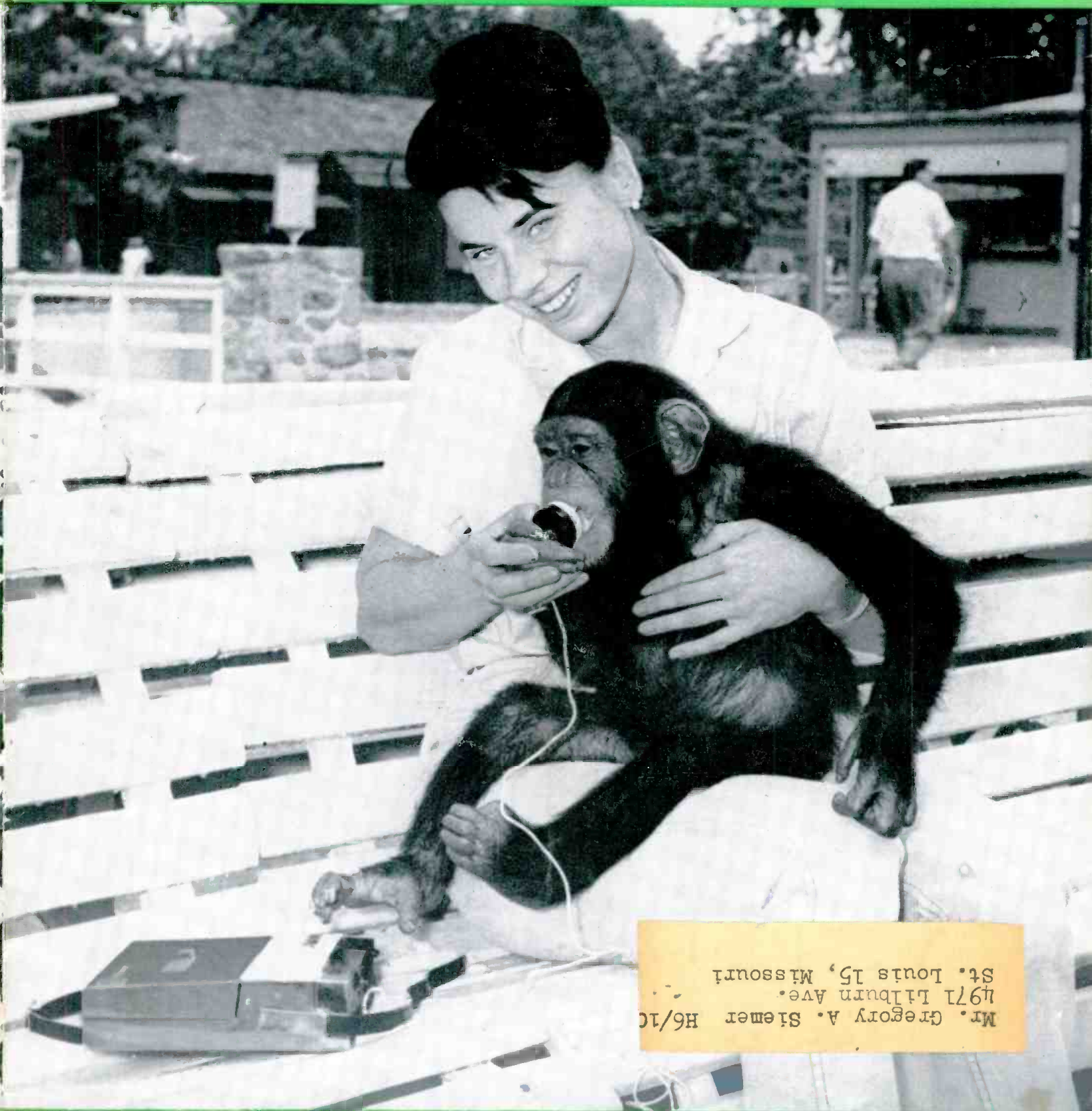


# TAPE RECORDING



Mr. Gregory A. Siemer H6/10  
4971 Lilburn Ave.  
St. Louis 15, Missouri



# FOR YOUR AUDIO BOOKSHELF

## HOW TO GET THE MOST OUT OF TAPE RECORDING

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Lee Sheridan, who authored this book, is actually two people: Elsie Lee and Michael Sheridan, who comprise one of the most prolific and successful freelance writing teams in the country. They have appeared, with articles and short stories, in many magazines both here and abroad.

