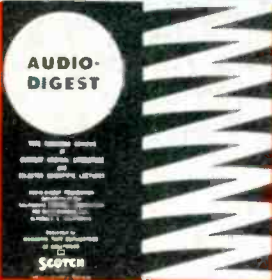


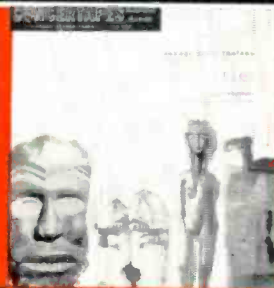


# TAPE RECORDING

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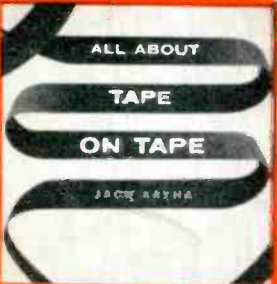


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JAZZ

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POPULAR



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ADD-THE-MELODY-TAPE

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RELIGIOUS

# Just A Minute--

Use this minute to take stock of yourself. After all, who in this wide world knows you as well as you do? Ask yourself these questions and let your conscience give straightforward answers:

1. Am I successful in my chosen profession?
2. Is my position secure?
3. Have I advanced or been content to lag?
4. Has my earning capacity reached a maximum?
5. Where am I heading?
6. Do I "belong," or am I an outsider—professionally and socially?
7. Do opportunities slip by me ungrasped?
8. What can I do to improve?

We can't answer the first seven for you—only you can. But we can point out the basic trouble if you gave yourself a majority of negative answers—you probably cannot speak well. Admit it, isn't this the biggest and perhaps the only factor holding you back?

You remember, don't you. You remember how your insides tighten and your voice quivers whenever the V.I.P.'s talk to you; or how embarrassed you were at the business convention when your mouth felt dry and zippered. Sure, you remember how later you thought of what you could have said—but didn't.

There are other considerations too which you sometimes find yourself dwelling upon. The successful lawyer who lives nearby and drives a swanky blue Cadillac; the used-to-be neighbors who built their dream house and moved recently (he was an engineer wasn't he); and it wasn't long ago you read about that old school chum who has become a prominent manufacturer in the toy industry. Why aren't you capable of having what they have?

## WE'VE GOT THE ANSWER

Chances are you are just as capable, which brings up back to the eighth question—the one to which we have the answer. Those people, just like all successful people, speak well. They speak dynamically, positively—they know what they want to say and how to say it. YOU CAN TOO!

The Institute of Human Communication will help you along the road to success. You want success—the Institute wants to help you succeed. Therefore, a speech course with all lessons on tape has been developed by people with years of experience in teaching public speaking and voice, and experience in radio, TV and on the platform. You can learn at home, in your spare time, how to speak effectively. You learn to speak by speaking, you learn by hearing actual speakers and our instructors coach you to achieve the results you want.

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at one time reticent and awkward in their vocal communication. All you need is to understand where your deficiencies lie and to correct them. Our instructors will help you do this. They will bring out your hidden speaking talents.

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- 2 I've been with the firm ten years and expect to be there until retirement.
- 3 My name's up for another promotion next month.
- 4 Each promotion means a raise.
- 5 I'm heading toward a fuller, more stable, life.
- 6 I have more invitations to business and social functions than I can handle.
- 7 Opportunity is always welcome at my door.
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**TAPE RECORDING**

VOL. 7 NO. 8

JULY 1960

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# CROSSTALK

from the Editors

THE PARTS SHOW in Chicago, attended by electronic parts jobbers and other dealers from all parts of the United States, has come and gone. Missing from this year's "showcase" of new items was anything startling in the tape field. No new cartridge machines or cartridges were in evidence and reel-to-reel machines were moving like hotcakes. Industry estimates place the sales of tape recorders last year at 600,000 to 700,000 units.

\* \* \* \* \*

THE ANNUAL MEETING of the Magnetic Recording Industry Association is held during the show also. Officers re-elected for the coming year are: Herbert L. Brown, Ampex, president, Kenneth L. Bishop, Bell Sound, vice president, Charles Murphy, Michigan Magnetics, treasurer and Herman Kornbrodt, Audio Devices, secretary. Board members re-elected include: Hugh Daly, Magnecord, Victor A. Miller, V-M, Irving Rossman, Pentron and Harry Sussman, Telectro. E. Wallerstein, VP.P of Everest Records was newly elected to the board.

\* \* \* \* \*

THE MRIA was given a pat on the back by Allan E. Bachman, executive vice president of the National Better Business Bureau who said MRIA had taken the initiative in earning public confidence by exercising self-discipline in employing accurate descriptive terms in advertising stereo products.

\* \* \* \* \*

THE DEFINITIONS ORIGINATED BY MRIA and used by the Better Business Bureau put a damper on wild claims for three channel stereo put forth by some firms making stereo disc equipment. The terminology adopted by MRIA is: A channel is a single, complete electronic transmission path for sound; it must include one or more separate microphones, an amplifier, and one or more loudspeakers. It may have a recorder or reproducer interposed as a time storage device. In a multi-channel system, the number of channels is equal to the number of main transmission paths. A track is a path which contains reproducible information left on a medium by recording means energized from a single channel. When a time storage device is used, the channel may be divided into two parts: the recording channel and the playback channel. The recording channel includes the means by which sound is prepared for storage on a single track. The playback channel includes a means by which the recorded sound on a single track is reproduced. In a multi-channel system, the number of channels cannot exceed the number of tracks.

\* \* \* \* \*

THE KICKER, of course, lies in the last sentence . . . the number of channels cannot exceed the number of tracks. Thus if there are two tracks on a tape, it is two channel stereo and the only way in which it could become three channel stereo is to add another track on the tape. Obviously a disc record, with a track on each side of the groove wall, simply cannot be three channel.

\* \* \* \* \*

GOOD SIGN—All the tape library people to whom we have talked are reporting real good business, one man said it was the best year he had ever had, and that statement took into account 1957 when stereo was really booming. Four-track-reel-to-reel tapes are moving fast, as the public begins to learn and appreciate the quality that tape has to offer.

\* \* \* \* \*

NOW THAT THE FCC has asked the Electronic Industries Association Stereo Committee to make stereo broadcasting trials, to help set standards for FM stereo broadcasting, stereo on the airwaves should start to move. This should prove a boon for stereo tape for we predict that, in the interest of better quality and more plays, the FM stations who pride themselves on the quality of their transmissions will be using tape.

\* \* \* \* \*

# NEW TAPES

★—Fair

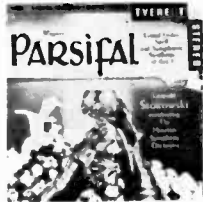
★★—Good

★★★—Very Good

★★★★—Excellent

## CLASSICAL

Reviewed by Robert E. Benson



Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

WAGNER: Excerpts from Parsifal (Good Friday Spell and Symphonic Synthesis of Act 3)

Houston Symphony Orchestra; Leopold Stokowski, cond.

EVEREST T-43031

4 track, 7½ ips  
\$7.95... 31 min.

Here is the familiar *Good Friday Spell* along with Stokowski's symphonic synthesis of music from Act III of Wagner's *Parsifal*. The Music from Act III is particularly effective, and the Houston Symphony clearly shows the great strides it has made in the past few years, sounding like one of the really top-notch orchestras.

Hi fi enthusiasts will replay many times the sections of the Act III excerpts featuring Parsifal bells. Though the bells might be larger and heavier in tone, there is a



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George Shearing: *Satin Brass* ZT 1326  
Guy Lombardo: *Berlin by Lombardo* ZT 1019  
Fred Waring: *Waring in Hi-Fi* ZW 845

### SHOW MUSIC

Fiorello! (Original Broadway Cast) ZO 1321  
The King & I (Kerr, soundtrack) ZW 740  
The Music Man (Original Cast) ZO 990  
Carousel (MacRae, soundtrack) ZW 694

### DRAGON, HOLLYWOOD BOWL

Concertos Under the Stars ZP 8326

### ANGEL RECORDS

Soviet Army Chorus and Band ZS 35411

FULL DIMENSIONAL STEREO



delicacy and purity to those used in this recording which is quite extraordinary.

The Everest engineers have done a splendid job; the warmth and balance of this sound would be an accomplishment for any company. This is a tape to own, and one which will afford much pleasure.



Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

BARTOK String Quartets Nos. 3 and 4

Fine Arts Quartet  
CONCERTAPES 4T-5004

4 track, 7½ ips  
\$8.95... 40 min.

Bartok's six String Quartets are recognized as landmarks in chamber music. They were written from 1907 to 1939 and cover practically all of Bartok's creative career. This dissonant music is rough going for the average listener, but those who take the time to acquaint themselves thoroughly with this music may well find it a rewarding experience.

The performances by the Fine Arts Quartet are superb, as is the sound. This is the second tape in a series of three, containing all six Bartok Quartets. As the third and fourth quartets are perhaps the most easily accessible of the six, this would probably be the best tape to start with, at least for most listeners.



Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

RAVEL Piano Concerto in G

D'INDY Symphony on a French Mountain Air  
Nicole Henriot-Schweitzer, pianist, with the Boston Symphony Orchestra conducted by Charles Munch

RCA KCS 4016

4 track cartridge, 3¾ ips  
\$6.95... 47 min.

The Ravel *Piano Concerto in G* is a brief concerto with an unduly long and dull piano solo in the second movement, and sparkling outer movements clearly showing the effect of American jazz on the composer. The *D'Indy Symphony on a French Mountain Air* is pleasant music, inspired by a mountain air the composer heard during one of his trips through the French Alps.

Nicole Henriot-Schweitzer plays elegantly and Munch accompanies her with a clear understanding of the French style of these two works. The sound is clear and clean, rather lacking in orchestral weight and with overly prominent percussion at the expense of the rest of the instruments. The hiss

level on this 3¾ ips tape was extraordinarily high.



Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

GROFE Grand Canyon Suite

Oslo Philharmonic Orchestra conducted by Oivin Fjeldstad

STEREO MUSIC SOCIETY C-21

4 track, 3¾ ips Cartridge  
\$6.95... 33 min.

This fine performance was reviewed two months ago when it appeared in four-track, 7½ ips reel-to-reel form. The only difference between this and the earlier release is the notable increase in tape hiss and somewhat restricted high frequency response inherent in the slow tape speed. The present cartridge is two dollars less expensive than the four-track, 7½ ips version, but the superior quality of the latter should be worth \$2 to any hi-fi enthusiast.

## POPULAR



Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

## DANCEABLE

Dancing Tambourine, You Never Had It So Good, Gigi, I'm Beginning To See the Light, Some Enchanted Evening and Balai Hai, Dancing in the Dark, Johnny One Note, On the Street Where You Live, The Continental, Colonel Bogey March

Featuring Mel Connor on Trumpet

LIVINGSTON 4T-6

\$7.95... 30 min.

Variety galore. The choice of selections here is widespread and tantalizing.

Mel Connor's trumpet never sounds "too-too my dear." It rather has a friendly, lively sound that is never cold or harsh.

Mr. Connor does not need embellishments to hold your attention or stir your dancing feet.

Enjoyable from start to finish.



Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

## GOLDEN SAXOPHONES

Little Dutch Mill, Wabash Blues, Elmer's

Tune, Auf Wiederseh'n, My Dear, Have I Told You Lately That I Love You, You Belong To My Heart, Sentimental Me, Near You, Tennessee Waltz, Breeze, Indian Summer, I Almost Lost My Mind

Billy Vaughn

BEL CANTO (DOT) ST-96

4 track, 7 1/2 ips

\$7.95 ... 24 mins.

Billy Vaughn has been reared with music ever since he first plucked a ukelele at the age of six. He was a well known arranger for many pros until he organized his own band and started producing his own hits.

And hits they are, with a sound all their own, or all Billy's own. He combined his own instrumental group consisting of four background saxes, two alto saxes playing lead in harmonic thirds, a rhythm section, but no brass. His modernistic touch to old tunes give them a sweet ringe that is most tasteful.

This type music is easy listening for all age music devotees. There is a smooth, gentle flow of notes for the elders and a solid swinging beat for the youngsters. The in-betweensters will like the whole thing generally for its all-around appeal.

Bel Canto's fidelity and stereo put me right in the midst of the band. I was ring-side—delightful.



Music ★★★

Performance ★★★★★

Fidelity ★★

Stereo Effect ★★

#### HITS I MISSED

High Noon, Ebb Tide, 12th Street Rag, Love Is A Many Splendored Thing, Three Coins In the Fountain, Unchained Melody, Learnin' The Blues, Swedish Rhapsody, Moulin Rouge, My Resistance Is Low, My Foolish Heart, Secret Love

Ted Heath and His Music

LONDON LPM 70007

4 track, 7 1/2 ips

\$6.95 ... 32 mins.

Ted Heath is equally popular in Britain and the U. S. and with good reason.

Before I go any further, I've got to mention the imbalance of sound on this tape, the left speaker blares out the brass like it was trying to break a window or something, so I lower the volume and before I know what's happened, a soft string portion becomes so low I've almost lost the sound entirely—up goes the volume.

I made the mistake of lowering the sound at the end of Ebb Tide and when 12th Street Rag came on it really rocked me.

Now the arrangements of these selections are, I think, extremely bewitching, and so I imagine improper miking is the cause of the sound difference.

I am truly becoming a Heath fan myself after hearing his artful handling of these renditions and I think the choice of selections is most appetizing.

The fidelity of the sound is good, its just the fluctuation of volume on various orchestra sections which throws me.



Music ★★★

Performance ★★★★★

Fidelity ★★★★★

Stereo Effect ★★★

#### GOLD ON SILK

Stormy Weather, I Got It Bad and That Ain't Good, Small Town Blues, Yesterdays, September Song, My Man's Gone Now, Lonesome Horn, My One and Only Love, Why Was I Born, Moonlight Mood, Ghost Of A Chance, "The Bad and the Beautiful" Theme

The Ray Wright Orchestra

EVEREST T-21048

2 track, 7 1/2 ips

\$8.95 ... 38 mins.

Guess we class this one as a "general" instrumental tape. There are no exceptionally intriguing selections here. Most of them are the moody blues type thing and since today happens to be a rainy, dismal day, we are feeling rather in a blue "I don't care" mood anyway.

I have often referred to the fact that our surroundings, company, and sounds can play psychological marvels with our moods, particularly music. This kind of tape is a perfect example of that.

The music is smooth and gently hypnotic. You just don't think about anything in particular, you just listen.

Reproduction here is sort of iridescent, especially the solo trumpet which just sears the atmosphere with its sharpness.



Music ★★★

Performance ★★★★★

Fidelity ★★★★★

Stereo Effect ★★

#### THE MUSIC OF GEORGE GERSHWIN AND COLE PORTER

Bess, You Is My Woman, The Man I Love, Someone To Watch Over Me, Embraceable You, But Not For Me, Liza, Night and Day, In the Still of the Night, I Love You, What Is This Thing Called Love, True Love, Wunderbar

Poliakin conducting his Orchestra and Choral

EVEREST T-21051

2 track, 7 1/2 ips

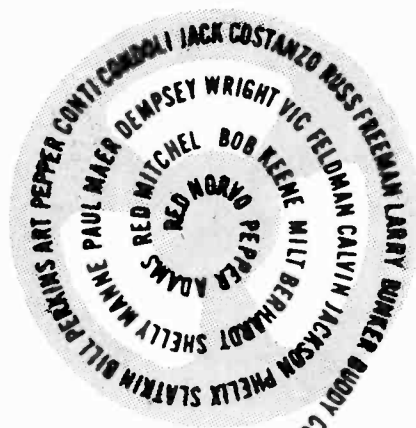
\$8.95 ... 36 mins.

