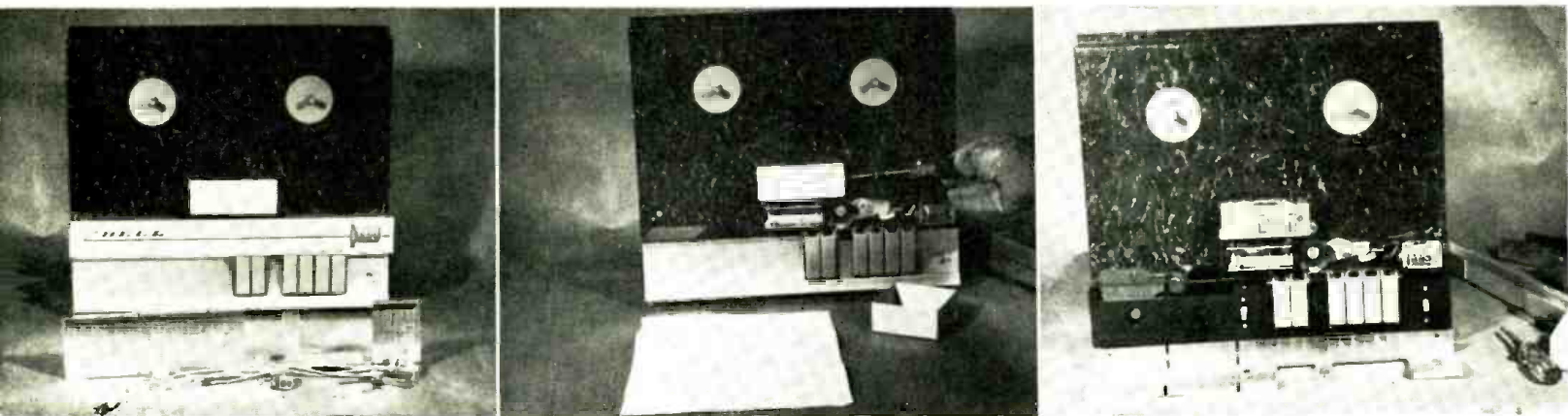


Each order is kept in a ledger. Once a school or organization starts ordering, they will usually send repeat orders. Checks are sent with orders, monthly, quarterly or yearly as arranged.