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## HOW TO MAKE GOOD TAPE RECORDINGS

by C. J. Le Bel, Vice President Audio Devices, Inc.

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

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

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by Charles G. Westcott and Richard F. Dubbe

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5 1/2" x 8 1/2", 177 pp., paper bound,  
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by Jael Tall

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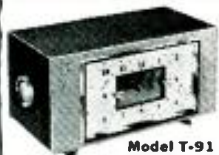
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# TAPE RECORDING

VOL. 8 NO. 9

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# NEW TAPES

★ Fair

★★—Good

★★★—Very Good

★★★★—Excellent

## CLASSICAL

Reviewed by Robert E. Benson



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

**MUSIC OF FRANZ LISZT** (Hungarian Rhapsody No. 2, Les Preludes, Mazeppa, Rakoczy March)  
Boston Pops Orchestra conducted by Arthur Fiedler  
RCA FTC 2015  
4 track, 7½ ips  
\$8.95 . . . 48 min.

Technically, this is about the best recording I've ever heard of the Boston Pops Orchestra, with a mellow, high-powered sound with plenty of whack to it. The Liszt warhorses are played with all stops out and ample fireworks. The *Rhapsody* and *Les Preludes* are well-known to everyone; *Mazeppa* is a bombastic, boring symphonic poem with non-existent musical values, but the final *Rakoczy March* is a winner, using the same theme as Berlioz did in the March from his opera "The Damnation of Faust."

Stereo effect is broad and expansive, and the over-all effect is satisfying. Tape hiss was not noticeable.



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

**LALO:** *Symphonie Espagnole, Op. 21*  
Henry Szeryng, violinist, with the Chicago Symphony Orchestra conducted by Walter Hendl  
RCA FTC 2051  
4 track, 7½ ips  
\$8.95 . . . 34 min.

On all accounts, this tape bows to none currently available. The Hungarian violinist Henry Szeryng plays with a broad, sweeping tone and faultless intonation, and his superb playing doesn't suffer from the close miking it receives here. Orchestral sound is big, plush and well-balanced. For those who want a truly elegant *Symphonie Espagnole* and don't mind paying almost nine dollars for 34 minutes of music, this fills the bill; however, the Ricci version on London LCK 80046 (\$11.95) is an equally fine performance with London's best sound, and it also includes the Sibelius *Violin Concerto*.

This tape is a prime example of Victor's handsome four-track tape packaging.

**BRAHMS:** *Symphony No. 4 in E Minor, Op. 98*  
Columbia Symphony Orchestra conducted by Bruno Walter

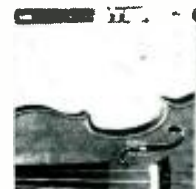


Music ★★★★★  
Performance ★★★★★  
Fidelity ★★★★★  
Stereo Effect ★★★★★

**COLUMBIA MQ323**  
4 track, 7½ ips  
\$7.95 . . . 43 min.

It appears Columbia is planning to release all four Brahms symphonies on four-track tape. In addition to the present tape, they have already announced the release of the *Symphony No. 1*. This is the first tape version of the *Symphony No. 4* we have heard and it sets a high artistic standard for future issues. Bruno Walter is, of course, an old hand at music in this idiom, and he draws fine playing from the hand-picked studio orchestra.

Columbia seems to have souped up the high frequencies on this tape to accommodate less expensive playback equipment; when it is heard on wide-range equipment the high frequencies are searing. With about a 10 db cut in the high frequencies the tape quality is very listenable, with expansive stereo effect.



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

**SIBELIUS:** *Violin Concerto in D Minor, Op. 47, Tapiola, Op. 112*  
Tossy Spivakovsky, violinist; London Symphony Orchestra conducted by Tauno Hannikainen  
EVEREST T 4-3045  
4 track, 7½ ips  
\$7.95 . . . 46 min.

The *Violin Concerto* is representative of Sibelius's early period, romantic and lyrical. Although it has moments of great beauty, I find much of it to be rather awkward writing for the soloist, no matter how well played. Here it receives a glistening, occasionally mannered performance by Spivakovsky, with sympathetic accompaniment by Tauno Hannikainen, a countryman of Sibelius. *Tapiola* is Sibelius's last tone poem and an added attraction on the tape, although its bleak style may not immediately appeal to listeners not familiar with the composer's later works. The sound on both the *Concerto* and *Tapiola* is gorgeous, and wonderfully wide-range.