Soft, romantic, moody music, all great tunes.

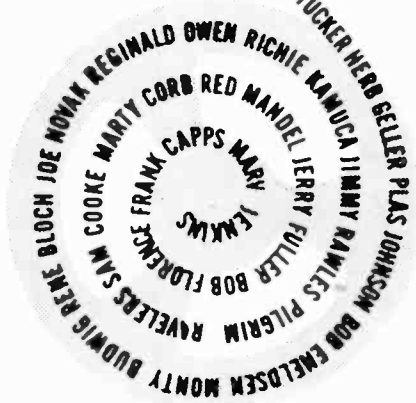
While the orchestra and chorus both are adequate, I cannot praise the arranging nor performances. They move along suitably enough, but there is a certain brightness lacking.

We cannot quite pick up the chorus as well as we would wish. I feel the stereo effect could have been utilized much more effectively than it was on this tape.

Generally, I believe this Everest release does not measure up to the usually excellent fidelity reproduction of most of their tapes.



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Music ★★  
Performance ★★  
Fidelity ★★  
Stereo Effect ★★

### HERE COME THE COACHMEN!

Bald Mountain, Those Brown Eyes, John Hardy, Sally Don't You Grieve, Life's But A Dream, Goin' Down The Road, Boll Weevil, Darlin' Cory, Come Little Donkey, Done Laid Around, Pig Knuckles, Pretty Polly, Marry in the Fall, Everybody Loves Saturday Night

The Three Coachmen  
HIFITAPE R412

4 track, 7½ ips  
\$7.95 ... 28 mins.

These three youngsters I feel are still green and need much more experience be-

fore we could class them as professionals. If you like guitar music, Western style, you may like this tape. Otherwise, we suggest a try before purchasing.

Stereo seems wasted here, there is no need for much directionality.

Fidelity is as good as could be expected for this kind of sound.



Music ★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

### THE CASH BOX INSTRUMENTAL HITS

Holiday for Strings, Ebb Tide, Patricia, Canadian Sunset, Delicado, 12th Street Rag, April in Portugal, Lullaby of Birdland, Third Man Theme, Blue Tango, Melody of Love, Cherry Pink

Stanley Black, His Piano and Orchestra  
LONDON LPM-70011

4 track, 7½ ips  
\$6.95 ... 30 mins.

Stanley Black is an all-round musician—he composes, arranges and performs with taste and ability.

We like the selection line-up on this one particularly well. All are the type songs you can do so much with and Stanley does much. The novel arranging on some, such as 12th Street Rag and Third Man Theme, are apart from anything we have yet heard and enjoyed.

Purrrrrfectly delightful music, a treat for anyone's ears. Mr. Black exuberates charm in every number.

Pure-toned high fidelity throughout.



Music ★★★  
Performance ★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

### STICKS AND BONES

Limehouse Blues, Comes Love, Autumn in New York, Star of Evening, Love for Sale, Smoke Rings  
Hall of the Mountain King, All I Do Is Dream of You, Ramona, You've Changed, On the Alamo, Sticks and Bones

Marty Gold and His Orchestra  
RCA KPS-3065

4 track, 3¾ ips, cartridge  
\$5.95 ... 32 mins.

While you would assume that "sticks" here refers to a drummer's sticks, it may be that you will not assume that "bones" in this instance is short for trombones.

This is a delightful instrumental group and the special effects produced by spotlighting the percussion and trombone sections gives their performance added charm. The percussion here also includes vibes and triangles. The trombones saunter along gracefully and are a joy to hear.

RCA's engineering of sound is right up to snuff here—elegant.



Music ★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

### THE HI-LO'S IN STEREO

Surrey with the Fringe on Top, Birth of the Blues, You Took Advantage of Me, Summertime, Too Young for the Blues, Chinatown, My Chinatown, Shadow Waltz, You Must Have Been a Beautiful Baby, Long Ago and Far Away, Clap Yo Hands

With Frank Comstock's Orchestra

OMEGATAPE SST 800

4 track, 7½ ips  
\$7.95 ... 25 mins.

It is still my contention, and I've said it every time I've heard the Hi-Lo's, this quartette is in a class by itself. These boys have a style, a sound, a togetherness, completely and exclusively their own.

They sing word for word, breath for breath, together, with a harmony smoothly blended, and their interpretations are novel and fresh.

This is, I think, a particularly nice group of selections, excellently done, by these talented fellows.

Fidelity—super.



Music ★★★  
Performance ★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

### LOUIS AND KEELY

Night and Day, All I Do Is Dream of You, Make Love To Me, I Don't Know Why, Tea For Two, And The Angels Sing, I'm Confessin' (That I Love You), Why Do I Love You, You're My Everything, Cheek To Cheek, I've Grown Accustomed To Her Face, Bei Mir Bist Du Schon

Louis Prima, Keely Smith

BEL CANTO ST/70

\$6.95 ... 30 mins.

Some of you may like Louis and Keely—all well and good, go out and buy this tape. Personally, while I can stomach Keely's singing, Louis gravel-throated noises, plus the frenzied arrangements of most of these selections leaves me stone cold.

The box label says this album is a gasser and it is right. I wanted to take gas as soon as I heard it.

Bel Canto's tapes have a whiz-bang fidelity—come on fellas, use this know-how on some good sound.

### POPULAR—LATIN



Music ★★  
Performance ★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★



## PRIMITIVA

Burma Train, Kalua, Buddhist Bells, M'Bira, Flamingo, Llama Serenade, Akaka Falls, Bangkok Cockfight, Mau Mau, Dites Moi, Jamaica Farewell

Martin Denny

BEL CANTO (LIBERTY) 7023

4 track, 7½ ips

\$7.95 . . . 30 mins.

I guess the word for any Martin Denny tape is *offbeat*—way off. With all the bird calls, etc. you feel like you're in the middle of the jungle with a tribe of head hunters around you planning the day's menu.

These fellows use many authentic foreign instruments, as well as some dime store musical instruments. Frankly, to me it sounds just like that.

It must be most entertaining to watch them perform. From the sound you would think each man in the group had eight hands, each one playing something (anything) different.

Some of the sound effects strike me as being a little too sound effectish. Others fit in perfectly. These tapes are hard to give an opinion on. At times I feel like I've heard little better and at other times I feel like turning the volume to its minimum level. I think whether you get this tape or not depends on your own individual taste.

The stereo effect here is striking and fidelity is the best.



- Music ★★
- Performance ★★★
- Fidelity ★★★
- Stereo Effect ★★★

## BEAT TROPICALE

Latin Rhythms: Inspiracion, La Cumparsa, Cactus Polka, Cha-Cha-Cha Flamenco, Jungle Flute

Savage Drum Fantasy: Watusi A.P.B., Masai Rumble, Tumbatu Tintintambula, Tombs of Cameroon, Bantu Bounce, Kikuyu Strut, Mombassa Bombilation, Nairobi Mambo, Ubangi Boom, Breezy Zambezi, Specter of the Zulu Goddess, Sumbawanga Rattatto, Indian Chants

Jose Bethancourt and His Orchestra

Richard Campbell & Harry H. Coon

CONCERTAPES 4T-3009

4 track, 7½ ips

\$6.95 . . . 28 mins.

Couldn't help thinking about the late Carmen Miranda when we listened to the Latin rhythms on the first half of this tape. Swaying hips and fast-stepping, well-heeled feet are all included in the memory.

Jose Bethancourt has made his marimba playing and his inimitable styling popular throughout America. The unusual rhythmic sounds produced here give you that wiggly urge.

Did we say wiggly—man wait till you hear the second side of this release. You just want to move. There is something about drums that is magnetic. After a bit, the throbbing seems to jar your whole head and insides.

Robert C. Snyder

uses of tape recorders which involve either new concepts of educational technique or development of new ways of getting effective use of recorders at lowered costs which can put use of tape recorders within the reach of smaller and less prosperous school systems.

Another area of particular interest to me that I would appreciate hearing about is utilization of the self-learning opportunities inherent in the tape recorder to permit gifted students to do advanced and accelerated work even in small schools which lack teachers for the advanced or specialized courses.

What are YOU doing in these areas? Please let us hear from you if you have an interesting program or idea. We will be glad to serve as an exchange forum for constructive ideas in these fields.

Dr. Dale D. Drum, Assistant Professor of Speech, Long Beach State College, Long Beach, California, has written to comment on our column in the January issue about speech compression techniques as a method of speeding up aural transmission of information.

In a report on the Fairbanks speech compression machine we suggested further opportunities for speeded aural communication if many of the articles, prepositions, helping verbs, and other words of lesser importance were omitted from the material to be recorded before recording and speech compression were carried out.

Dr. Drum cited the apparent failure or, at least, lack of interest in a *written* system of "notehand" used by Dr. Fran Cartier when editor of *The Journal of Communication*.

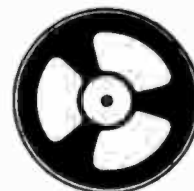
In reply I would like to reiterate that I was dealing with a shortening of *spoken* communication, not *written* communication. Fast readers can read more than 500 words per minute. But in normal speech, 200 words per minute would seem to be reaching the limit of sustained intelligible speech. The reason the written "notehand" does not seem to increase speed of reading may be that it only shortens the written length of the words without increasing the relative rate of flow of information.

In speech, however, omitting unessential words can indeed speed up communication. I have used this system many times in conveying the *sense* of written material at a highly accelerated rate over the telephone. Omission of *unnecessary detail* in itself, of course, automatically speeds information flow whether written or spoken.

If the mind can take in the *sense* of 500 words per minute or more through the eyes, then perhaps aural reception could be speeded to near the same level if shorter acceptable aural forms could be devised to convey the same *sense*.

In any case, we hope to have some interesting new information on the Fairbanks speech compression machine and technique for you in time for next month's column.

# Magna Cine TAPES FINE SOUND SOUND DS e



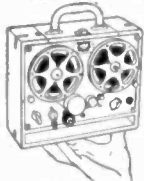
Magna-Cine, world leaders in pre-recorded tape, justifies its leadership by offering you now the best on tapes at the price of most stereo LP records, \$5.98. Absolute tonal clarity over the entire audio spectrum guarantees a truly fine sound. All Magna-Cine tapes have ultra dimensional response . . . and you can hear it.

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3619 Crenshaw Blvd., Los Angeles, Calif.

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## Record Anything, Anywhere with "The Magnemite"



Battery-operated, spring-motor tape recorder designed for professional field use. Assures complete independence from AC power. Meets National Association of Radio and Television Broadcasters standards. 60 Models available.

Write for free literature and direct factory prices to Dept. HF:

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## HI-FI SOUND EFFECTS

Newest sounds — airplanes — DC8 — Electra prop-jet — Boeing 707 — Air Force F-104 Starfighter — Regulus X — missile launching — carrier sounds — also autos — music — trains — household — industry. More than 13 classifications; over 1500 real-life sound effects. See your dealer or send 25c for 2 catalogs containing more than 250 record listings.

MP-TV SERVICES, 7000-K Santa Monica Blvd., Hollywood, Calif.

## TAPE RECORDERS



### HI-FI COMPONENTS SLEEP LEARN KITS

**MERITAPE** Unusual Values  
Low cost, high quality recording tape. In boxes of cans. **FREE** 1960 CATALOG

DRESSNER, 69-02 AA, 174 St., Flushing 65, N. Y.

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We will be happy to send  
a FREE sample copy of

### TAPE RECORDING Magazine

to two fellow recording friends of yours  
if you will just send us the names on a  
postcard or use the coupon below.

TAPE RECORDING  
Severna Park, Md.

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Name .....

Address .....

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

Your Name .....

Address .....

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

## NEW PRODUCTS

### "BUILDING BLOCK" RECORDER



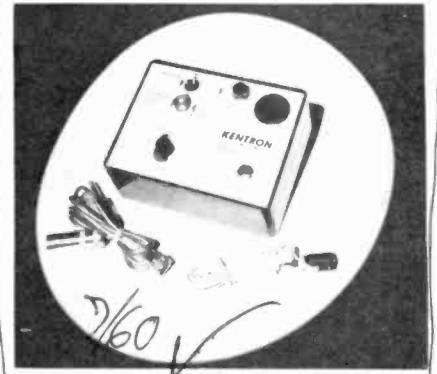
The Telectrosonic Corporation, 35-16 37th Street, Long Island City 1, N. Y., has introduced a new line of tape recorder equipment which permits fans to build their own sound system through a "building block" process. The new equipment consists of tape decks and preamplifiers. Incorporated in the line are five different tape decks, ranging in price from \$89.95 to \$139. These differ in their magnetic components. The preamplifier line has a price range of \$29 to \$124.95. The equipment can be broadened by the addition of various components. Contact the company for details.

### MESSAGE REPEATER



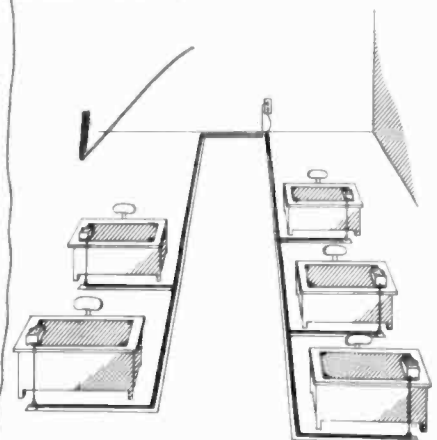
Mohawk Business Machines Corp., 944 Halsey Street, Brooklyn 33, N. Y. is marketing the "Message Repeater," which is a small, compact, 6 inch by 6 inch magnetic tape recorder containing both recording and playback mechanisms, together with its own speaker. The unit stops and starts automatically, activated by its own switch, through contact point accessories, such as a rubber foot mat, a rubber hose, a photo cell, "electric eye", or timer. By attaching a microphone, a message can be recorded on the spot and played back immediately. A removable cartridge which can be inserted or removed at the press of a button is used. The cost is \$159.95. Contact Mohawk for additional information.

### KENTRON TAPE SYNCHRONIZER



Kentron Hawaii Ltd., 1140 Waimanu Street, Honolulu 14, Hawaii, is marketing the new Kentron Tape Synchronizer. This device is a battery operated, transistorized instrument for producing completely synchronized audio-visual programs. The electrical connectors are of the type that can be used on more than half of the various slide projectors in use or now on the market. When used with any tape recorder having input and output jacks, this synchronizer will control by means of an almost inaudible tone signal the slide-changing mechanism of an electrically-actuated magazine slide projector. It is powered by a self-contained 9-volt transistor battery, which will provide in excess of 250,000 slide changes. It is priced at \$64.95. If interested, contact manufacturer.

### ELECTRIDUCT



Electriduct Division of Ideas, Inc., 214 Ivinson Avenue, Laramie, Wyoming, is marketing over-the-floor wiring. If you submit a sketch showing where outlets are needed, this manufacturer will build a complete "Custom Electriduct" wiring system ready for you to place on the floor and plug into a wall outlet. Electriduct is flat, rubber encased wiring, which hugs the floor, is stumble-proof, and equipment on casters rolls over it easily. Straight standard lengths of this "ready to plug in" extension cord are available in 4, 5, 6 and 10 foot lengths. Literature may be obtained by writing manufacturer.

**NEW COMBINATION**



760  
 The Distributor's Group, Inc., 204 Fourteenth St., N.W., Atlanta 13, Ga., is now marketing its standard Fil Magic Pylon automatic silicone lubricator and sleeves in a new combination kit which includes "Long Life" tape conditioning and head cleaner fluids which were formerly put out by Electrical Chemical Specialty Co. of St. Paul. The two companies have combined their products into this one handy Fil Magic—Long Life Tape Maintenance kit which sells for \$3.45. The tape conditioner and cleaner fluids are also now available in several sizes. Write above address for details.