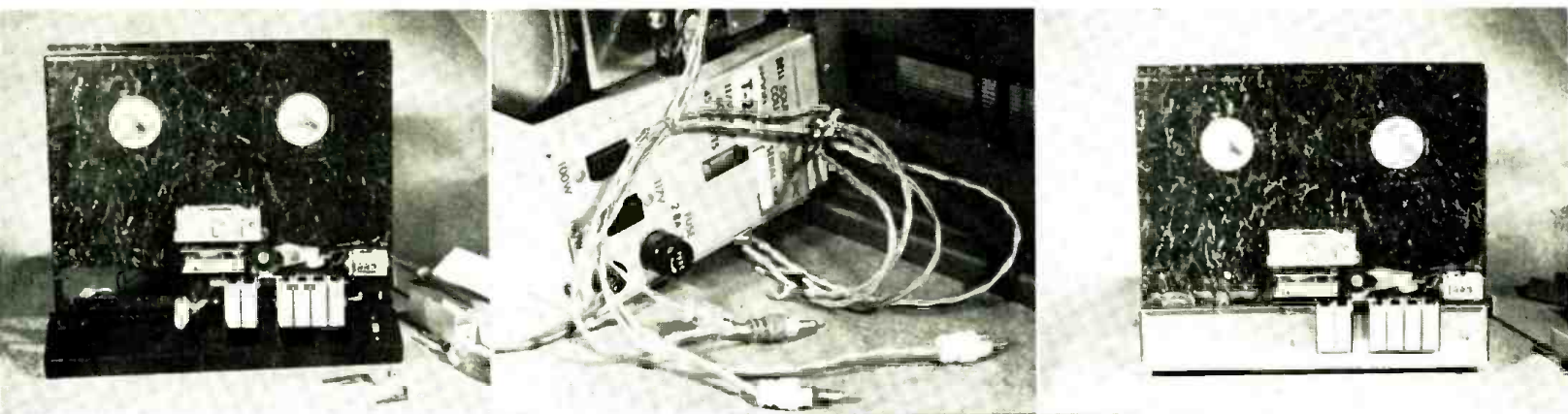


Bell Four-Track Conversion

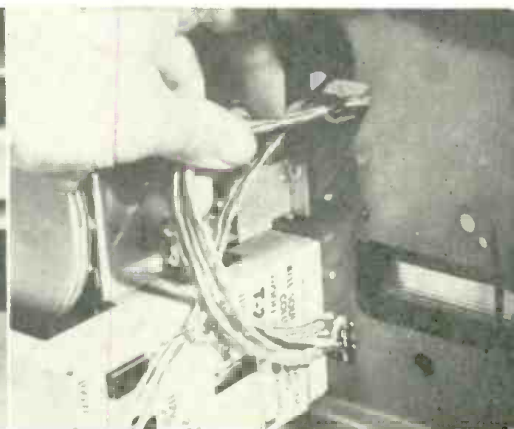
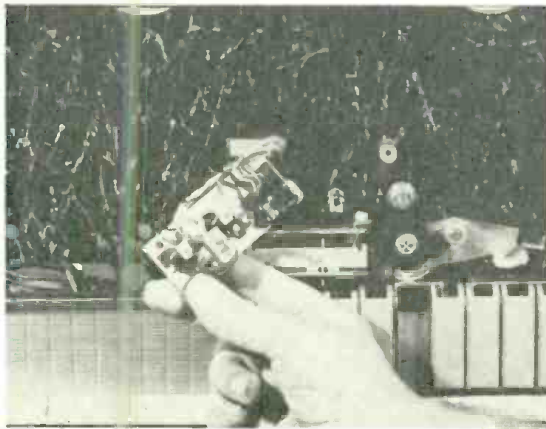
USUALLY when we tackle a conversion job or kit for test purposes we pick out someone in the "kitchen mechanic" class to see if the job can be done satisfactorily by a person with little or no knowledge and only the instructions furnished by the manufacturer to guide them. This we did in converting the Bell tape transport to four track operation. The person had never attempted a conversion job before—and he got no help. In fact, we



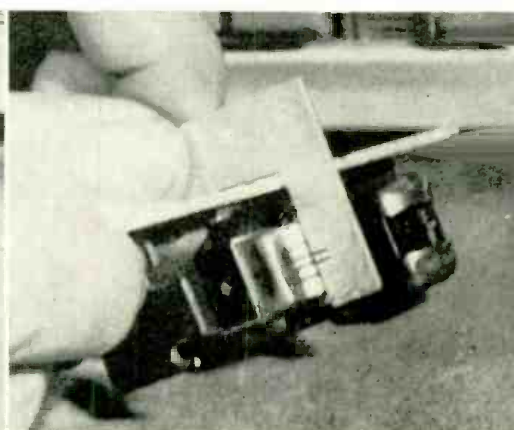
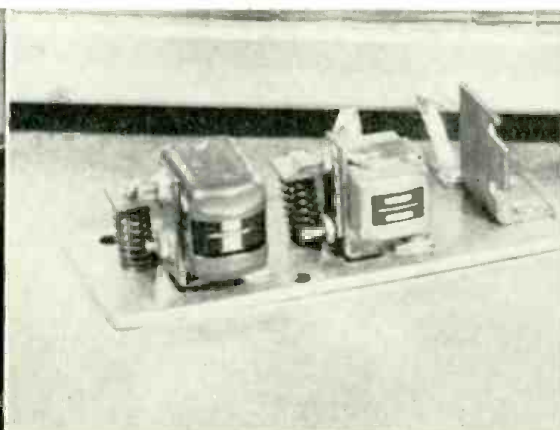
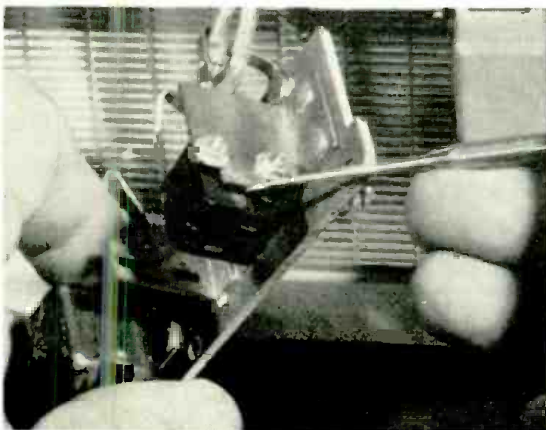
Left: the Bell deck with the conversion kit in the foreground. The kit consists of a new front piece, a switch and new cables, 4 track head and pressure pad. A gauge is also provided for head alignment. Center: the head cover is removed as a first step. Put the directions in front of you and have a small box handy to keep the screws in as you remove them from the deck. Right: the deck with the aluminum cover, head cover plate and gold trim plate removed.