Competition on the *Concerto* is formidable—the immaculate Heifetz on RCA FTC 2011 \$8.95, which contains only the *Concerto*, and the Ricci on London LCK 80046 \$11.95, which also includes Lalo's *Symphonie Espagnole*. All three versions have a great deal to offer; I feel the Heifetz is the best solo performance, but the Ricci has the advantage of presenting the *Concerto* without interruption.



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

**RAVEL:** *Bolero, Alborado del Gracioso*  
**WEBER:** *Invitation to the Dance*  
**DE FALLA:** *Three Dances from The Three-Cornered Hat*  
Paris Conservatory Orchestra conducted by Albert Wolff  
LONDON LCL 80024  
4 track, 7½ ips  
\$7.95 . . . 47 min.

The Paris Conservatory Orchestra is well represented on this tape with four good performances, particularly *Alborada del Gracioso*, which is given a superb performance. The basic orchestral sound is rather light to do full justice to the music on this tape. Reproduction is top-notch; the best London has ever achieved with this orchestra.

## SEMI-CLASSICAL



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

### OPERETTA MEMORIES

The Merry Widow Waltz, My Hero, Play Gypsies, Dance Gypsies, Oh Maiden, My Maiden, The Gypsy Princess Waltz, The Count of Luxembourg Waltz, Serenade, Gypsy Love Waltz, The Gypsy Baron Waltz, Die Fledermaus Overture  
Mantovani and His Orchestra  
LONDON LPM-70041  
4 track, 7½ ips  
\$6.95 . . . 42 mins.

Once again, Mantovani comes thru with a perfect tape, one of his finest, although everything he does is good. The orchestra is well balanced with the addition of brass and the ability to get across the high violin notes with force and beauty, but not stridency, is a Mantovani trademark. Sound is spacious, but some slight treble roll off and bass boost helps overall tonal quality considerably. London engineering technique has produced a superb recording. Aside from the technical excellence of this tape, the choice of selections from the Merry Widow to Die Fledermaus with complete compatibility is unique. When a master performs, the work is a masterpiece.—F. N. West

## POPULAR

### UNITED STEREO TAPES SAMPLER

#### POPULAR:

John Scott Trotter—*Tunisian Interlude/Escape*—Warner Bros.  
Benny Goodman—*Sound of Music*—MGM

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

David Rose — Fascination/Waltzes in Stereo—Kapp

Ira Ironstrings — Black Bottom/Stereo Goes Charleston—Warner Bros.

Others such as Bobby Darin, Atco; Margaret Whiting, Verve; Mel Torme, Verve; Eydie Gorme, ABC-Paramount; The Limeliters, Elektra

UNITED STEREO RQ-401

4 track, 7½ ips

\$3.95 . . . 26 mins.

This is one of a series of samplers issued by UST, that is sure to find favor with tape fans who want to hear a little of what is available before they buy. Ten selections are presented by various artists and orchestras—five are good danceable tunes and five are songs that everybody likes to listen to, sung by various popular singers of today—all are well done and represent the best of hundreds of selections on more than 30 labels listed in the catalog enclosed. At the low price of \$3.95 list, this is an excellent buy.—*F. N. West*



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

**THE BIG 100**

100 songs including Heartaches, Little Girl, Till Then, Someday, I'm Walking Behind You, The Hot Canary, High Society, Stars Are The Windows Of Heaven, Pretty Eyed Baby, Undecided, I'll Remember April, Now Is The Hour, Domino, Under Paris Skies, Shoo-Shoo Baby, etc.

Billy Vaughn and His Orchestra

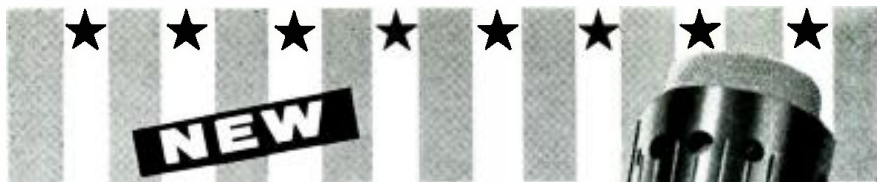
DOT (Bel Canto) DST-30500

4 track, 7½ ips

\$16.95 (material contained here is equivalent to 3—\$7.95 reels, or \$23.85)

90 mins.