**TANBERG SERIES 6**



Tandberg of America, Inc., 8 Third Avenue, Pelham, N. Y., is marketing its new Series 6, 4 track, stereo tape deck. It has three speeds—17 7/8, 3 3/4 and 7 1/2 ips. The unit incorporates push button control for full four track stereo or monaural record and reproduction, no-slug, no-click start-stop, pause control, remote control, sound-on-sound, direct monitor from tape or source, echo effects and add a track. Frequency response at the fastest speed is 30 to 20,000 cps and wow and flutter is .1% RMS. This machine incorporates the use of a fine quality hysteresis synchronous drive motor, military type printed circuitry for reliability and low maintenance, low noise precision resistors and hermetically sealed tolerance capacitors. Four separate preamplifiers are built into this machine and the three specially designed heads are precisely gapped for more effective recording. It is priced at \$498—carrying case is \$24.50 extra. Contact manufacturer for all details.

**WEBCOR EDUCATOR**



Webcor, Inc., 5610 W. Bloomingdale Ave., Chicago, Ill., has introduced its model 2151 recorder known as The Educator. This machine features dual-channel, listen-repeat whereby you can hear one channel while recording on another which is perfect for teaching purposes. There is also an integrated intercommunication system with which an instructor can monitor a student's progress, and the student may signal for the instructor's attention with the intercom signal button. It also has a headphone volume control and on-off switch, stop-record-play control, record safety lock, record indicator, single threading slot and automatic shut-off. Frequency response is 70-7000 cycles, wow and flutter approximately 0.3% at 3 3/4 ips, signal to noise ratio 50 db, and the motor is four pole—electronically balanced. For complete information and price, write to the Audio Teaching Aids Dept. of Webcor.

**FOR SUPERB SOUNDS BUY**



**MAGNA CINE TAPES \$5.98**

**YOUR TAPES NEED FILMAGIC!**

FilMagic Pylon silicone applicators (Patented) with NEW Long Life Conditioning & Cleaner fluids make tapes play better, eliminate squeals, "wows". Clean heads last longer, too! COMPLETE Kit (either pylon) sleeves, 2 bottles (Long Life Conditioner and Head-Capstan Cleaner) \$3.45 Postpaid U.S.A. Guaranteed.

The Distributor's Group, Inc. 204-14th St., N.W. Atlanta 13, Ga.

**TIME FOR A CHANGE?**

If you will shortly be changing your address, please let us know at least three weeks in advance, so you will not miss an issue.

TAPE RECORDING, Severna Park, Md.

**WORLD FAMOUS**  
**MOHAWK MIDGETAPE PROFESSIONAL 500**  
**BROADCAST QUALITY**  
**POCKET TAPE RECORDER**

NO ELECTRICITY REQUIRED

OPERATES ON ONLY 1 BATTERY

Used by NBC-CBS and numerous other radio and TV stations, for recording in the field.

This amazing 3 lb. hi-fi American-made midget recorder instantly records any music, conversation or other sound and plays it right back in rich, broadcast quality.

MIDGETAPE has been successfully used in the ARCTIC... in the JUNGLE... in OUTER SPACE... UNDERWATER... EVERYWHERE MAN HAS GONE. It's rugged... it's dependable.

- Special built-in "VU Meter" for distortion control.
- Automatic, cartridge-loaded tape.
- "Science Fiction" accessories for secret recordings now available.
- Makes priceless sound movies.

Take MIDGETAPE to operas... concerts... lectures... and record from wherever you sit.

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# HOW'S YOUR HEARING?

## Tapebook #2

by James M. Laing, M.Ed.

Are You Getting The Most Out of Your HI-FI or Stereo?

Can You Understand Speakers? Hear Lyrics Plainly?

Protected hearing is the key to your listening enjoyment.

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

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

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

Test your hearing . . . and be sure!

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

### TAPE CONTAINS

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

33 ton pairs to test musical discrimination

75 word pairs to test speech discrimination

Full 7" 7½ IPS  
dual track reel  
full direction booklet  
Only \$9.95

Postpaid

ASK YOUR DEALER  
OR USE COUPON BELOW

TAPEBOOK DEPT.  
Mooney-Rowan Publications  
Severna Park, Md.

Please send me . . . . . copies of TAPE-BOOK #2. I enclose \$ . . . . .

Please bill me later . . . . .

Name . . . . .

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

# TAPE CLUB NEWS

## Family Participation

Catholic Tape Recorders, International has noted that tape recording exchange has been a wonderful means toward active family participation. What with the overwhelming popularity of television today, our minds and bodies are becoming sluggish and dull. Tape recording, however, calls for active attention and participation and is a means of strengthening family unity.

## Soviet Tape Friend

Ray Conder, of the Australian Tape Recorders Association, has recently acquired a taperespondent in Moscow. Ray's Soviet friend speaks perfect English and at present Ray is awaiting a copy of the Russian National Anthem from him.

Perhaps if more of us could obtain tape friends behind the Iron Curtain we could promote a bit of better understanding between peoples, which is so badly needed throughout the world today.

## Italian Hospitality

Dr. Giordano Motta, director of the Press Office of Radio and Television in Milan, is an honorary member of World Tap Pals—Italian Section as a result of his contribution to expansion of WTP in Italy through radio, TV and newspaper publicity. He and his wife would be very happy to extend hospitality to an American girl (not younger than 18 years of age) for several months. His address is: Dr. Giordano Motta, Via Nazario Sauro 11, Milano.

## Tour-O-Ruban

The Bilingual Recording Club of Canada, informs us that in French Canada the Round Robin tape is called Tour-O-Ruban (turn of the ribbon).

The club also reminds us that any American brothers who want to learn to speak the French language will find no better way than by tapesponding with a bilingual French-English member of this club. Most members speak both languages with equal ease.

## British Sound Magazine

In addition to receiving copies of the Club's regular printed publication the British members of The Voicespondence Club also subscribe to an interesting sound magazine on tape called "Voices in the Post." The sound magazine includes short talks, articles, and demonstrations in sound and in recording technique by members of the Club, and a number of copies are distributed to subscribers. These subscribers may add their comments and contributions to some blank space left on each tape. Lee Lacy of London, the Club's English Special Deputy, is editor and producer.

## Loses Membership Card

Recently Voicespondence Club member Hooper Phillips of Knoxville, Tennessee, lost his wallet. Naturally the loss of the \$30 that was in it hurt him a little. But when he reported the loss to Club headquarters he didn't seem nearly as concerned over the money as he did over his VS membership card. Of course a new one was sent him right away, and so now Hooper has a nice new wallet with a nice new VS card in it—even if it's a little bare otherwise.

## Let's Hear From You

We are interested in hearing from any and all small, locally formed, tape recorder clubs throughout the U. S. and of their various activities; and, we would be happy to publish items concerning them in this column.

It is our belief that numerous clubs of this type do exist. Perhaps they could better be termed "friendly gatherings" rather than "clubs" in the sense that they do not have correspondence by tape, or regular officers, or dues, or bulletins, but (and this is what we are interested in) every "member" has one thing in common. They all are tape recording hobbyists. They are creative folks who practice what they hear and read of the limitless possibilities tape recording affords.

To these people, tape recorders are a source of constant pleasure and interest. Their usefulness is never shelved.

So let's hear about your group gatherings and the recording abilities they possess, both as a whole and individually.

## JOIN A CLUB

AMERICAN TAPE EXCHANGE  
Stuart Crowner, Secretary  
181 E. Main St.  
Gouverneur, N. Y.

BILINGUAL RECORDING CLUB OF CANADA  
Rene Fontaine, Secretary  
1657 Gifford St.  
Montreal 34, P. Que. Canada

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

CLUB DU RUBAN SONORE  
J. A. Freddy Masson, Secretary  
Grosse Ile, Cte, Montmagny,  
P. Que., Canada

ORGAN MUSIC ENTHUSIASTS  
Carl Williams, Secretary  
152 Clizbe Avenue  
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

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

## FOREIGN

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

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

THE NEW ZEALAND  
TAPE RECORDING CLUB  
Murray J. Spiers, Hon. Secretary  
39 Ponsonby Road  
Auckland, W.I., New Zealand

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



# QUESTIONS AND ANSWERS

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

## Short Circuits

**Q**—My recorder seems to short circuit now and then. It does not blow a fuse but you can get an electric shock. If you have any suggestions to correct this I would appreciate them.—A. L., Philadelphia, Pa.

**A**—The usual answer is that somewhere in the recorder there is a wire or contact which is grounded to the chassis. The only way to find out the cause is to examine the machine thoroughly, especially the operating switches to determine if anything is grounded. If you do not feel capable of making this examination yourself, any reliable serviceman should be able to locate the trouble at nominal cost. The dealer from whom you purchased the machine may be able to help in this respect.

## Tape Of The Month?

**Q**—I would like to know if there is a company or concern that has a program called "Tape of the Month Club" based on the record of the month club idea.—J. J., Brooklyn, N. Y.

**A**—At the present time we know of no tape club operating as do the record clubs. There was one some years ago but it went out of business.

## Copying

**Q**—This may sound like a foolish question but I would like to know if it is possible to copy portions of a recorded tape onto a blank tape by using two tape recorders. What is the correct way to do this with a monaural recording and two-half-track recorders?

I now have a stereo playback recorder and was wondering if it would not be more advantageous to purchase a good, used monaural recorder to use as the second channel amplifier.

Would like to have the manufacturer's name who makes a plug-in VU meter.—J. H. S., Palatka, Fla.

**A**—All you need to do to copy a tape is connect a cord from the external speaker outlet of the playing recorder to the radio/ phono input of the receiving recorder. It is also possible to make the connection from the external amplifier jack to the microphone input. If hum is present, try reversing the line plugs and use the same outlet for both machines.

Plug in VU meters may be obtained from Lafayette Radio, 165-08 Liberty Ave., Jamaica 33, N. Y.

## Recording Birds Problems

**Q**—My recorder, for bird recording, has a built in transformer. I use a low-impedance dynamic microphone.

The tapes are usually standard, of the acetate variety.

There is always so much hum and other crackling noise and with the volume up there is too much extraneous noise to be acceptable at any time.

Master-taped on an Ampex and used on a radio station, some of the songs sounded well but played back on my machine at 15 ips, the highest notes lose tone entirely, become a plain noise and low notes are lacking in natural quality.

The question of tape quality is bothering me because of the difference in price being rather wide. What is the difference in sound results, editing and lasting problems? Can I splice thin Mylar and my thicker standard tapes without loss?—H. M. S. B., Victoria, B. C.

**A**—First we would suggest that you clean the heads and make sure that they are free from foreign matter and oxide particles. Check the pressure pads and renew them if necessary. Demagnetize them also.

If this fails to cure the trouble then check the tubes. Examine all leads and connections, wiggle them with the recorder running to see if they are the cause of the crackling noise. If they are, either replace the cords or renew the connections, as necessary.

The other cause of crackling is static electricity generated as the tape rubs against the guides and heads. While the tape is running, rest your finger against the tape and "ground" it on the recorder. If this stops the crackle, the difficulty probably is static. You might then treat the tape with one of the commercially available tape solutions, such as Long Life tape conditioner.

Inasmuch as the tapes used by the radio station were satisfactory, it seems logical to assume that the difficulties are in your recorder.

It has been our experience that the best results on making recordings of bird calls were obtained by using a parabolic microphone reflector to pick up the sound or by wiring the microphone to a post or branch near one of the bird's favorite singing spots. To attempt to make a pickup in ordinary fashion means that the volume has to be turned up so high that amplifier noise and hiss is recorded along with the calls. If you can make a closer pickup or use the reflector your results should improve.

As we have mentioned many times in these columns, the use of a first grade tape is always advisable. You can count on rather consistent quality from the widely advertised standard brands.

You can splice the thinner tapes to the thick ones without loss and you can splice Mylar to acetate and vice versa using regular splicing tape.

Mylar tape is the best for lasting since it is unaffected by heat or changes in humidity. However, acetate tapes will last for years and years with proper care.



## RECORD & PLAY WHILE AWAY...

WITH **terado** POWER CONVERTERS  
PROVIDE HOME ELECTRICITY FROM THE STORAGE BATTERY

Now you can record or play your tapes anywhere . . . in car, boat or plane. Terado Converters change the 6 or 12 volt battery current to 110 volt, 60 cycle A.C., making your recorder and other electronic equipment truly portable. Models from 35 to 200 watts, all filtered for radios and tape recorders. List prices start at \$23.95.

See Your Electronics Parts Dealer, or Write:

**terado** COMPANY  
1063 RAYMOND AVE.  
ST. PAUL 8, MINNESOTA  
In Canada: ATLAS RADIO CORPORATION LTD., Toronto

## FOR COMPLETE ERASURE



ROBINS NEW MAGNETIC BULK TAPE ERASER (ME-99)  
U. L. Approved List \$33.00

Be assured of greatly improved recordings by removing completely recorded and unwanted signals.

Engineered to professional broadcast recording standards, Robins ME-99 provides superior demagnetizing of tape by reducing the background noise levels of tapes from 3 to 6 db below normal erase head levels.

Makes old tapes with accumulated background noises perform like new.

Easy to operate, it can demagnetize tape up to 1/2" wide and reels up to 10 1/2" in diam. in a matter of moments. Operates 110-120 volts cycle AC.

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

FOR SUPERB  
SOUNDS BUY



MAGNA CINE  
TAPES \$5.98

## HISTORY-IN-SOUND

COLLECTOR'S ITEM

ONLY \$1.00

in an envelope, plus your name and address will bring you

### THE EARTH SATELLITE

This historic, 45 RPM record will become increasingly valuable as the years pass. Every person, school or library should have a copy of this history-in-sound of man's breakthrough into space.

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## FEEDBACK

Excerpts from readers' letters will be used in this column.

Address all correspondence to: The Editor: TAPE RECORDING, Severna Park, Maryland

### Recorded Tape Excess

To the Editor:

For the past year or two I have been tempted to write you or several of the recording companies regarding a fairly common gripe or complaint that is shared by many real and implied music lovers. Like many persons in my profession, I don't find the time. However, with my renewal notice staring me in the face, I figure this is the time, it's either now or never.

First of all, I would like to justify what I have to say by stating that quite a few of my church members are hi-fi or tape recorder fans who do like good music. Of course right about here we start to show some definite signs of likes and dislikes. Why, will you tell me, must we be forced to buy the so-called package deal on a roll of tape or on a pressing which usually has about one-half or one-third of what we really want? This has been about one of the biggest drawbacks to sales of good hi-fi tapes and recordings. Surely the recording companies are trying to break their necks in advertising and using every other gimmick to increase their sales, but they either are ignoring or overlooking the fact that dear old Joe Doakes or John Q. Public has some idea of what he wants. Probably some kind of a poll would be of help, to find out what the public really wants.

Several of our people as well as myself are stopped short and we begin to balk when we wake up to the fact that we are being taken, or at least feel we are. So we buy a fine tape recorder, stereo by all means, only to find that many recording companies want to show us their abilities in being able to reproduce the thunderous crescendo which makes us take a violent dive for the volume control and then drops down to such a quiet whisper that we have to look and see if the thing shut itself off. Sure, we don't want a steady monotonous sound that has no feeling either, but how about leveling off somewhere within reason. The day of trying to show off the latitude our tape and recorder can cover is past for most of us who have settled the question of variable sound, volume and tone. Such recording is still needed in the sales-room, but when we settle down in our living rooms with our friends, we want some smooth, somewhat variable, but very definitely music that covers certain moods or which can create pleasant moods. I believe recordings ought to be made to fit the various types of personality needs. Certain persons like opera, very heavy, others like it very light. Some like sentimental music, perhaps the sympathetic tear-jerking kind, while others like music to stir love. Some want jazz, others boogey woogey and others like the folksy or hill-billy stuff, while still others want classical music. By now, the recording companies ought to realize that there are enough people in all these categories who will buy just about anything. Why not let the buyer get what he wants?