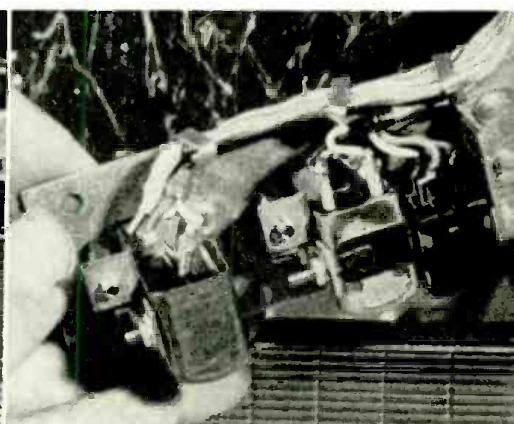
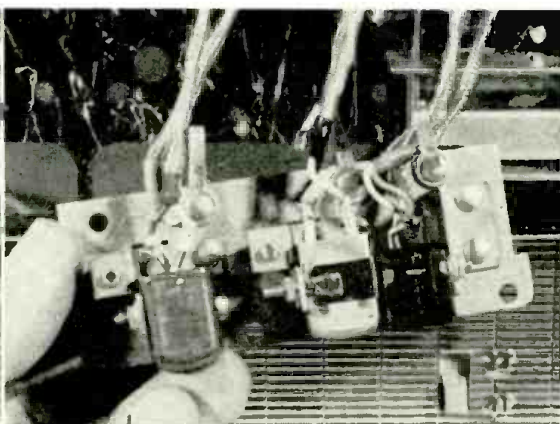
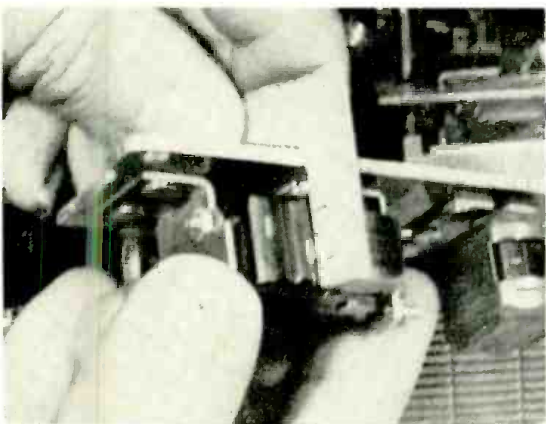
Left: after removing the screws at each end of the upper deck plate, the plate is rotated until the underside faces toward you. Center: the wires from the new switch are fed through the hole in the chassis and the switch installed with the two small bolts provided. Check to see that the contacts are clear of the plate then replace the deck plate, putting back the two screws. Right: the next step completed, which is to replace the gold front cover. Be sure the spacer is in place under the brass screw which holds the cover on.



Left: the main head bracket is removed by removing the three Phillips-head screws that hold it to the deck plate. Do not unscrew the two screws in the center of the bracket as these are head alignment adjusting screws. Center: with a small screwdriver, pry apart the cable clamps on the head assembly and detach the leads to the in-line head. The yellow and white coded head leads are removed from the chassis. Right: feed the leads from the newly installed switch through the hole at the head position.