Every now and then a tape comes along which really strikes your fancy and this one is it! Billy Vaughn's twin-tape turned out to be double dynamite—just like hitting the jackpot. For those who like good dance music, here it is in abundance—not the strident, jerky, blasting type, but smooth, melodic, sweet music that's equally good for dancing or just plain listening. And there's plenty of variety too—fox trots, waltzes, Latin, fast, slow, new and old. In this amazing collection of 100 numbers, you will find something that will please everybody. Incidentally, Billy has created a new band for this party that sounds like one of the best of today's musical aggregations. You can't help liking this one, particularly for your next party.—*F. N. West*



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

**ON TOUR WITH THE NEW GLENN MILLER ORCHESTRA**

Sequence A: Pennsylvania Six-Five Thousand, Rainbow Rhapsody, Johnson Rag Cha Cha, Kalamazoo, I Know Why, Once Upon a Keyboard

Sequence B: Caribbean Clipper, Polka Dots and Moonbeams, Perfidia, Rockin' the Bass, Home on the Range, Take the "A" Train

Directed by Ray McKinley

RCA FTP-1001

4 track, 7½ ips

\$7.95 . . . 41 mins.

Glenn Miller fans have reason for rejoicing at this release. Ray McKinley has preserved the Miller manner and beat to perfection. The music is the same as that played on the band's recent overseas tour and as played earlier by Miller himself.

The old stand-bys Johnson Rag, "A" Train, Perfidia and many others live again—but good. Vocals by Ray McKinley, Lorraine Peters and Ernie Bernhardt are in keeping with the theme.

Nice Glenn Miller music to either dance or listen to, with good recording and quality.—*F. N. West*



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

### FASCINATION

Fascination, An Affair To Remember, Stars in My Eyes, It's Not For Me To Say, Intermezzi, Around the World, My Heart Reminds Me, River Seine, Midnight in Athens, Speak Low, Two Different Worlds, Yours is My Heart Alone

Jane Morgan and The Troubadors

KAPP KTL 41031

4 track, 7½ ips

\$7.95 . . . 32 mins.

Lovely Jane Morgan really sets the mood for romance in this album—warm, tender, intimate love songs starting with the title song "Fascination," then on to "An Affair to Remember" and ten more equally appealing melodies that treat your ears to a delicacy that ends all too soon.

The muted violins of the Troubadors provide the musical accompaniment that compliments the soft easy-going style of this sophisticated songstress.

The excellent recording captures the intimate mood and puts on tape the feeling of having her right in your room singing just to you.

A pretty girl with a lovely voice singing sweet love songs—what more could one ask for?—*F. N. West*



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

### DYNAMICA

Sequence A: The Flight of the Bumble Bee, Mood Indigo, Bye Bye Blues, Humoresque, Stormy Weather, Pagan Love Song  
Sequence B: Shadrack, Indian Summer, Malaguena, The Moon Was Yellow, Lullaby of the Leaves, Cry Me a River

Ray Martin and His Orchestra

RCA FTP-1055

4 track, 7½ ips

\$7.95 . . . 30½ mins.

They might run out of unusual names to tack on showy sound creations such as Dynamica, but with men like Ray Martin and RCA's superb engineering staff, there's not likely to be a shortage of ingenious arrangements. Choral groups and musical instruments blend beautifully under Ray's direction. This tape, designed as a stereo showpiece, lives up to its earlier billing, as harp, guitars, piccolo, castanets, strings and brass sway musically from channel to channel with a sound "your eyes can follow."

You can make a game out of what's going to happen next. Despite this roving quality the music itself is most pleasant. Highs and lows abound without stridency or boom. Recording and quality is superb. A tape that can't be beat for stereo effects.—*F. N. West*



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

### CUGAT IN FRANCE, SPAIN, ITALY

Sequence A: Ciao Ciao Bambina, Souvenir D'Italie, Under Paris Skies, Symphony, La Boda De Luis Alonso, Valencia

Sequence B: Vola Colomba, Comme Facette Mammeta?, La Mer, My Man, Andalucia, Si Vas A Calatayud

Xavier Cugat and His Orchestra

RCA FTP-1028

4 track, 7½ ips

\$7.95 . . . 33 mins.