I believe most recording companies are overlooking the fact that many of us band together by sharing the expense of several recorded tapes or pressings and then settle for a second-rate, home-made recording of the music we most like or want. This should not be necessary at all. With two track stereo one could at least edit his tape by cutting out those numbers that are objectionable, but now with four track we find ourselves stuck with a need for another method. So now we must copy what we want either from a recorded tape or phono record. With this method you can't help but lose much of the real fidelity and you find yourself settling for second-rate reproduction. One can hardly overlook the overly high cost of this kind of package-buying which is taking advantage of Mr. Public. This also makes the operation of hi-fi financially prohibitive for the average income family. Take for example, one of our people is financially not too bad off, actually owns a small industry of his own. He purchased a fine hi-fi set and has switched to using second-rate and third-rate disks. On asking him why, he says, "Who can afford to buy records at a high price when only one-third of the numbers on a platter are usable and enjoyable."

Here I believe is where a magazine like yours can really do a worthwhile job. I am sure you might stimulate some of these recording companies into some progressive avenue that might give Mr. Public what he really wants for his money. Take myself as an example. I lean to good pipe organ music. Don't be misled, I am not stuck to church music only, by no means because I am a clergyman. I do like good music. So I buy Mercury's "Boardwalk Pipes" with Robert Elmore at the organ. The man is certainly an artist on the organ, but what do the Mercury people give us that's worth keeping. Three numbers in all, "Stars In My Eyes," "Liebesfreud" and "Old Refrain." Or get some of George Wright's organ music. Out of three recorded reels I have one and one-half reels of enjoyable music. Going back to Robert Elmore, check to latitude of the volume rising up to an almost violent crescendo to a lowly whisper. Somewhere in here they ought to find a happy medium. The same is true with Bel Canto's "Around the World in 80 Days." This kind of violent surge might be necessary while watching a movie to give the right psychological effect, but what about your living room? How about awakening the manufacturer to the fact that he is missing many a good sale and the public feels just a bit dubious about throwing away their hard earned dollar.

Whether something can be done about this situation or just what the hidden purpose is for the present method I don't know. But I think something will have to be done to motivate the kind of buying the recording companies are hoping for. We can take a lesson from the razor blade manufacturers,

I am sure. They sell such a seemingly inexpensive item and their sales run into millions. Conversely, I believe we humans would spend more spare dollars if we could buy just the number we want and by the artist we want, when we have a loose dollar bothering us. We could keep building up our own reels and have the music that fits our personality. Since we usually gather friends with interests fairly similar to ours we might be able to enjoy more music together. Now you can throw this lengthy dissertation in the wastebasket if you like. I feel much better even though this has been a one-sided bull session. I could say much more, but this should give you something to play with and think about. How about getting your opinion and maybe some action?—F. Lorenz Lamping.

#### Beat the Heat

To the Editor:

I am a subscriber to your wonderful magazine and taping is one of my hobbies. I started about January 1960 and it is a good hobby. I have two recorders, a Pentron TR-20 and a Webcor 2007. I have a little tip that might help new owners of the Webcor 2007 that has a metal edit key for editing. When the Webcor 2007 is new, the metal edit key gets quite hot and it is very uncomfortable to hold with your fingers. I have a simple solution for this. Go to any Ford Motor Company car agency and buy one of the two following long shanked knobs. B9A-17513-A—this is a white knob and almost matches the other knobs on the recorder, or B7A-17512-A, this knob is jet black in color and is identical with the other one. When you get the knob, just slip over the edit key and tighten the set screw down tight. You will be surprised how much better you can hold and handle the edit key after you put this knob on. This knob can be used on other Webcor models provided they have similar edit keys. I hope you print this in one of your next issues as I know a lot of tape fans will be grateful for this idea. It helped me out 100%.—J. F. Telatko, Jr., Cleveland, Ohio.

We're sure other Webcor owners will appreciate this tip and thanks for passing it along.

#### Tape too Costly?

To the Editor:

I recently picked up the November issue of TAPE RECORDING Magazine and read a letter to Feedback by Mr. John Schmidt of Oakland, Cal. I am quite unhappy, to say the least, over his campaign to "Help Stamp Out Phonographs". It's ridiculous, of course, but I feel I must argue.

First of all I agree that there is nothing like tape. It is scratch free and indestructible BUT—

In order for me to buy a decent recorder I must spend above \$300, preferably more. I have many records that I would put on tape, some of them stereo, which means I need a stereo record/playback machine.

I just bought a stereo tape, on sale, for \$3.69 to play on Dad's machine. This tape lists for \$7.95 and if there is 600 feet on it I will eat every foot over the 600.

I have a fairly good job, but I don't make eight or ten thousand a year. Maybe you can supply the average family man who

enjoys some of the finer things in life with a solution. The cost is definitely prohibitive.—A. Anspacher, Catskill, N. Y.

*If you are going to use a recorder simply for the playback of musical tapes then we'll admit that it is rather more expensive than discs. But don't forget a recorder has many plus values—being able to record, which a phonograph cannot do, being the biggest. This one feature, by recording music off the air, can quickly save many dollars.*

*Incidentally, United Stereo Tapes has just announced the release of four tapes, full length, which will sell for \$4.95. As we have mentioned before, we have nothing against the monaural disc, it is tried and proven but unless the engineers can come up with some way to preserve the life of a stereo disc, we feel it is doomed. Dr. Peter Goldmark, the man responsible for the development of the LP record said publicly that after six or eight plays the stereo disc deteriorates rapidly. We would call the purchase of disc poor economy. While the first cost of tape may be higher, the long run cost is lower. . . . if you're interested in quality.*

Mike Quality

To the Editor:

The time has come! I've kept quiet long enough on such matters as this! I've never said anything about those silly "how-to-do-it" articles that show "recordings" being made with a \$1.98 crystal mike held a foot from the tape recorder, which usually is a budget priced job that any fool knows has a noisy tape transport. I just figured that I was an oddball, being picky about hum and background noise.

I didn't even say anything when I saw the cover photo on the April '57 TAPE RECORDING which showed a storage battery connected with thin little wires to (according to the text) a vibrator type converter which fed 80 watts to a Revere T-1100. In spite of the obvious expense of his safari to Cucuchucu, Michoacan, the intrepid explorers were apparently willing to trust the quality of the recording to the ubiquitous \$1.98 mike, hand held! I'll bet that came home with a peachy "wow" in the recording, using that teenie battery wire.

I didn't even write a complaining letter (which I should have done) about what I thought was a very condescending attitude toward Mexicans. (Reminiscent of "But some of my best friends are—").

However, being interested in keeping my recording equipment neat and clean at all times, I would like to ask you a question. Tell me . . . what does the young man with Maryland license plate EC-22-36 use to clean the condensed vapor, carbon and smog in general from his recorder after he finishes recording the sound of his motor? (Cover of April '60 TR).—Al Woodbury, Los Angeles, Cal.

*Dick Mollman the young man on the cover, keeps his Fiat so finely tuned that the exhaust is like a baby's breath (one that has drunk a little gas). A contact mike was actually held about four inches from the exhaust in making some of the recordings and there wasn't a single hydrocarbon on it. We agree that everyone should use adequate wiring and the best mike he can afford.*

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# Be Productive

... create your

Editing consumes the major portion of the time devoted to production making. As you listen to the production a few times, it is well to keep written references to what you wish eliminated. When cutting, however, care must be exercised that you do not cut off a portion of the ending or beginning of a word.

**S**EVERAL months ago, while thumbing through a magazine, I saw an announcement for an international amateur tape recording contest. I sent for the entry blanks, and, when they came, filled them out and submitted my tape. Several weeks later I received an excited and exciting letter from a friend in London who informed me that I had won the first prize in the composition class. At first I thought that it was a gag, but a follow up contained a magazine cutting, giving the official results, and, to crown my joy, a taped copy of a BBC broadcast with my composition, titled simply, "Contact Microphone".

A contact microphone, as you have learned from the pages of Tape Recording magazine, is a device that picks up mechanical vibrations. When placed in physical con-

tact with a vibrating object, it will pick up sounds not audible to the "naked ear". When attached to a stringed instrument, long after the ear has ceased to hear the twanging, the microphone will continue to pick up the diminishing oscillations. If you connect it to the input of a tape recorder, a permanent sound track will result, to be studied, enjoyed and shared.

I received one of these sensitive gadgets for a Christmas present and explored its potentialities, touching the microphone to my banjo, a squeaking door, clocks, electric motors and even the valve of the toilet flush. Nothing was safe from my probing investigations, until, one mad day, when a sudden entrancing idea came to my head; doctors employ an electronic stethoscope to study the sound of the



You can never be sure when and where unexpected, "worth-saving," sounds will turn up, so when possible it is good to be prepared. Portables, such as the Fi-Cord, are great for sound hunting. Phone calls can turn up a wealth of usable material for your production tape.



# Onwise

by Kenneth Miller

Photographs by the author

own taped programs.



Sound mixing and sound creating using three recorders can make you wish you were kin to an octopus. Left to right here the author is using a Wollensak, Revox, and Revere. It looks confusing, and is confusing, but the finished product, the enjoyment of creating and the satisfaction make it all worthwhile.

heart—that is common knowledge. Why not amplify the sounds of the other parts of the body? What wonderful secrets would be revealed! A revolutionary technique in the diagnosis of ailments!

Feverishly and with trembling fingers, I connected the tiny mike to my recorder. All controls were in the ready position, virgin tape loaded and threaded into the take up reel. I turned the gain control on monitor to full, depressed the key to start, took a deep breath as I pushed the microphone to the spot where my heart beat the strongest. Half fearing a loud thumping from the speakers, half dreading stumbling over an unknown and forbidden threshold of knowledge, I stood there waiting for the sound of my heart.

But all I heard was silence. Oh, you can hear silence. You can taste defeat. It dawned on me that my equipment lacked sensitivity; my amplifiers, ample output.

Well, supposing that I *did* have the proper apparatus—I could go through with the experiments. But I didn't and I couldn't. With the help of my tape recorder and sounds from my library and some newly fabricated ones, I could "make believe". I would follow through with narration and real sounds disguised by slowing down, speeding up, adding echo and continuous loops, boosting or reducing treble and bass. This was how the prize winning composition was conceived.

I said conceived, because it was yet unborn. That takes time. The building of a composition—a production—takes time. It takes thinking out. It must have a basic idea, a beginning a middle and an ending.

As a photographer, I have frequently shuffled through a sheaf of dogeared prints made by an aspirant, who pleaded lack of time and proper equipment. On other occasions, I have been shown just one photograph, skill-

fully dodged and printed, presenting an idea, and I have glowed with pleasure. It's the same with a tape recording: instead of a collection of disjointed bits and pieces, snatches of unrelated music and a generous sprinkling of clicks, one can make up a handsomely mounted production to one's friends.

A finished production will demonstrate your skill with a recorder. A recorder is a tool and taking advantage and employing its possibilities is the mark of your ability. If you can accept the recorder as a tool, take one step further and regard it as a creative tool. Several years ago, a manufacturer issued a brochure enumerating 1002 uses for the recorder, and if all you can think of is perpetuating baby's first burp and pirating music off the radio, you still have a thousand ways of making use of your equipment before spreading yourself too thin. Let's try a new one—making productions.

A production is all-embracing: it may be a play or a skit, an expose, narration or "how-to-do-it"; a recitation, a travelogue or a description of your home town or family life. Behind it all, there must be a basic idea—a subject. This subject is enhanced by sound effects and by music. The ingredients must be carefully balanced. As a trial formula, I would select narration 7, sound effects 2, music 1. Depending on the format and topic, the formula may vary, but I have learned from experience that you can over supply sound effects (you should always leave the listener wanting more.) Long passages of music will make the listener restless. It should be employed sparingly and then only as a "bridge"—a transition from one scene to another or to denote a passage of time or distance. Music may be also employed as an introduction or to establish a mood.

As far as sound effects are concerned, the more said,



The writer's equipment. Left to right: Hammarlund super-pro shortwave receiver; on top of that, the speaker, a Panadaptor (to examine the incoming signal visually) and a directional FM antenna; the Telefunken FM-AM receiver; the Fi-Cord transistorized recorder; the Wollensak atop the Revere; the Revox with 10" reels and built-in fader-mixer.

the better. Sounds can make a production, or leave it wanting. They should be of good quality, original if possible and rare. The building of a sound library may be effortless or difficult, depending on how you acquire it. Some people buy a library on tape or records, others edit them out of radio and TV programs; some swap and others go in for the homemade variety. Too many magazine articles have been printed about the use of two coconut shells for the sound of a horse's hoofs, or pouring rice on wax paper to simulate rain. There is a virgin field left to produce sounds electronically with howls, squeals, beeps and percussion as the raw material; continuous loops, tapes perforated at intervals with a 1/8" leather punch, braking the feed reel with the fingers to produce variable speed, stretching a segment of Mylar beyond its normal length. For "out of this world" noises, I have cut fragments from rock and roll music (?) which is usually crawling with gimmicks, echoes and peculiar effects.

If you want to buy sounds not easily available to you, send for a catalogue. You will find the items listed exciting and stimulating. The audible field is well covered and they are fairly priced, and range from African lions to zooming planes.

For sound on disc, write:

Thos. J. Valentino Inc.,  
150 W. 46 St., New York 36 N. Y.

The cover of the catalogue boasts—"From a cat's meow to a lion's roar . . . a pistol shot to a world war."

For sound on tape, write:

Delco Productions  
Box 140, Grand Island, Nebraska.

Delco doesn't hand out any poetry, but the guy that writes the descriptive material in florid prose is so persuasive, that it won't be long before you unlimber your checkbook.

The basic structure of any production is the idea and its subsequent expansion and development. It needn't be world shaking or soul searing. After all, a great deal of the world's literature has been founded on the theme of "boy meets girl". Your daily newspaper is rich in stories that can be dramatized. Perhaps "something funny happened to me today" will strike pay dirt. A personal experience (or that of a friend) that is off-beat. The subject

may be arrived at after much skull scratching or spontaneously. If possible, try to have a twister at the finish—a surprise ending. What may start out as a serious story may turn into a joke or a hoax. As a matter of fact, that is the variety of production that I delight in making and I will give you some story outlines that have worked out successfully.

I meet a girl (ravishing, natch!) at a bar. She tells me that she is locked out of her apartment because the key won't work. I volunteer to assist her, succeeding in opening the door and she invites me in. After serving drinks, she glides over to the piano and runs through "Let Me Call You Sweetheart." The routine develops (in this case, the lady's voice was supplied by a friend overseas and I spliced it in) and the "snapper" at the end is where I say "Just then, I remembered that I had to send you a tape, so, here I am."

Another example?

In a conversational tone of voice, I go through a dissertation on skin diving, employing as many technical terms as possible. I continue by telling of my flight to Key West, hire a motor boat, sail to a likely spot and plunge into the water. Beneath the surface, I enjoy the coral formations and the fish, when I suddenly get the feeling that someone—something is watching me. I turn my head—it's a man-eating shark! I tap out a frantic SOS on my air tank, hoping that another skin diver in the vicinity will hear me. With a powerful swish of its tail, the shark comes at my throat.