Left: if the transport incorporates a dual channel erase head, it must be removed to make room for the 1/4 track head to be installed. Marks should be scribed on the side of the erase head with a sharp instrument to allow the head to be correctly reinstalled and aligned. Loosen the nuts and remove the erase head after the lines are scribed. Center: the new head mounted in place on the center bracket. It is held in place by two small nuts. These should be tightened enough to hold the head but still permit adjustment of the head on the bracket. Right: using the gauge provided in the kit, the new head is aligned with the two center lines scribed on the gauge. Align this very carefully and be careful not to scratch the surface of the head with the gauge.



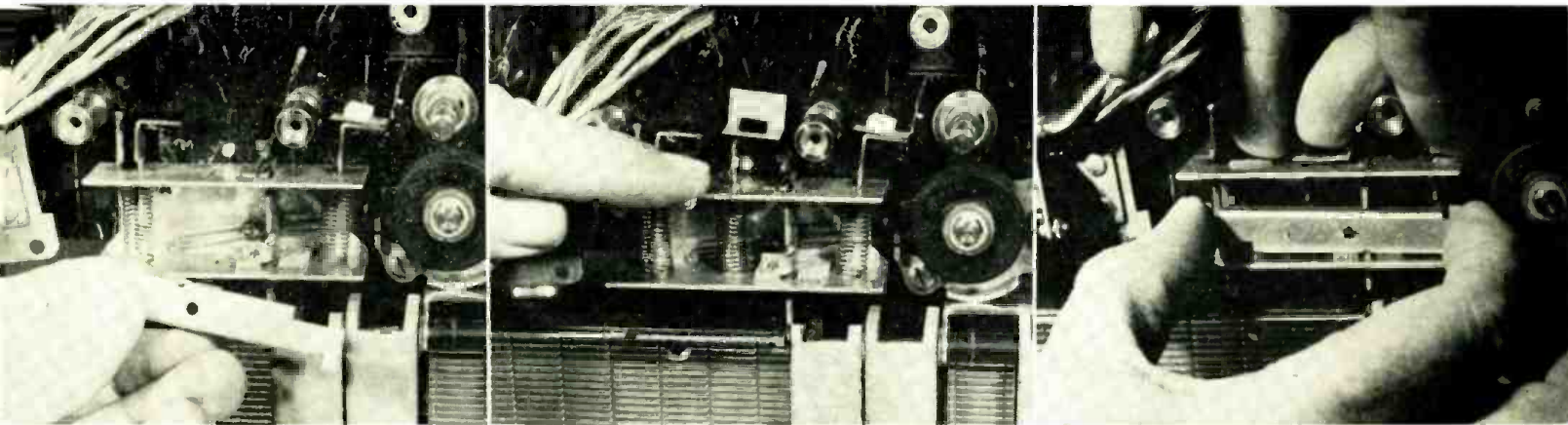
Left: after replacing the erase head it is checked with the same gauge using the outside scribed lines. In addition, the lines you scribed on the side of the erase head should be lined up with the bracket. Tighten the nuts. Center: the head leads are connected according to the directions. Since all wires are color coded, this is easy. Hold the heads in the same position as shown in the drawings in the instruction sheet and you will have no trouble deciphering the proper connections. Right: carefully tuck the cables under the cable clamps and press them down in place again as they were at first.

stopped him from time to time to make pictures of the progress.