A collection of melodies typical of France, Spain and Italy played by Cugat in fine style with a definite and intimate rendition of the music of the countries visited by him on his 1959 continental tour. However, there is enough of the original Cugat flavor in each to make this tape favorably accepted by his many fans. Unfortunately, some inferior recording techniques on the high notes caused the violin strings to sound strained and strident on this tape. Otherwise, it's a pleasant musical sketchbook.

This tape also available in cartridge, 3¾ ips, with the same music—*F. N. West*



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

### THE BLEND & THE BEAT

Sequence A: Begin the Beguine, Is You Is or Is You Ain't, Too Marvelous for Words, Mood Indigo, So in Love, Night Train

Sequence B: 'S Wonderful, On a Little Street in Singapore, Autumn Leaves, Harbor Lights, September Song, Hal-lelujah

The Ames Brothers

RCA FTP-1027

4 track, 7½ ips

\$7.95 . . . 31 mins.

The Ames Brothers have long been recognized as the best vocal quartet in the popular music field today. In this, their latest offering, they depart from their usual style to vocal stylings with a beat, and with interesting results! For one thing, everything swings—whether it's a ballad or a beguine, and this somewhat unorthodox treatment of a dozen standard tunes creates a delightful and provocative interpretation. Wait until you hear them do "Night Train" with words!

Valuable assistance is provided by Sid Ramin with his orchestra and special arrangements, as well as RCA Victor's excellent sound. All add up to originality, humor and exceptional musical taste as only the Ames Bros. can offer.—*F. N. West*



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

### LOVE IS THE THING

Side 1: Stardust, It's All in the Game, When I Fall in Love, Ain't Misbehavin', When Sunny Gets Blue

Side 2: Love is the Thing, At Last, Stay As Sweet As You Are, I Thought About Marie, Where Can I Go Without You

Nat "King" Cole with the orchestra of Gordon Jenkins

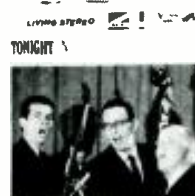
CAPITOL ZW 824

4 track, 7½ ips

\$7.98 . . . 30 mins.

There is a warm, romantic quality about the singing of Nat "King" Cole that makes you want to listen to it late at night, curled up in front of the fire, with your favorite person by your side. "Love is the Thing" is just the thing for that mood, when sung as only the "King" can sing. Throughout the years Nat has stayed at the top because of his obvious sincerity—his fullness of expression—and the unusually pleasant timbre of his voice.

This recording is so well done that it seems he is singing to you alone. Fine musical arrangements by Gordon Jenkins serve as a proper background for his songs. Nice presence, clarity and balance make this a desirable addition to your tape library.—*F. N. West*



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

### TONIGHT: IN PERSON

Sequence A: There's a Meetin' Here Tonight, Molly Malone, The Monks of St. Bernard, Seven Daffodils, Hey Li Lee Li Lee

Sequence B: Headin' for the Hills, The Far Side of the Hill, Rumania, Rumania, Madeira, M'Dear, Proshchai

The Limelights

RCA FTP-1066

4 track, 7½ ips

\$7.95 . . . 45 mins.

A live performance recorded at the Ash Grove in Hollywood starring a talented trio called the Limelights. This group specializes in folklore music of many countries and their style of presentation is quite original and enjoyable. Accompanying themselves on banjo, guitar and bass, the boys deliver tender ballads or rousing folk tunes interspersed with gag introductions, ad libs and a happy fun-filled approach to the entire program. Their efforts were enthusiastically received by their audience on the evening this recording was made.

Stereo effect and presence are right out in front. This is old folk-ballad music done in modern style.—*F. N. West*



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



## CONTINENTAL AND WALTZ ENCORES

For the First Time, La Vie En Rose, Under Paris Skies, O Mein Papa, April in Portugal, Arrivederci Roma, Anema E Core, Beyond the Sea, I Only Know I Love You, Autumn Leaves, Answer Me, Poppa Piccolino, and 12 others

Mantovani and His Orchestra  
LONDON LPK 70024  
4 track, 7½ ips  
\$11.95 . . . 74 mins.

Mantovani's creative styling and orchestral arrangements as recorded on this tape are without a doubt his best to date. No one, but no one, except Mantovani can blend the variety of the 24 wonderful masterpieces in this program so that one flows into the other, seemingly a part of the whole, yet all so different.

Mantovani's music is hard to describe. You listen to the melody as interpreted principally by the strings—it rises and falls and suddenly you aren't listening any more—you're living it with him. From then on it's an experience. A glittering expose of beautiful melodies and emotional musical offerings.