The sound of air bubbles ceases abruptly as the sound of a bellbuoy and gulls screaming fades in. My voice, in echo, comes in once again as I inquire, "What happened after that? I died, what do you think?"

In these two synopses, you can readily grasp the possibilities of the sound effects.

What did I hear you say from the corner of your mouth? You could do better? Good for you! That's the proper mental attitude. As a matter of fact, that's how I began. I felt that I could do better than a lot of the stuff that I had been hearing on the radio, with its idea men, writers, actors, musicians, sound effects men and assorted technicians and engineers. After I got started, I got my ears pinned back, because I found that I would have to do the

work of the whole team. It's all very challenging.

#### THE EQUIPMENT

Rich or poor, it's nice to have two tape recorders. It is also advantageous to have a monitoring head on at least one of the machines, for echo effects. Needless to say, a fader-mixer is a pleasant luxury. If you don't own all of the aforementioned, you can work partners with someone else. If this is not feasible, one recorder can do the job. On occasion, as a substitute for a mixer, I move the microphone from the talking position and face it toward another sound source, such as a radio or record player. The transition is smooth and, with a few trials, will give satisfactory results.

#### THE ACCESSORIES

I do not deny that a pair of scissors or an old rusty razor blade will make an adequate splice, especially if you have three hands. I prefer a Robin's deluxe. I can join five splices in one minute, rather than one in five minutes, the old-fashioned way. There is a great deal of splicing to be done and ease of handling is conducive to its frequent use. Your splices will eliminate extraneous material and clicks, shorten awkward pauses and perform a myriad of functions.

#### THE LENGTH OF THE PRODUCTION

I do not subscribe to any hard and fast rule regarding the length. The point is, that in this day and age, with all its attractive distractions, it is too much to ask anyone to concentrate on listening longer than a fifteen minute segment. I think that radio and TV have made us a nation of "quarter of an hour at a time" listeners. Seriously, I keep my productions well within the fifteen minute limit because I have found from experience that it demands two hours of work for one minute of usable footage.

#### THE SCRIPT

While it is possible to bang out a "quickie" at one sitting, without previous thought or planning, in most cases it will be necessary to have a working script. It can consist of a skeleton outline or it can be minutely detailed. It should contain a listing of narrative and musical passages, and cues for sound effects. Some prefer to write it out, word for word, others jot down key phrases. In either method, you should be fully acquainted with the subject.

#### THE NARRATING VOICE

I think that you should try to be yourself. Any excursion into what I call a "voice of doom" or the rapid fire delivery of a side-show barker will make you less believable. Other voices involved in the script should be gently coached to be natural. I always employ a casual, conversational approach. If you feel more at ease reading from a sheet, be sure to give the material several runs through.

Avoid a monotone and above all, that abomination called "background music." It demands skillful and judicious technique to balance the volume ratio of voice to music. I have encountered some examples that contained "background narration."

If you stumble while talking, start once again at the beginning of the thought. The "bloop" can be excised later. On occasions, give an important sentence several versions and select the one that you like best.

#### THE ROUGH CUT

At this stage, the unpolished production will be over-long. It will contain false starts, repeated sentences, numerous clicks, duplicated sounds at different sound levels and awkward pauses. My rough cuts sometimes contain a few choice cuss words when things don't go right.

#### THE SECOND CUT

If you listen through your production a few times, you will locate the inferior passages and make a written notation of the ones to be removed, by designating them "take one," "take two," etc. If you have leader tape inserted between items, remove them, too. The second cut should not be edited too tightly because you might chop off the beginning or end of a word. Shorten unintentional pauses and remove a few of the more obvious clicks.

By this time, things should be shaping up and the next step is to put it aside for a day or two. Working so close to it, you will have lost your perspective. The next time that you run the reel, it will sound fresh to your ears and it is now ready for the final cut.



Here is the major portion of Mr. Miller's reel library which he has been gathering over the last five years. It is completely cataloged and cross indexed and contains a wealth of varied material which is, in most cases, irreplaceable and to its collector, is invaluable.



### SOUND STORY #2 THE CONTACT MICROPHONE

by Kenneth Miller

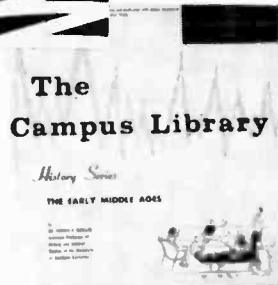
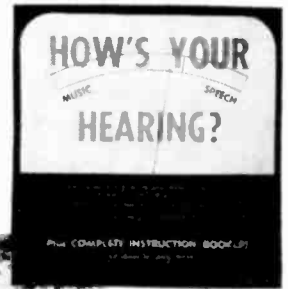
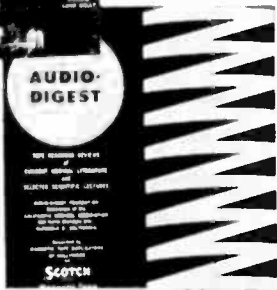
A hilarious tape that demonstrates creative production. Played over the British Broadcasting Company and Radio Paris. Fun from start to finish.  
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Tape Recording Magazine  
Severna Park, Md.

# Versatility

## Plus



**T**HE variety of material available on tape is constantly increasing. From the very introduction of this medium of sound reproduction we have remarked on its versatility and superiority over any other form. With the new taped materials now being marketed, our oft-repeated claims are being publicly backed up, and this is just the beginning.

Today a sound collector's library need not be one big mass of music, but instead can sparkle with originality-creativity-naturalness. Nowadays, when friends drop in and you wish to entertain with something different, something really entertaining, you don't just throw some records on a spindle and turn on a phono. Nope, not if you're an up to date host or hostess you don't. If you've a flair for keeping pace with progress, you instead bring out your tape recorder and proudly expose your modern collection of taped entertainment.

You are prepared for most any class of company. For instance, if a couple of audiophiles drop in, you have on hand test tapes and the instructive All About Tape On Tape.

Test tapes, such as Livingston's LX-1E, check such things as head alignment, frequency response, flutter and wow, etc. on your machine. A copy can be obtained from Livingston Audio Products, P. O. Box 202, Caldwell, N. J.

And now with a book about tape, *on tape*, you have the added advantage of listening to a demonstration to put a point across as well as reading about it.

Should your minister drop by for a visit, you turn to the religious section of your collection for a tape of spiritual music. Perhaps you even have on hand some of the taped sermons of well known preachers such as Peter Marshall.

Maybe your aging Uncle Herman drops by and, during the course of general conversation, mentions that his hearing seems to be failing slightly. Chances are he will be most interested and grateful to you if you show him your How's Your Hearing tape and test his hearing ability right there in your home. He will then know whether or not

he needs professional help. This tape is available through *Tape Recording*.

If a group of dancing enthusiasts gather for a gala evening at your house, you have in your tape collection music for just about every type of dance—delightful music, with sound reproduction so perfect you theoretically bring the band right into your club cellar.

Everyone loves a party. It's a time for relaxation, a time for friendships to blossom, a time for easy living. If you have an Add-the-Melody tape about the premises you have a sure thing to brighten any wing-ding. The group can sing right along to the fabulous organ manipulations of Hack Swain, on add-a-track recorder, and then listen to the playback of themselves backed up by the accompaniment. Hack is on one track, and as you listen to him play, you record your singing on another track. This tape can be ordered through Livingston.

The add-a-track feature utilized on this tape is another potential item we have reported on for a couple of years now, and which is finally coming into its rightful niche. Its possibilities are many as you will be finding out more and more in the future.

As for music appreciation listeners, any tape library provides a vast stronghold of treasures. Classical, pop, jazz, folk, Broadway shows, motion picture sound tracks, Latin, seasonal—you name it—it's on tape.

One of the things that fascinates me about music is that it can create or change moods. This type therapy has even been proven by medical groups. For instance, soft music can create a dreamy atmosphere and calm ruffled nerves, jazz beats can shake away the fog we sometimes get in, folk music can stir thoughts and interests in other lands and different sects of people, and so it goes.

Educators today are finally awakening to the tremendous possibilities of teaching by tape. The door to learning has been opened a foot wider thanks to this magnetized oxide idea. More and more correspondence courses for home



teaching are becoming available. A speech course and tape go together like roast beef and mashed potatoes. The same is true of languages. In fact, any course—learning to play instruments, studying Morse Code, dramatics, professional training, is (and how often we have heard this slogan) "better on tape."

The speech course put out by the Institute of Human Communication is one of the best for helping folks of all ages eliminate their speaking defects and gain a confidence they never knew possible. This course is available from the Institute of Human Communication, Associated Teaching Center, 3411 Old York Road, Baltimore, Maryland.

Professionally, doctors can obtain tapes put out by Audio Digest, 800 N. Glendale Ave., Glendale 6, Calif., to aid them in their early training and later in keeping up with newest developments and discoveries. Such tapes can be listened to in a car perhaps, as the overly-burdened physician handles his house calls.

Suppose sis brings home some college "brains" for a weekend visit. Even if you're not an Einstein, be not dismayed. Choose a few Campus World educational tapes from your collection and see what a discussion they can stir up. You can get copies of these by writing Campus World, Inc., 3449 McClintock Avenue, Los Angeles 7, Calif.

If the visitors seem to be ga-ga about the theatre, there is a Styles in Shakespearian Acting From 1890 to 1950 tape available which is most interesting. Contact Creative Associates, Inc., 690 Dudley Street, Boston 25, Mass. if you would like a copy.

Should the company enjoy current events discussions, they may be interested in hearing some authentic recordings of the first five satellites sent aloft. If so, have on hand a copy of Voices of the Satellites, put out by Taben Recordings, Box 224, Ardmore, Pa. What a wonderful keepsake this is for your children and your children's children.

And of course, if the folks who drop by are just some very old, very good friends, whom you welcome any time, for a different evening, after everyone's appetite is well satisfied, settle back and listen to some of the new Sound Story tapes now being produced. They are not too long

so as to be tiresome, but are just an unusual collection of sounds which tell a story within themselves.

For instance, the first of these original tapes contains a narrative and demonstrations by Dr. Vladamir Ussachevsky of Columbia University who produces new sounds by changing their characteristics through speed regulation, reverberation, filtering, etc. He then combines the new forms to create music—it's fascinating.

On the second side of this tape Tony Schwartz, who is an artist at recording authentic sounds, takes you on a visit to New York via tape.

Just having a group of Sound Stories is a tape collection worth keeping and listening to in itself. Watch our monthly publications for new sound story tapes.

This collection of creative recordings is not just for entertainment purposes, however. They also broaden one's knowledge, help educate the kiddies, and help also to stimulate a juvenile's (or for that matter an adult's) interest in tape recording as a hobby.

Since the debut of stereo, most recorded tape companies have turned their efforts wholly to four track stereo tapes. Many, however, still produce the same tapes in both two and four track.

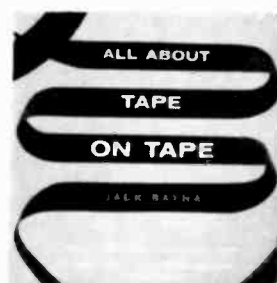
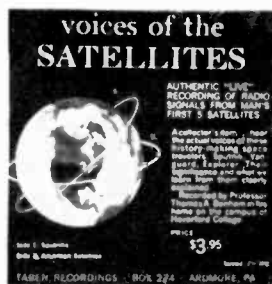
Not long ago, United Stereo Tapes, was established as the distributing center for many well known labels, but only for four track tapes. While some of the same releases are also still available in two track, these must be obtained directly from the manufacturer.

Most tape manufacturers, and also United, are happy to supply lists of their current material upon request.

This, of course, is assuming your local dealer cannot supply you. We would like to suggest here that if a local dealer does not stock certain taped material, you inform him politely, but emphatically, that he should bring his stock up to date.

Your recorder is like the magic mirror through which Alice entered a wonderland of enchantment. You can travel to other places, learn new things, be lifted from the doldrums, find a creative ability you never knew you possessed. In short, your life can be enriched many fold by tape and its marvelous reproductive abilities.

Go modern—go tape.





With the microphone switch hookup shown here, a touch of your thumb and your recorder (the section which moves the tape) silently goes on or off. Thus you have complete control of what you want to get as your finished result, i.e. on-the-spot "editing."

# A Remote Control Is Nice!

by Tommy Thomas

.... editing is almost nil using this type control.

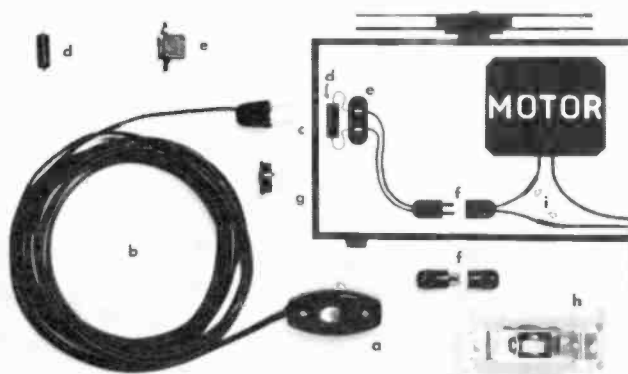
I'D LIKE to describe an easily installed extension control switch that I hooked into my recorder several months ago . . . which I've been using almost constantly since.

Quite simply, it works like this: You put an On-Off switch on the end of 15 to 20 feet of regular 110-volt extension wire. Then you hook the other end of this double wire to your recorder motor. Basically, that's all there is to it. Keep in mind now that this switch *only*

*controls the motor*, and does not interfere with the remaining electronics in any way. To use the remote switch, you first have your recorder warmed up and all the rest of the controls set properly for the type of recording that you are doing. Then just a touch of your thumb to the switch in your hand will instantly start the recorder working . . . and another touch will just as quickly stop it.

I like to record music and special "bits" off television. Previously I lost a lot of time (and temporarily used up a lot of tape needlessly) when I recorded more or less continuously any program I figured *might* contain items of saving interest. This haphazard system is now a thing of the past. Even when friends are over and watching TV with us, I can easily and inconspicuously "edit" what I am recording even though seated across the room. If something interesting comes on unexpectedly, I can have my recorder copying it for me within a moment. The control is not quite split-second (there's a brief "whirrr" of TV sound as the recorder grabs on to full speed), but it's still pretty darn fast.

Another major use I have for this extension switch is when I'm recording by microphone. I either hold the control switch in my left hand, or—getting fancy—I tape it directly to the mike handle. Either way, I can instantly *and silently* turn the recorder on or off at will without any fuss or bother. Microphones seem to frighten people, espe-



Here, in a mixture of diagram and actual parts used, is how you can work a remote control extension into your own recorder system. For all its simplicity, it compares favorably with the special "remotes" you'll find only on expensive tape machines.



Whether you hold the remote control switch separately or fasten it directly to the microphone is a matter of personal convenience. Here, the switch is attached to the short mike stand with a couple of lengths of plastic tape wrapped around the whole works.

cially if it's a first-time occasion, so this control comes in very handy. If I see a long pause developing, I stop recording. Or, just as often, I'll stop so that I can explain

something or other to the person talking into the mike, to put him at his ease. With a bit of practice, you soon develop a system of on-the-spot editing that will mean a minimum of "regular" editing later on. In fact, since perfection is seldom called for or even approached in home recording, later editing can usually be entirely dispensed with. Just do it the easy way, beforehand by remote control.