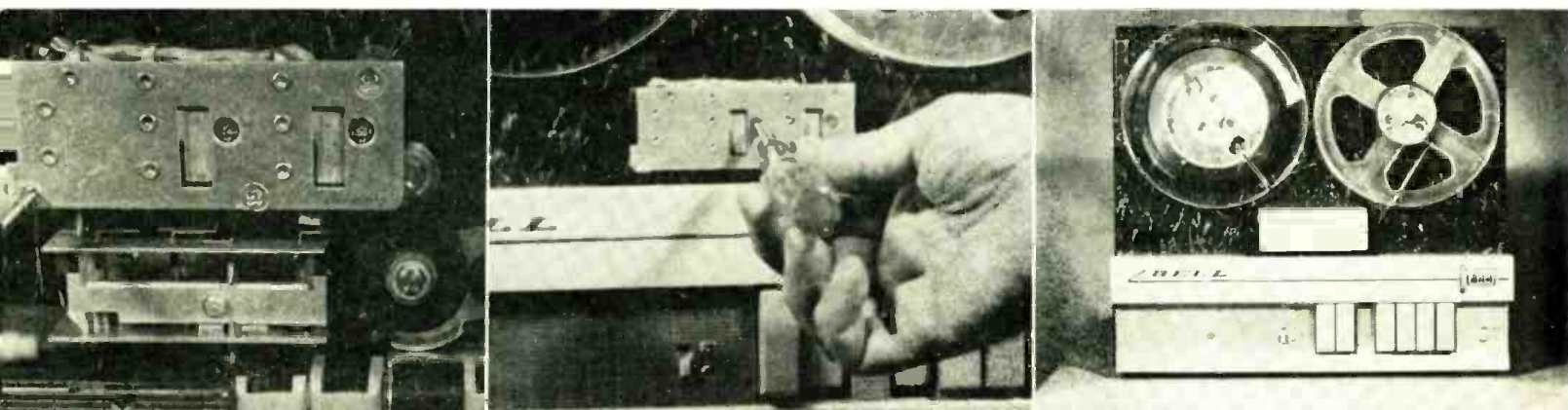
Even so, he polished the job off in about two-and-a-half

hours, including the stops for pictures.

If you have a Bell deck and wish to make the conversion our advice is to go ahead and do it. You will not have



Left: next step is to put in the new pressure pad. First remove the small screw in the head pressure pad retainer and lift it off slowly so the pressure pad arms will not pop out of place. Center: insert the new pressure pad and spring furnished in the kit. This goes in the center position and the wide part of the shield should be next to the deck plate. Right: hold all pressure pads down using three fingers of one hand and replace the pressure pad retaining plate with the other. Insert the screw and tighten it.



Left: replace the head bracket and tighten the screws to hold it in place. Center: after replacing the decorative plate with the Bell name on it connect the deck to AC power and hook it into the stereo system so that a tape may be played. Put a 4 track 7½ ips tape on the machine and while playing it, adjust the center head alignment screw for maximum high frequency brilliance (maximum high frequency output). If available, the best check is made with a test tape and a vacuum tube voltmeter. The head should be aligned for maximum output at 7500 cycles per second or above. Be sure the switch position is in the 4 track spot. Right: the completed job ready to handle either 2 or 4 track tapes.

any regrets for your machine will then be able to play not only the old two track tapes but the new four track tapes as well.

The cost of the conversion kit will be quickly repaid in savings on stereo tapes for the new tapes cost about half as much as the old.

Before starting we would advise that you read the directions carefully—more than once. Locate those parts which can be seen without dismantling the machine and figure what is going to happen when the screwdriver is finally applied.

When ready to begin, get yourself a clear area on which to work. It should be large enough to enable you to lay the parts out and to have a place for the parts you remove from the machine as you progress.

The directions should be in front of you at all times and if you follow them step by step you will have no trouble at all. A small cardboard box to put the screws in as you take them out of the machine will help and prevent any from becoming lost.

As the job progressed the only trouble encountered was from big fingers in two places. One was the installation of the new head which means handling two small nuts and

getting them started on the head studs. The nut at the top is out in the open and is easy. The one at the bottom was too much for our candidate and he wound up holding it in a pair of small pliers—which he probably should have done in the first place.

The only other spot, and you are warned about it in the directions, is keeping a spacer between the upper deck and the lower deck in place as you put the screw through it that holds on the gold front plate. This turned out to be easy also.

To do the job you will need a Phillips-head screwdriver, a regular screwdriver and a pair of pliers . . . all readily available around the average house.