A "must" for all tape libraries.—*F. N. West*



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

## SPECTACULAR HARPS

Side 1: Caravan, Chapel in the Pines, Harp Tango, It's a Sin To Tell A Lie, The Simple Things, Happy Days Are Here Again

Side 2: Hong Kong Holiday, Ebb Tide, Lefty's Hideout, Little David Play on Your Harp, Alice Blue Gown, Limehouse Blues

Robert Maxwell His Harps & His Orchestra  
MGM STC-3836  
4 track, 7½ ips  
\$7.95 . . . 26 mins.

Correctly named, "Spectacular Harps" is a continuous surprise as a cascade of crystal clear notes dazzles the ear with an array of out-of-this-world sounds unlike any ever made by the angels. A product of Maxwell creativeness and MGM engineer's ingenuity, it seems like incredible music, far from the original concept of soul-inspiring sweetness that harp music is supposed to be.

This tape presents the harp as a swing instrument that rocks with a beat, but sounds best when it purrs and whispers in such numbers as Ebb Tide, Alice Blue Gown and Chapel in the Pines. All take on a new hue under Maxwell's deft fingers. Novel and different, it is exciting from beginning to end. All harp music? Sure, but you won't believe it.—*F. N. West*

## FOLK

### ODETTA AT CARNEGIE HALL

If I Had a Hammer, I'm Going Back to

# new truer, wide-stereo sound!

# REVERE STEREO

## Tape Recorder with

# STEREO COMPANION UNIT



Now you can space speakers to fit any room and get true stereo sound. The new separate stereo companion unit matches the Revere T-2200 Tape Recorder in appearance and performance. You get true stereo fidelity sound with 8 watts of power, 40-18,000 CPS. Play all 2 and 4 track pre-recorded tapes, record stereo tapes from stereo records and broadcasts. Record monaurally; play as long as 8 hours. Companion piece has separate controls, amplifier and mike. Model T-2200 priced under \$240, companion unit under \$70, together under \$310.

**Revere** CAMERA COMPANY  
CHICAGO 16  
A Subsidiary of  
MONTROSE MACHINERY AND MANUFACTURING COMPANY  
WHOLESALE RESEARCH IS THE KEY TO TOMORROW



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

the Red Clay Country, When I Was a Young Girl, Gallows Pole, God's A-Gonna Cut You Down, John Riley, John Henry

Joshua Fought the Battle of Jericho, All the Pretty Little Horses, Prettiest Train, Meeting at the Building, No More Auction Block for Me, Hold On, Sometimes I Feel Like a Motherless Child, Ain't No Grave Can Hold My Body Down

Odetta

VANGUARD VTC-1630  
4 track, 7½ ips  
\$7.95 . . . 44 mins.

A program of folk tunes and spirituals sung by the talented singer, Odetta, who accompanies herself on the guitar and is assisted by Bill Lee on the string bass and the Choir of the Church of the Master, New York. This is a recording of her program at Carnegie Hall on April 8, 1960, but several of the numbers were redone (for technical reasons).

She has a rich vibrant voice and knows how to use it effectively to project the variety of songs in this concert. Included are traditional and modern folk tunes as well as some of English-Irish origin.—*F. N. West*

## JAZZ



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

## UNITED STEREO TAPES SAMPLER JAZZ!

Dizzy Gillespie—St. Louis Blues/Have Trumpet Will Excite—Verve  
Jo Jones—Cubano Chant/Jo Jones Plus Two—Vanguard  
Trombones, Inc.—Lassus Trombones/Trombones, Inc.—Warner Bros.  
Also, Les McCann, Count Basie, Modern Jazz Quartet, Gerry Mulligan/Chet Baker, Andre Previn/David Rose, Oscar Peterson, Wilbur de Paris

UNITED STEREO RQ-403  
4 track, 7½ ips  
\$3.95 . . . 28 mins.

Another in the series of samplers by U.S.T. The others present Popular, Classical and Sounds, but this one concentrates on jazz and is one of the best available today for a low price. Whatever your taste in jazz might be—you will find a sample of it here with good performances by some of the leaders in this type of music—Count Basie, Jo Jones, Oscar Peterson and others. All of them will give you an idea of the wealth of good jazz available on 4 track tape from the leading recording companies today. Recommend as a "good buy."—*F. N. West*

# CROSSTALK

from the Editors

WHICH CAME FIRST, the chicken or the egg? This riddle is similar to the one now faced by FM stereo multiplex broadcasting, recently given the green light by the Federal Communications Commission.