Frankly, I'm not much for needless editing if I can get around it. It's quite a convenience having a silent, instantaneous cut-off hooked to the recorder motor. Maybe I'll wish to pause a few seconds to arrange my thoughts before going on. Or even go away completely for a few minutes to gather up some special notes or other material I had forgotten to bring to the mike. Either way, when I press the switch to start recording again, the machine continues smoothly on as if I'd never stopped. Afterwards, in playback, you won't have the irritating clicking noises usually associated with turning a recorder off and then on again in mid-tape . . . but just the sublist of "whirrrs" in between stops, so inconspicuous as to be hardly noticeable unless you're listening for them.

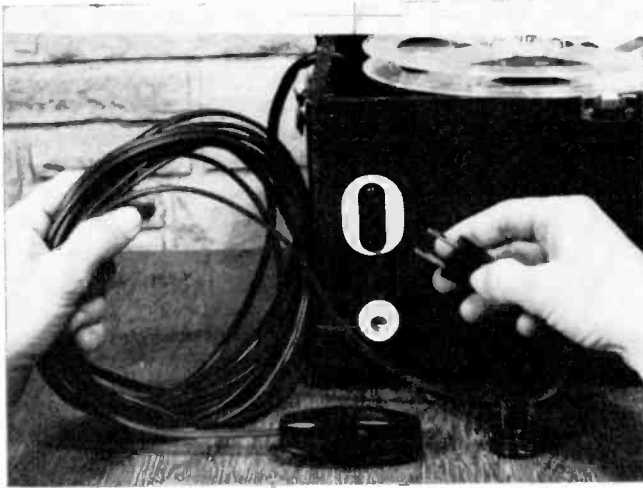
Now let's get down to the simple facts of how this switch is hooked up to my recorder. My machine is just an inexpensive, one-motor job, so what I've done to it you should be able to duplicate on your own machine if you wish. And so that you can't go wrong, I'll go over the parts list with you, pointing out things here and there. Oh yes! I'd better mention that those parts that cannot be obtained at your local dime store or hardware can be sent for from the Allied Radio Corporation in Chicago.

(a) *Feed-Through "On-Off Switch"*—This simple 110-volt line switch is what I first used. It works fine except that it makes a very audible "click" each time it is activated. For TV recording this doesn't matter at all, but it's not so good when working with a microphone. The mike picks this sound up and records it, completely spoiling the non-stop illusion you want to create. So perhaps you'll want to invest an extra 75c or so right away and use the silent switch "h" described further on.

(b) *Fifteen Feet (or so) Of 110-Volt Lamp Cord*—For



Remote control recording from the TV. For such recording, the recorder can be out of sight off in a corner somewhere. Then one extension leads along the floor to the loudspeaker terminals on the TV, and the other (the white remote control wire) goes across the room to the person controlling the recording.



Author's recorder on the outside, with the shorted plug "g" removed and the remote control extension and switch ready to be plugged in. Plugging in the remote extension takes but a moment, so it's always available for immediate use. Take care that the extension cord does not buckle near the recorder, possibly causing a later foul-up with the revolving tape reel just above.

easy storage and handling, don't make this any longer than necessary to extend the distance you'll most often want to cover. Later, if a special occasion demands the use of a longer line, then any good extension cord can be plugged in to lengthen this distance. Note! The first time I made up one of these cords I chose *brown* as the color for the outside wire insulation, figuring to keep it fairly unobtrusive when it was stretched across the room. Then, after my kids tripped over it half a dozen times, I changed over to *white*, as being more easily seen and therefore avoided.

(c) *Regular 110-Volt Male Plug*—This goes on the other end from the On-Off switch, and completes the "outside" portion of this extension assembly.

(d) *Capacitor, .05 MFD, 600 VDC*—(Allied #15L829) This is soldered in position as shown, directly across the AC socket terminals . . . and it performs the highly useful function of eliminating the transient "click" that would otherwise very likely be recorded on the tape every time you turned the recorder motor on or off. (After soldering, be sure to insulate with tape any exposed bare wiring.)

(e) *Cinch-Jones Chassis Type AC Socket, Type 2R2*—(Allied #40H830) This ultra-small 110-volt black bakelite socket is much neater than any regular female socket your hardware store will have to offer. Find a convenient place on your recorder case to mount it, one that will give you ample room directly behind for the positioning of the capacitor and the connector plugs, along with a reasonably close entry to the motor. (This was easy for me, as my recorder has a large and empty "storage" space at the rear.)

(f) *Morse-Midget AC-DC Cord Connector Set*—(Allied #52N626) Again, this is a much smaller set of male/female connectors that the hardware store will have. The purpose of having this connection here is so you can occasionally *separate* the "insides" of the recorder from the AC socket and capacitor permanently fastened to the case, for when you want to get at your tubes, etc.

(g) *"Shallow" 110-Volt Male Plug*—This shorted plug must be permanently plugged into the AC socket (outside the recorder case) whenever the remote control extension is NOT plugged in, so find one as small as possible. Take a short length of 110-volt wire and fasten it across the two

prongs (inside the plug, of course) completely dead-short-ing it. This shorted plug acts as an always-on "switch," permitting the recorder motor to operate in its regular manner whenever the remote control is left off.

(h) *Single-Pole "Rocker-Glo" Wall Switch*—When I discovered that I needed an absolutely silent-acting switch to replace the simple (but noisy) line switch I first started with, I ended up with this one. It's just a regular *silent* wall switch with the metal mounting plate removed and the extension wires plugged into the back. You may not be able to find this exact-same-brand wall switch locally, but look over all the mercury-type and other silent-type switches and pick out one that will best suit this purpose.

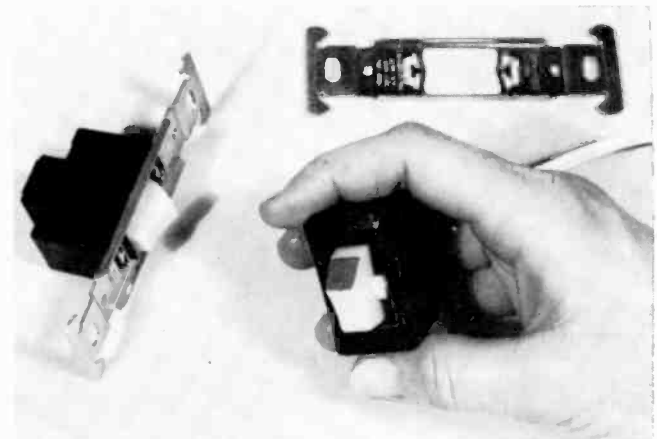
(i) One (and only one) of the two motor wires has been separated and then joined—with the aid of some extra 110-volt wire—to the first connector at "f" (see diagram). Do a good, careful job here, soldering your connections as shown by the two arrows, and then insulating them well with tape. Most likely there's a cooling fan on the bottom of the motor, so be certain that none of your new wiring or extra connectors can get caught by the whirling blades.

That's about it!

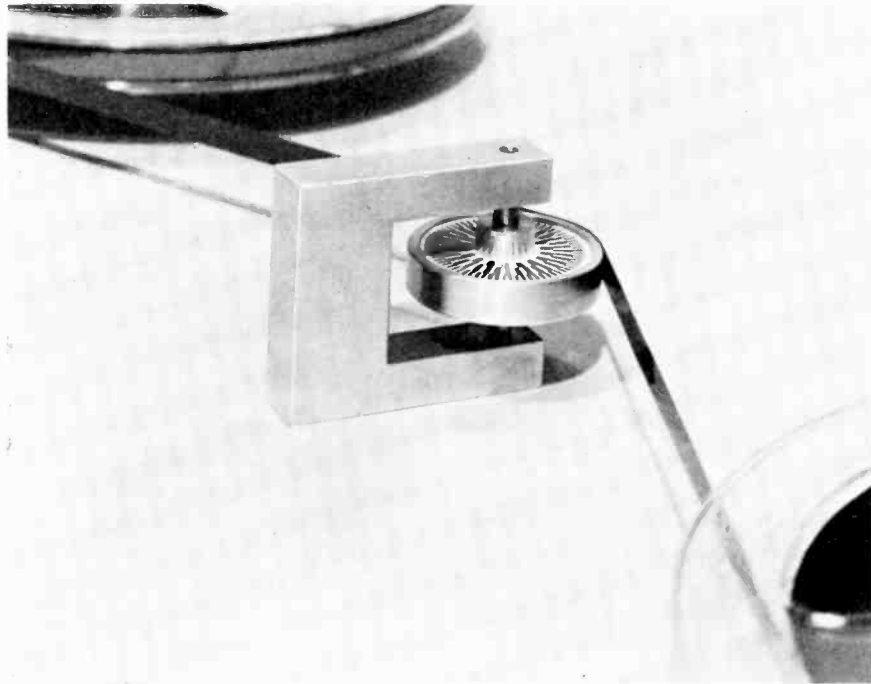
The three items from Allied Radio (d,e and f) will cost you 96¢ plus postage for six ounces, plus another 5¢ for insurance. CAUTION! Never leave your recorder controls "locked for any great length of time on *Record* or *Playback*, with the remote switch cutting off the motor. After a few hours in one position (or perhaps over night or longer) the speed-regulating rubber pressure roller—atop the machine, by the tape head(s)—may develop a tiny flat spot, causing a possible wavering of the tape speed. It soon becomes second nature to watch out for this, but if you do forget some time you'll have to operate the recorder in Play position without tape for a period of time in order to "round up" the flat spot again.

So go to it, and join the fun! This is truly a delightful and useful accessory for your recorder. Without any great thought at all you'll think up all sorts of other uses for remote controlling your recorder in this fashion. And don't forget, of course, that this switch works equally well in the Play position also . . . in the event you might want to use it for *secretarial* purposes on occasion, or for any other special-purpose playback reasons.

An ordinary silent-action wall switch can often be easily converted for use replacing the noisy line-switch first indicated. Choose a switch where the 110 volt wires go safely inside, or at least choose one where it'll be possible to neatly wrap insulating tape around all bottom portions of the switch where the bare wires and/or screw-terminals are exposed.







This speed checker is based on a strobe disc which is rotated by the motion of the tape as it is held against it. Light contact is sufficient to drive the disc.

## TAPESTROBE MADE TO CHECK TAPE SPEED

**T**HE speed with which the tape passes the heads can be of little importance or very great importance, depending upon what you are recording and what you expect for your playback.

If a recorder runs fast, or slow, and you play on it only those tapes which have been made upon it, then speed does not matter, so long as recording and playback speeds are the same and remain constant.

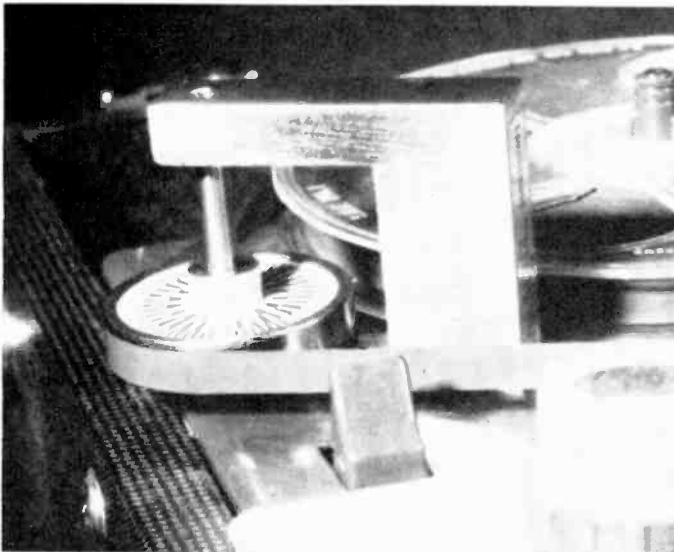
But if you use recorded tapes, or are making recordings which will be played on other recorders, or if you are making tapes for radio broadcast, then tape speed becomes very important. It is likewise important if you play a non-runnable instrument with the recorder such as using it for musical practice and the like. Variations in speed have two effects; they alter the timing of the tape and the pitch of the tones, both undesirable when top results are needed.

The Scott Instrument TapeStrobe was designed to provide not only an indication of the speed but also show how much it was fast or slow.

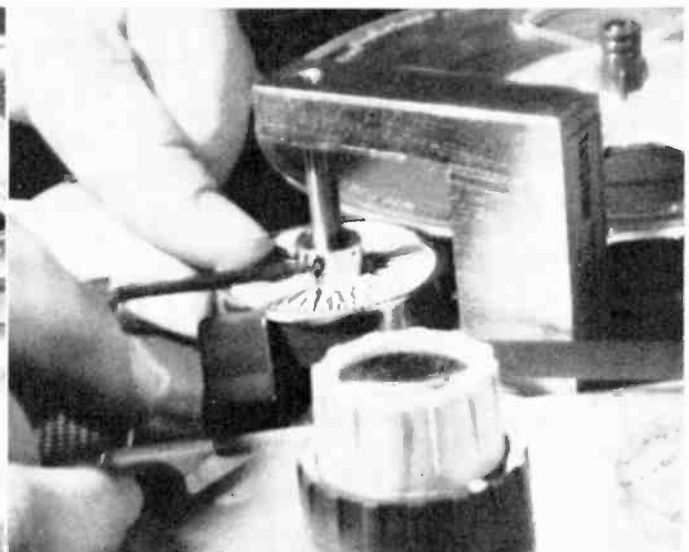
The unit consists of a ground and polished steel disc mounted in a shaft. The disc may be adjusted upward or downward on the shaft so that it may be set at tape level.

To use, the disc is held against the tape and the strobe pattern viewed, preferably under fluorescent light. If the pattern moves in the same direction as the tape, the tape recorder is running fast, if it moves backward, the recorder is slow. By noting the amount of movement in 45 seconds, the error in the number of seconds in 30 minutes can be determined.

Three models are available, one for 30, 15 and  $7\frac{1}{2}$  ips, another for 15,  $7\frac{1}{2}$  and  $3\frac{3}{4}$  and a third for  $7\frac{1}{2}$ ,  $3\frac{3}{4}$  and  $1\frac{7}{8}$ . Other speeds can be had on special order.



To adjust the height of the strobe disc to the tape on the recorder, a small set screw is loosened, the wheel moved to the correct point and the screw tightened.



The TapeStrobe may be placed against the tape at any accessible spot on the desk. It is small enough that it will fit on any recorder.

# HUM - M - M - M - M - M

... here are the solutions to some of the most annoying hum problems that plague tape recordists.

by

**JAMES H. MILLS, SR.**

*We are reprinting this excellent timely article due to numerous reader requests.*

**O**F all the questions received by our "Questions and Answers" editor, fully fifty per cent of them have to do with the elimination of hum. Most of the hum troubles appear when the recorder is connected to a radio or TV set or another recorder.

The most prevalent and annoying source of trouble, noise and hum is caused in part by the "AC loops" which may be in the equipment itself. The inequality of line resistances and grounding systems in the home or business power wiring and ineffective line drainage methods used by manufacturers of radios, TV sets and other audio devices also add to the causes.

One of the most essential requirements for click, noise and hum-free recording is a common source of commercial power. This may be obtained by connecting all devices into the same double outlet or through the use of a three-way adapter which is available at your hardware store or electrical dealer's.

Almost everyone's electrical supply is heavily affected by commercial users, long exposed lines pick up noise, local appliances contribute clicks and current ups and downs, and even radio and TV stations can cause trouble as their current demands are heavy and fluctuate rapidly.

In almost every case a material improvement in the quality of recordings will result if you use a "brute force" line filter in combination with your multiple outlet plug as shown on page 31. There are the "Tobe" or "Cornell-Dubilier-IF series" units connected as shown in the sketch below. Be sure a good ground is provided for the filter as directed in the instructions that accompany the unit.