The Bell directions are clear and concise and listed step by step. By reading each step carefully and looking before you leap you should make the transformation in a few pleasant hours of work.

There is nothing to fear, even if you have not seen the innards of a tape recorder before. There is no wire stripping or soldering and every part fits.

By making the conversion you will increase the value of the machine and be able to play any tape at the flick of a switch—we recommend that you do it.

FEEDBACK

(Continued from page 11)

Non-Promotion of Tape

To the Editor:

This is to inform you of a condition now existing in the tape business which is detrimental to the promotion of tape playing. I am sure you are not aware that you are aiding the continuation of this condition.

There are certain companies who seem to be actively engaged in bringing an end to the playing of tape recordings. These companies furnish you with information regarding releases on tape. When orders are forwarded to these companies by distributors or dealers, they are informed to the effect that the company does not believe in the further manufacture of tape recordings and that such releases of theirs are not available. For as long as a year this has been happening. As far as we can tell, they have not produced these tapes, but continue to furnish you with reviews purely as a means of getting their negative selling propaganda to the public.

We have on hand over a hundred notices to the effect mentioned above.

It is our suggestion that you discontinue the practice of running reviews of tapes from those companies who do not produce and ship. We believe they are using your magazine to secure free advertising which will become a channel for breeding public opinion that will have a negative effect on the desirability of tape recordings over records. We would appreciate your comments.—Robert S. Bryant, Lubbock Radio, Lubbock, Texas.

The situation which Mr. Bryant mentions became obvious with the introduction of the stereo disc. Many dealers and some record companies mistakenly figured that since stereo was available on records there no longer was a need for tape and it could take a back seat. As orders declined, distributors and others whose income depends on moving masses of goods, dropped the stereo tape lines because they did not show sufficient volume. This, in turn, backed up to the manufacturing level. Some tape companies had a drop in business as much as 80 to 90%.

While wide-awake dealers, such as Mr. Bryant's firm, continued to do a good business in tapes, they found it increasingly difficult to get the tapes for sale because of the conditions listed above. The situation was brought about by panic-button pushers in the industry.

We do not believe that the companies sought to get free advertising. Because of the outpouring of tapes prior to the stereo disc, our reviews were always a month or so behind, as is normal with any publication, and these reviews coasted past the point where distributors were lowering the boom on tape.

To get around this difficulty in respect to the new 4 track 7½ ips tapes, there has been set up a large "One-Stop" firm which will handle the output of all companies, thus assuring the dealers that they will be able to get tapes for sale. The firm is United Stereo Tapes, 1020 Kifer Road, Sunnyvale, Cal.

We believe that some dealers and con-

sumers have become disenchanted with the stereo disc because of its shortcomings. These people will be switching to tape and, since the new tapes are competitive in price to the stereo discs, they will be able to get better quality for the same money. If the old American adage of building a better mousetrap holds true then tape is due for a boom the like of which has not been seen before.

Cat's Meow?

To the Editor:

I have recently returned from a tour of duty in South America and find that tape recording has taken many steps forward of which I am not aware.

As a subscriber to your publication I have come to rely upon you for the most up to the minute info available and would appreciate any light you can shed on the following questions.

I have been offered an RCA cartridge stereo machine that seems to be "The cat's meow" in up to the minute features. If you have had the opportunity to inspect this machine, I would like your opinion of this product.

I have also been told that Minnesota Mining and RCA have been jointly developing this particular machine and cartridge and that there is supposed to be quite a large selection of titles available. Does this stack up with the info you have on the subject?

Finally, has the tape industry decided to do some standardization with its products or are they going to continue to "sluff off" until they create a Frankenstein monster that will pry on the consumer until he hollers, "That's all buddy, I want out?"

I have been fighting this battle of the Stereo Tape for over three years and am thoroughly convinced that it is about time for the powers that be to think of the poor consumer. It is very discouraging to have someone say that the sound is great, but where do you get the tapes?—Lt. Edgar G. Levine, Turner AFB, Ga.