After the three-way plug is inserted, connect the recorder, radio, etc. by plugging them all in the same plug. Transpose the plugs until minimum hum is achieved in all units.

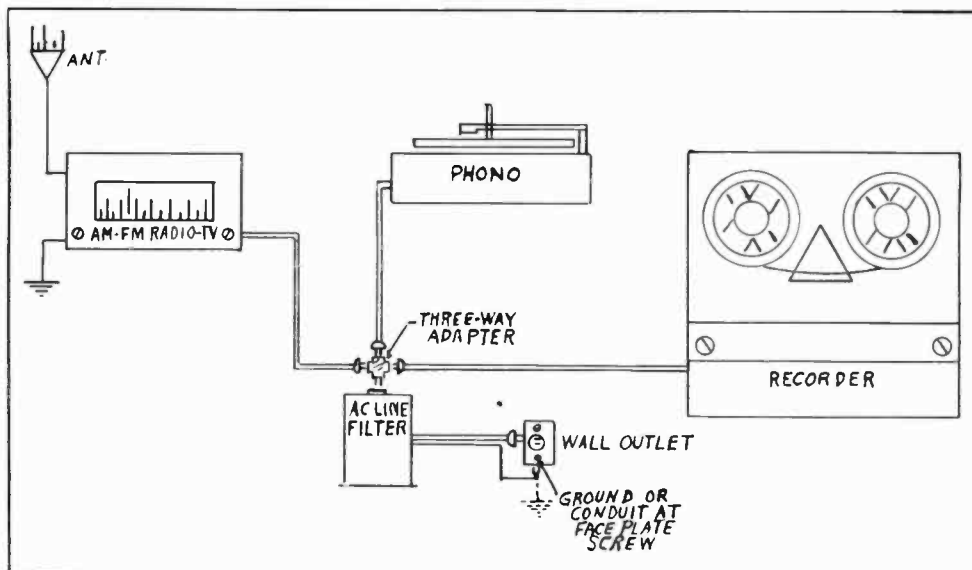
Once the hum is cleared from the incoming power you can turn your attention to the audio connections.

The following arrangements and circuits are not specific in every case but rather general. In some particular types of equipment they must be varied or experimentally applied; however, the principles involved may be fitted to almost any case by one fairly adept at hooking things up or by a radio or TV mechanic.

The popular type tape recorders have a conventional input arrangement which is fairly broad in tolerance. It usually runs anywhere from 15,000 to 500,000 ohm impedance with only minor losses in quality over this range. These input jacks are usually designated "Microphone," "Radio," or "Phono" and require a driving level, or voltage input, of from .01 (in the case of a microphone) to 1 volt (in the case of a radio or TV pickup).

Because of this wide variation, and because there is no standard ratio between these inputs from brand to brand of recorder, you may have to experiment to find the jack that gives you the least hum. It may be necessary to plug your phono connector into the microphone jack on the recorder, even though you have a jack on the recorder marked "phono." This would be true where the phono input was low. By plugging it into the mike jack you do not have to turn the volume up so high.

This is no reflection on the recorder manufacturer. He may have designed his "radio" input, for instance, to take



For the elimination of hum, clicks and noise from the power lines the use of an AC line filter is advised. A three-way adapter should be plugged into the unit and all the audio devices hooked into it as shown. The plugs should be transposed until minimum hum is secured from all units. The line filter should also be connected to a good ground.

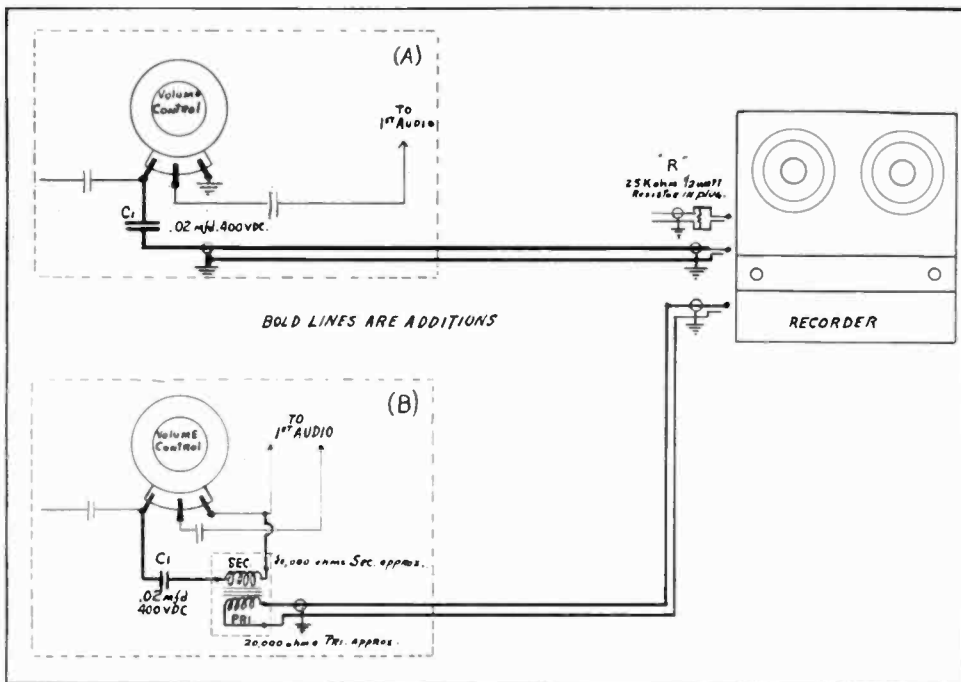


Figure 2. A—A simple connection that will work on most radio sets. The volume control is the best take-off point for recording. Note 25,000 ohm resistor which may be incorporated in the plug. B—For AC/DC sets and TV sets which may have a voltage on the chassis, it is necessary to hook up a transformer to prevent this voltage from reaching the recorder and causing hum. In stubborn cases, where ordinarily the hookup shown in A should be sufficient, B must be used instead.

Figure 3. While simply making a connection to the voice coil of the speaker will often produce good recordings, the best way to do it is shown in the drawing. This eliminates any possibility of hum and takes care of those speakers which may be grounded on one side. A 1 watt, 2000 ohm carbon resistor is connected to each line and across these is connected a 5 ohm, 2 watt carbon resistor. The transformer is hooked in as shown to give isolation.

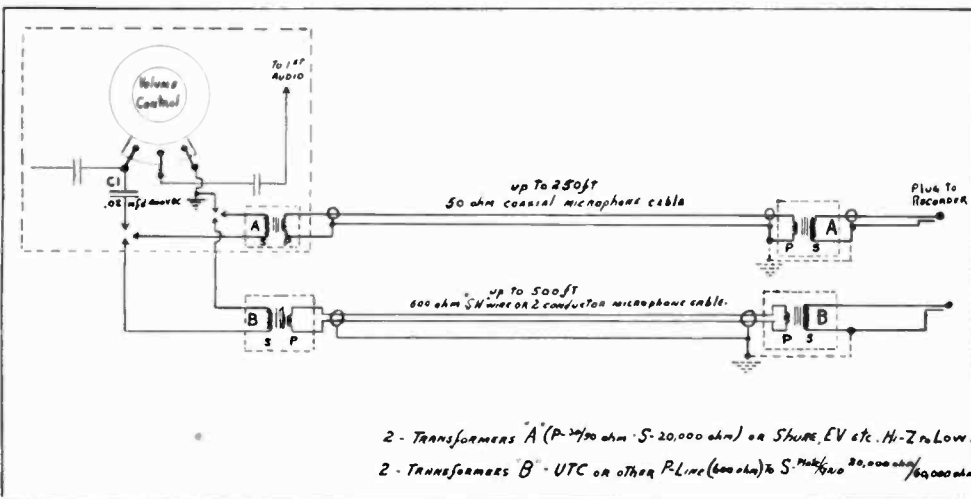
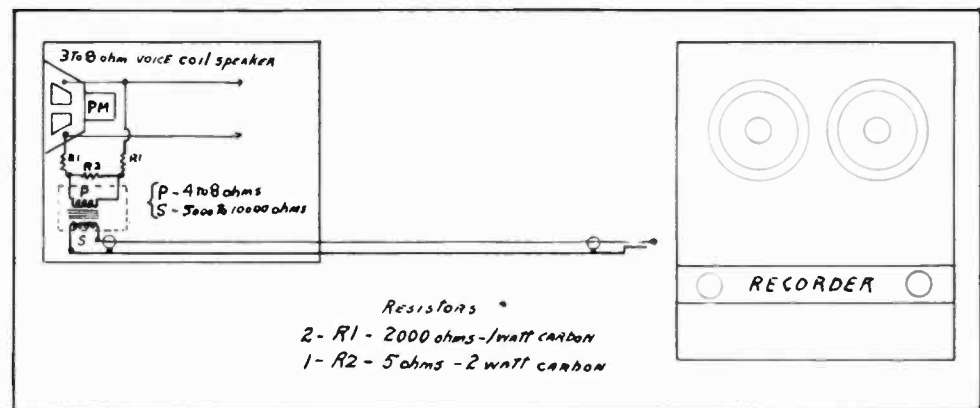


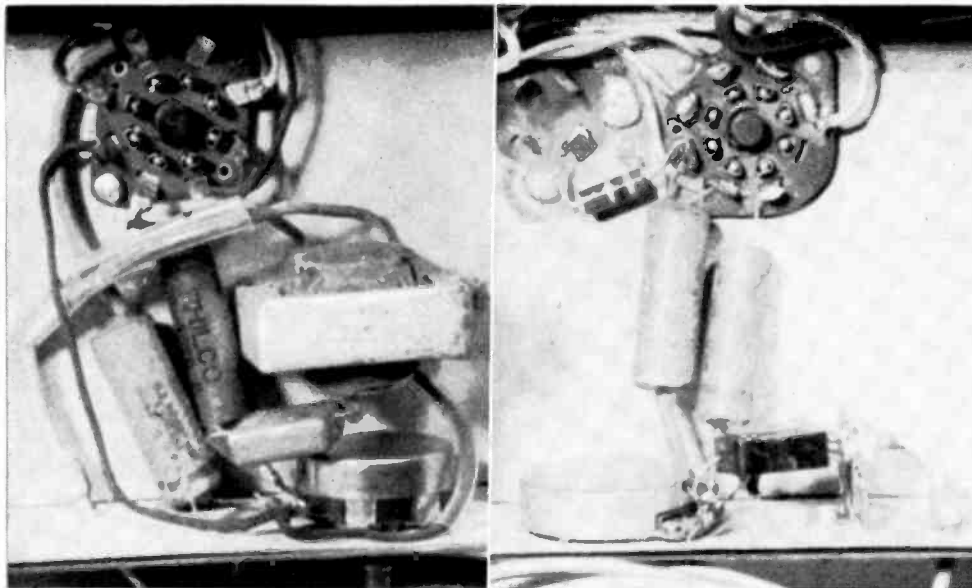
Figure 4. A—For long runs (up to 250 feet) transformers must be used at the source and at the recorder also. These are placed "back to back" with the low impedance sides connected to the line and the high impedance sides to the recorder and source. At B, the requirements for still longer lines (up to 500 feet) are shown.

the current as supplied by a connection to the voice coil of the radio speaker. If you, instead, take your connection from the volume control, which is a better spot, then the "radio" jack is not the place to plug it in. You'll do better using the "microphone" input on the recorder. And so it goes.

The best point for your audio connection must next be selected on your radio, TV or other audio equipment and the items of prime importance are: 1—approximate imped-

ance matching, 2—adequate driving signal level, 3—quality, 4—minimum noise and 5—ease and simplicity of connection.

Impedance matching is not as difficult as it may sound. A single example should suffice to give you the idea. The voice coil of the usual loudspeaker, for instance, has an impedance (AC resistance) of 4 to 8 ohms. The mike input on your recorder will have an impedance of from 10,000 ohms up. If you connect the 8 ohms to the 10,000,



Left: The transformer hookup that is shown in Figure 28 on the preceding page. The transformer and condensers can be mounted neatly next to the volume control in the radio or TV set as shown. The volume control is at the bottom of the picture. Right: The simpler hookup shown in Figure 2A. This will work in most cases but hookup 2B may be required in stubborn cases of hum. The parts may be obtained from any radio supply house.

your recording will sound distorted or tinny. You have a great mismatch. In a case such as this you buy a transformer, one coil of which has an impedance of 8 ohms and the other coil 10,000 ohms. You connect the 8 ohm side to your speaker and the other side to the mike jack. You have now "matched" the output to the input and whatever goes in one end should come out the other unchanged.

The best point to make a take-off for recording is generally at the volume control of an AM/FM tuner, radio, TV set or another recorder. At this point, if properly connected, each of the prerequisites are met with no noticeable effect on the volume or quality of the equipment being tapped. (See Fig. 2A).

Use only high impedance coaxial (single conductor shielded) microphone cable not exceeding 25 feet in length connected as shown. Make sure that the shield provides the ground by connecting it to both chassis. The condenser value may be increased to a maximum of .1 mfd. if additional bass response is required by some tape recorders and the addition of the "R" resistor of 25,000 ohms at the recorder input may be required to reduce mismatch in some types of recorders which have one input for both mike and phono or radio.

When connecting to a crystal phono pickup connect directly to the crystal output leads being sure to connect the shield to the frame of the turntable, if possible. If a reluctance/magnetic type of pickup is used connect to the pre-amplifier chassis ground.

Figure 2B shows the connection required for audio units such as an AC/DC radio or TV set. These have the "chassis connected above ground" for bias purposes and cannot be connected as shown in Fig. 2A. The "chassis above ground" means that there is an actual voltage on the chassis itself instead of being neutral or "grounded."

In some stubborn cases, where a hookup such as is shown in 2A would normally be adequate, the hookup shown in 2B must be used instead. The connecting cable should be high impedance microphone type not in excess of 25 feet in length. The transformer is an interstage audio type available at any amateur radio supply store. If possible, stick closely to the values shown or you may get distorted.

UTC or other medium quality interstage transformers "plate to single grid" 10,000 to 50,000 ohm or "push-pull plate to grid" of low ratio (omit the center tap) will be satisfactory. Connect the high impedance side to the audio device.

The method shown in Figure 3 may provide an acceptable recording but its shortcomings lie in high hum level except in exceptional audio systems. Extraneous noise and room noise pickups, caused by the loudspeaker acting as a microphone and impedance variations due to speaker load changes at various frequencies may give trouble. This method is at best an expedient. R-1 should be a one watt carbon resistor, R-2 a 2 watt carbon and the cable should be (high impedance) shielded microphone type, not in excess of 25 feet. The transformer is a UTC or other medium quality "plate to voice coil" 10,000 to 4 ohm. It is inverted in connecting and bridged across the voice coil of the loudspeaker using the impedance matching "pad."

Pickups made by placing the microphone in front of the loudspeaker may provide experience in microphone use but in general will result in poor recordings. If a mike pickup is your only choice wrap the mike loosely in gauze or a handkerchief, place it close to the speaker and hope for the best.

Where long runs between units (in excess of 25 feet) must be used, impedance conversion is required. See Figure 4. A choice of two low impedances is available and the quality of either method is excellent. One or the other may be used, depending upon your choice of material; however, once you settle on one method don't try to mix components.

Figure 4A indicates connections and materials for a 30/50 ohm connecting system and the two transformers are used "back to back" using conventional hi-lo units made by Shure, Electro-Voice, UTC and many others. The transformer ratio is nominally 15,000 to 30/50 ohm ratio. The cable is 30/50 ohm single conductor shielded microphone cable of the "Belden" type. Runs in excess of 250 feet require equalization to compensate for the attenuation of the high frequencies.

Figure 4B is for 500/600 ohm conversion and the transformers may be any good "plate to line" UTC, Chicago or

other make, connected "back to back" at each end of the shielded two-conductor (600-ohm nominal) inside wire. This is commercially coded SH 22 or 19 gauge inside wire. Lengths up to 500 feet may be used without the need of equalization.

Competent and balanced equalization is much too complicated a subject to take up here but in general the bass and treble boost of your amplifier will more than compensate for moderately longer extensions of Figure 4B.

The hookups shown are for average recorders and will produce good to excellent results. If you desire perfection then you will have to buy professional radio-station type equipment which runs into hundreds and sometimes thousands of dollars.

There is one precautionary point in making hookups to AC/DC sets. Some of these units have one side of the 110 volt line connected to the volume control. This is true of those sets which do not have a power transformer. Likewise, in some radios and TV sets, one side of the output transformer is grounded to the chassis which may put it at line potential. This last point we mentioned earlier.

If you are not capable of checking these points yourself, to make sure there is no danger from shock hazard, then you had better get your local radio technician to check the set and make the proper connection for you. It can be downright dangerous if not properly made.

While the hookups and directions given in this article should clear up any hum problems arising from the interconnection of tuners, radios, TV, phonos and tape recorders, and noise encountered coming in over the power lines, there are still some noise sources that can spoil your recordings.

One great source is provided by Mother Nature—namely static electricity, principally in the form of lightning. When recording from AM, these electrical storms will produce crackle and pops which simply cannot be eliminated.

FM radio is not bothered by this static and is the preferred means of recording music or speech off the air.

If you live in a metropolitan area, relatively near to the FM transmitter, the ordinary indoor antenna, usually made of a length of ribbon wire in the form of a T, will provide adequate reception. This may be placed under a rug or

mounted inconspicuously. A folded dipole antenna, which looks like a flattened loop, may be mounted outside. This may or may not improve local reception, depending upon your location.

Since many recorder owners are either suburbanites or the further-away-from-the-city exurbanites, the problem of delivering an adequate signal to the tuner and the elimination of the pickup of extraneous noise becomes a problem.

The simple folded dipole or the indoor antenna will not function well at a distance. The obvious answer is to boost the signal in some way.

The answer lies in the proper type of antenna and the best type for distant reception is the yagi. This is like the familiar TV type antenna which has a folded dipole element, a director to concentrate the waves on the folded dipole and a reflector behind the dipole which acts as a shield to keep waves from the back reaching the dipole element. The concentration of the desired waves and the rejection of the unwanted ones results in a gain of 5 to 7 db in signal being delivered to the tuner.

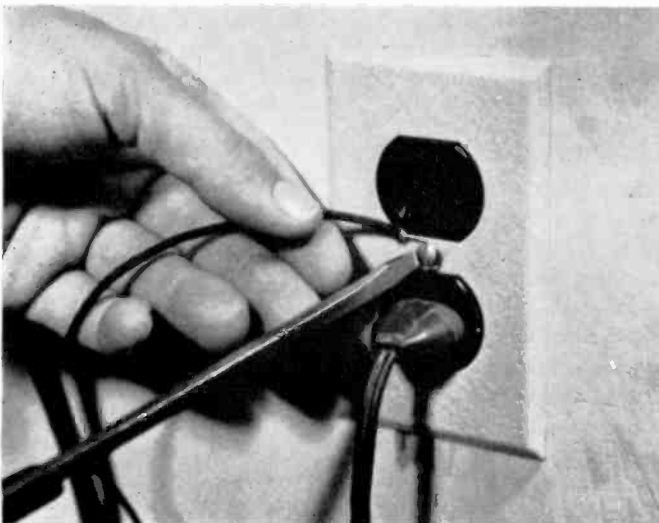
The simple yagi, however, will not cover the entire FM band with maximum pickup since the antenna will only cover about 5 megacycles. Better is a multi-element yagi type antenna which will give adequate coverage.

The pickup of the signal may be further increased by mounting the antenna on a rotator which will permit it to be aimed at the station or toward the direction from which the best signal comes.

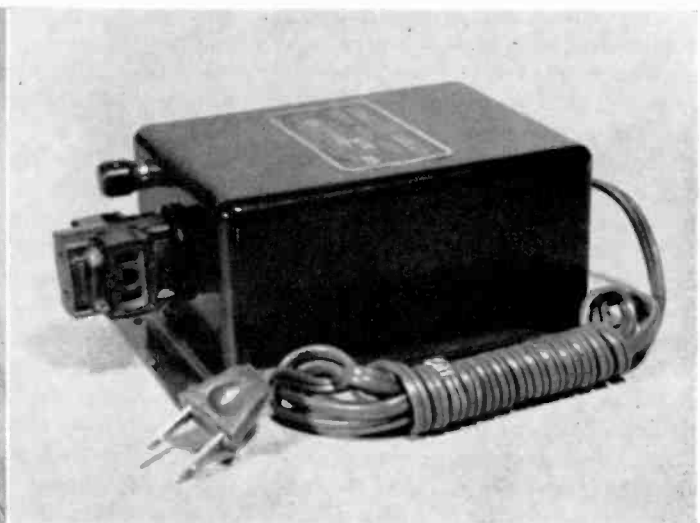
FM boosters are also available but these should be tried out before being purchased. Sometimes the boosters will not appreciably increase the signal. The best type is that which is mounted close to the antenna.

Antenna leads should be kept as short as possible and preferably be shielded and standoff insulators should be used to keep it away from the building. It should be kept as near vertical as possible to prevent noise pickup (ignition, etc.) and go directly to the tuner. Do not coil up any excess behind the set.

By increasing the signal strength you boost the signal to noise ratio of the system and will be able to get cleaner and more noise free recordings.



The Cornell-Dubilier AC line filter is shown at right. Into this is plugged a three-way adapter and all units, radio, TV and recorder plugged into it for best results. The terminal at the top of the case

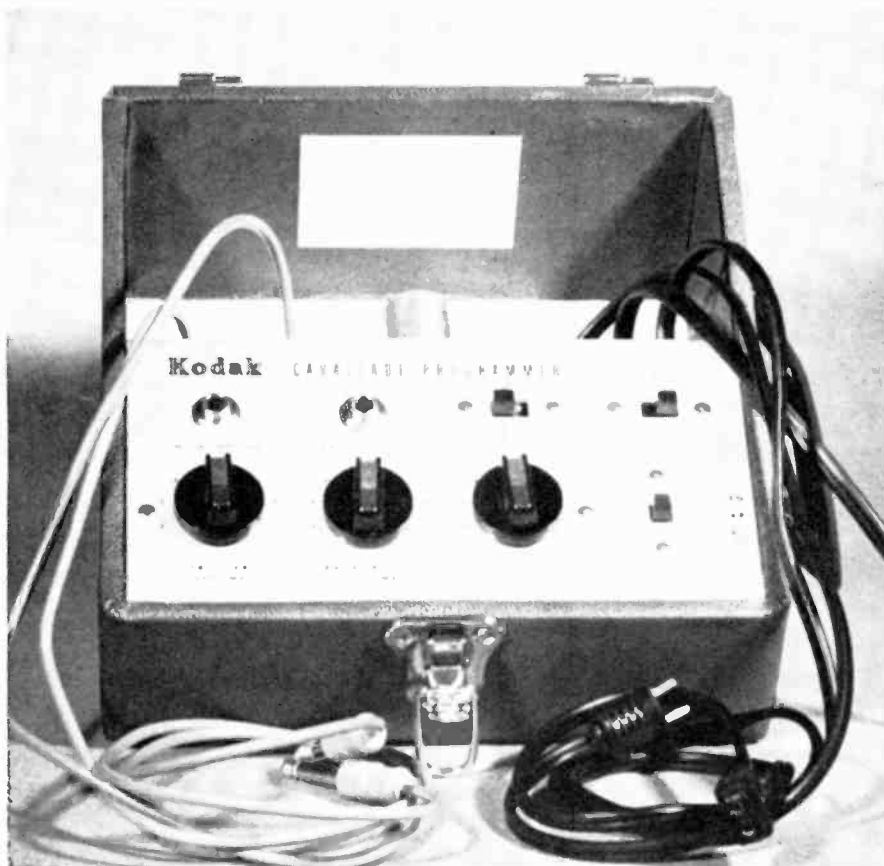


is for the ground wire which may be connected to the center screw on the outlet face plate or other good ground. The line filter will eliminate clicks and noise coming in over the commercial power wires.



# NEW PRODUCT REPORT

STA **F** TESTED



**Product:** *Kodak Cavalcade Programmer, Model L*

**Manufacturer:** *Eastman Kodak Co. Rochester 4, N. Y.*

**Price:** \$95.00

## KODAK CAVALCADE PROGRAMMER

*... device operates slide projector from tape recorder*

The Kodak Cavalcade Programmer may be used to provide automatic operation of the Cavalcade projector or other remote control projectors in conjunction with any tape recorder.

The unit accomplishes this by putting a 6500-cycle beep on the tape whenever the trigger button is pushed. In the playback mode, power is taken from the external speaker jack and this operates the programmer which in turn works the slide projector.

To make a recording the power cord of the programmer is plugged in the wall outlet and the tape recorder to the power outlet in the programmer. Two other cords are connected from the programmer to the power input of the projector and the remote control socket. The two grey cords are plugged into the microphone and external speaker

jacks on the recorder.

After the hookup is completed and the slides loaded in the projector, the programmer is switched to record. The tape recorder is then started in the record mode and a trial run by recording a voice sample at the proper level. The sensitivity control is then turned fully clockwise to make the slide changer function while recording the program.

The trigger button is then depressed and the trigger volume knob of the programmer adjusted so that the signal shows the same recording level as the voice did. Then the trigger volume control is turned up about a half number.

If background sound, such as music, is to be added, this is fed into the background jack on the programmer. The

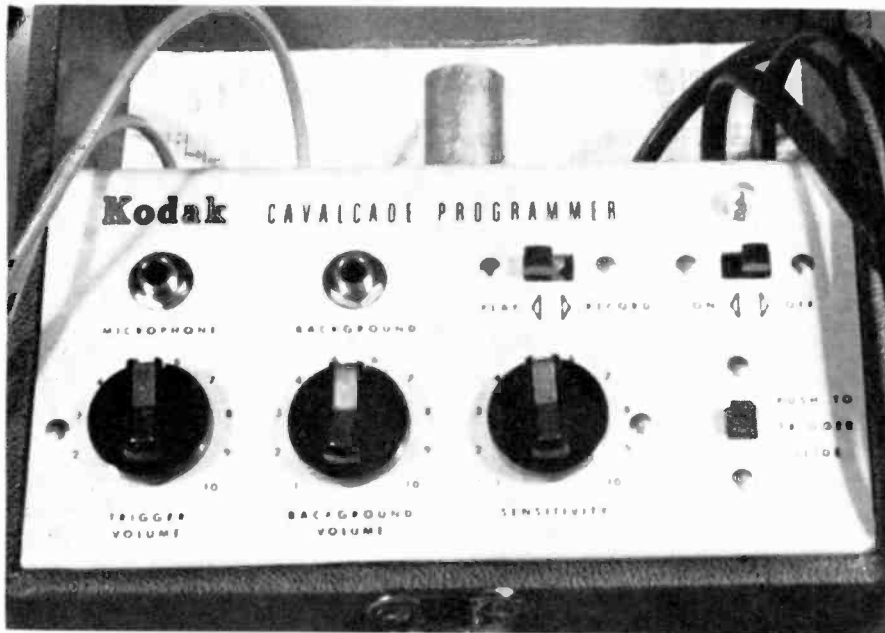
background volume control is turned all the way up (to 10) and the volume at the source adjusted to get the proper level. Make a test recording and secure the desired level by turning down the volume with the background volume knob on the programmer.

After the trials are completed, the actual recording may be done. At each point in the narration where a slide change is desired, press the trigger button. This should be momentary, holding it too long may cause two slides to change instead of one.

To play back, set the programmer at play, rewind the tape and reload the slides in the projector. Again a trial is necessary, preferably at the spot where the playback will take place. Set the recorder for the desired playback volume, turn the sensitivity control to zero position and then advance it until the beep signal trips the slide changer. If the control is advanced too far, it may cause the voice and background sounds to trip the changer also. If the tape recorder volume is changed, this may also



Unit with case closed. It is small, measuring  $8\frac{1}{2} \times 8\frac{1}{2} \times 5$ " and light in weight. Cover is medium grey plastic.



Control panel of Programmer. Knobs control trigger volume, background volume and sensitivity. Mike and background inputs are above knobs. Left switch is play/record switch and right switch is the on-off control with pilot light above it. Pushbutton at right puts the beep on the tape which works the slide projector on playback.

require a change in the sensitivity control but in the opposite direction.

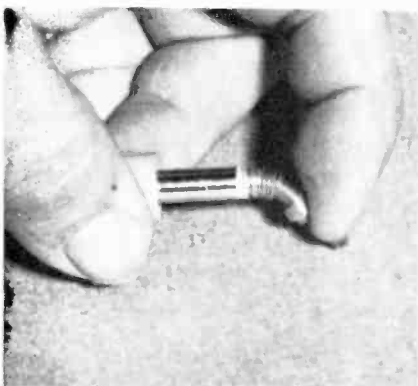
After the trials the tape is rewound to starting position, the slides reset in place and the show is ready to go.

Under test the unit worked satisfactorily, however there are some points to be watched while recording. For one thing the cords connecting the programmer to the recorder are only about three feet in length and those between the programmer and the projector about the same. Inasmuch as the projector is operating during recording, the noise of the fan that cools the lamp can get into the mike. If you use a long mike cord, perhaps putting the mike in another room or behind a baffle,

then you will need awfully long arms, or an assistant, to operate the programmer. An ideal solution would be for Kodak to put a receptacle on this unit into which could be plugged the remote control cord furnished with the projector. Then the beep signals could be controlled at a good distance from the programmer-recorder-projector setup.

With some recorders it may be necessary to disconnect the speaker cord during recording or the mike cord during playback.

An ideal way to use this device would be with a stereo recorder, putting the beeps on the second channel so they would be inaudible.



Since the trigger current is taken from the external speaker jack, which normally cuts off the recorder speaker when a plug is inserted, this plug with a spring end does not open jack and permits speaker to sound.



Connections are grouped in well of Programmer. Two grey wires at left go to recorder microphone and external speaker jacks, two black wires at right to projector power supply and remote control. Other lead is power supply.

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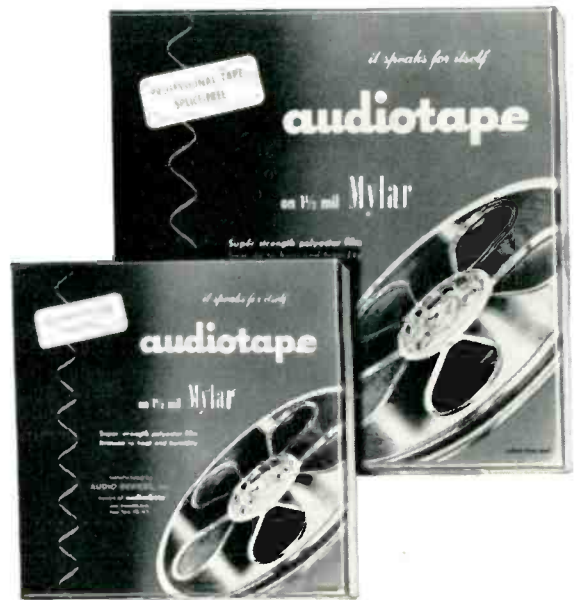
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