Regarding the RCA cartridge machine we have not tested it but plan to in the near future and do a consumer's report on it. We have one of the machines on hand and it sounds well. At the moment there are 16 cartridges on the market with more to come. Bel Canto and Mercury will also have cartridges.

The tape industry has standardized, after a rather long hiatus, on four track tape. This will be available in two forms, 7½ ips reel type and 3¾ ips cartridge. The tape may be removed from the cartridge and played on a reel type machine. At this writing about 150 4 track reel-to-reel tapes are available (see catalog published in our last issue).

We do not foresee any changes in the immediate future which would obsolete present equipment of either type. Four track has come to stay and this is the most practical form for commercial duplication. Since it competes price-wise with the stereo disc and has better qualities, we feel it will ultimately be the home music medium.

We also feel that owners of present stereo machines will do well to convert them to four track operation.

THIS IS A CATCHY HEADING

—designed to get you to read this. Our best advertisement is this magazine itself. You can get more issues like this one delivered to your door.

This practical magazine will bring you each month:

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

Keep up with the field by reading the up-to-date recording magazine.

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

2 Years\$7.00
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- 2 years\$7.00
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NEW PRODUCT REPORT

STAFKSTED



PENTRON TRIUMPH RECORDER

... lightweight, easily accessible heads, monitor switch are among features.

THE Pentron Triumph tips the scales at only 19 pounds and measures only 12½" x 12½" x 7". This is both a sensible size and a sensible weight for a recorder that is portable.

Despite its small size, it performed well under test. The controls are conveniently located and work easily, the machine has a monitor switch so that incoming program material may be monitored with headphones or the set speaker, and it plays both two track and four track tapes.

The two track-four track adjustment is a screw which is turned with a small screwdriver through a hole in the head cover. It can only be adjusted in the play position when the screw is directly under the hole.

One feature we liked on this machine was the fact that the whole head cover is easily removable. Made of plastic, it can be sprung out of position by pressing with the thumbs against the front, then lifted up.

Since heads should be cleaned about every 15 hours of use for maximum

results and be demagnetized occasionally, it is nice to be able to do it so easily. Removal of the head cover also allows access to the head for close editing.

While it has nothing to do with the recorder itself, we were intrigued by the box in which it comes. In reality it is two boxes, the outside one taking the beating in shipping and the inside one, with carrying handles, is used to take it home from the dealer's shop. We think dealers will welcome this feature.

Tape threading is straight-line and the machine has two speeds, 3¾ ips and 7½ ips. A switch on the deck plate between the two reels makes the change and this should be operated while the machine is running. Be sure the switch clicks into place when the speed is changed.

The microphone and cords are held in the lid of the recorder. The line cord is not attached to the machine, being plugged into a receptacle on the back when ready for use. This

**Product: Pentron Triumph
NP60 S**

**Distributor: Pentron Corp., 777
S. Tripp Ave., Chicago 24, Ill.**

**Price: Recorder \$249.95. Match-
ing Amplifier Speaker \$59.50.**

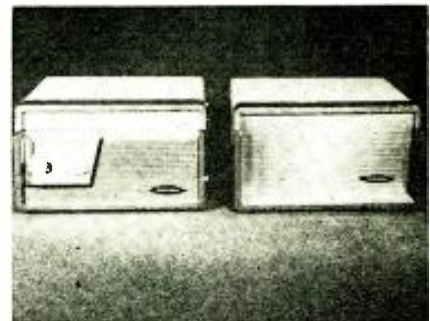
arrangement makes for a neater appearance of the case.

Also on the back is the output panel containing an output jack for connection, through the output cord, to the stereo amplifier to get the second stereo channel. Another jack takes the feed from the pre-amplifier in the unit and is used to feed an external amplifier if desired. The third jack is an external speaker jack which mutes the speakers in the set. Also on the same panel is the monitor switch.

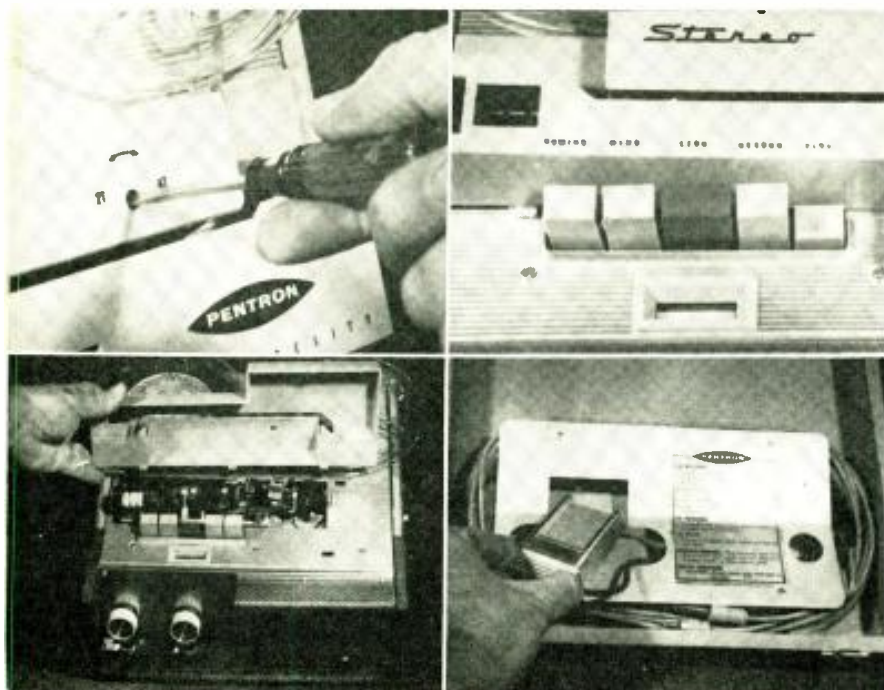
This switch permits programs to be heard through the recorder speaker while the recording is being made. Especially useful when the unit is connected to a tuner, it is also handy to monitor recordings made with the microphone. Headphones are advised for this to prevent feedback but if the mike is some distance from the recorder, the speaker may be used at low volume.

Volume control in recording is by means of an electron beam tube where the light advances from the sides toward the center as the volume is increased.

Another good feature of the recorder is the shut-off switch which cuts the motor current should the tape break or the end of the tape pass the head. This works in all operating positions.



The Triumph recorder with its matching amplifier-speaker. Both units are finished in tones of gray.



Upper left: the change from two track to four track operation is accomplished by inserting a small screwdriver through the hole in the head cover. Upper right: controls of the recorder are grouped conveniently. Lower left: the entire head cover lifts off easily to permit access to the heads for cleaning. Lower right: the microphone snaps in a bracket in the lid which also holds the power and output cords.

The Triumph is equipped with a half-track double-gap erase head and a four track head. This permits recording in regular dual track fashion by shifting the head to the two track position by means of the screw or the playback of either two track in-line or four track stereo tapes.

All controls are push-button operated and should be pressed positively when operating them. Wind and rewind are of good speed and it is not necessary to go through the stop position when switching from one to the other.

The record button can only be depressed when the machine is in stop position and, as a safety device, the tape will not travel if this button

alone is pressed. It is necessary to press both the record and play buttons together in order to record. For play, only the play button need be depressed.

We made rapid switches from wind to rewind and from play to both but there was no inclination for the tape to spill from the reel nor was there any undue strain imposed on it.

The microphone and radio input jacks are on the side of the cabinet.

To use the unit as a PA system the mike is plugged into the radio input jack, the tape is left off the machine and the play button depressed.

Should some clown depress all the buttons at once they may be released by depressing them simultaneously and releasing them sharply.

Output from the recorder is given at 8 watts. The power consumption at full load is only 80 watts which makes this a good machine to use with an inverter in car, boat or plane.

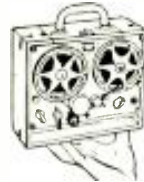
The matching companion amplifier-speaker unit does a good job using an ECL 82, one of the newest tubes. Two speakers are incorporated and the output is more than sufficient for home use.

All in all this is an attractive and compact machine and worth your consideration. We found nothing wrong with it.



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