\* \* \* \* \*

SHOULD STATIONS SPEND the money on rather complicated multiplexing equipment when there are few equipped to receive it? Should manufacturers of tuners rush into the market with multiplex tuners when there are few programs which can be received on them?

\* \* \* \* \*

SO FAR in about the month which has passed since the FCC approval about three stations are on the air with FM multiplex signals and these are broadcasting an hour of multiplex a day. There are less than a dozen firms who have announced tuners or adapters and, of those, only a few have made shipments.

\* \* \* \* \*

WE DO NOT MEAN THIS as a criticism for everything has to start somewhere. What we are pointing out is that this is going to take a while, you are not going to be able to go to sleep one night and wake up the next morning with the air just loaded with stereo multiplex.

\* \* \* \* \*

STANDARDS FOR STEREO multiplex are rather high. Some manufacturers of adapters which can be attached to tuners to convert them to the reception of this new form of entertainment are already stressing that their units are intended for use with their tuners, not those of some other manufacturer.

\* \* \* \* \*

THE FM STATIONS are beginning to ask who is going to pay for all the gear they will have to buy to convert their transmitters and some are implying that the manufacturers should ante up, inasmuch as they will be the ones to benefit the most from sales of new equipment.

\* \* \* \* \*

TO THE QUESTION of full time multiplex operation, the stations want to know where they are going to get the material. Some are on the air 24 hours a day and full time stereo programming would require many many times the number of musical numbers now available in stereo.

\* \* \* \* \*

TO MAKE MATTERS still stickier, most FM listeners are pretty knowledgeable people when it comes to music and reproduction—that's why they have FM in their homes. They will be quick to detect and complain about any loss in quality.

\* \* \* \* \*

THE FCC STANDARDS for multiplex broadcast have been pegged somewhere between the capabilities of disc and tape. So the station which wants to maintain the integrity of its broadcast quality is going to have no choice but to use tape as the music source. This does not mean recording discs on tape and then broadcasting the tape, it means recorded tapes.

\* \* \* \* \*

SO WHERE IS enough music on tape to supply the insatiable maw of 24 hour a day broadcasting? Right now there isn't that much, not nearly. While the supply is adequate for home use and of sufficient variety there just isn't enough to support commercial operation.

\* \* \* \* \*

THE SERIOUS TAPE recordist will probably be in the forefront of purchasers of the new equipment when it becomes generally available, especially if he owns a stereo recorder.

\* \* \* \* \*

IF YOU PLAN to get an adapter for your present tuner, make sure it will work with it, and preferably it should be of the same make specifically engineered for the tuner. When you buy it will depend, of course, upon when there is something to receive on it.

# INDUSTRY NEWS

PENTRON ELECTRONICS CO. shareholders will vote on the proposed acquisition of Southern Electric Co. at a purchase price of \$7,500,000 through the issuance of already authorized Pentron shares. Southern Electric manufactures motors, coils and railroad equipment.

SOUNDCRAFT MAGNETICS, LTD. has been formed in England to market Reeves Soundcraft tapes abroad according to a joint announcement by Frank B. Rogers, Jr. executive vice president of Reeves Soundcraft and Sir Eric Ohlson, chairman of Airtech Ltd. of England.

The new firm will first import Reeves products for sale in the British Isles and the Outer Seven Countries. Later it is planned to manufacture tape in England.

The new firm will set the pattern for major foreign distribution of Soundcraft magnetic products in all important European countries outside the Iron Curtain. It is expected that the European market in five years will be as large as the U.S. market today. The percentage of recorders in European homes substantially exceeds that of the U.S. according to Mr. Rogers.

MERCURY RECORDS has consolidated with Consolidated Electronics Industries Corp., whose controlling stockholder is the United States Philips Trust. There will be an international exchange of musical libraries between Mercury and Philips Phonographische Industries which operates in 32 countries as a subsidiary of Philips Lamps of Holland, one of the industrial giants of the world.

In each country, Philips records and produces music of that country. All of these catalogs will be made available to Mercury for distribution in the United States. Separate label identification will be given the Philips library and Mercury plans an expansion program based on this acquisition.

According to Irving B. Green, Mercury president who made the announcement, "Business must concern itself with the world market. The so-called 'small world' is here now."

RCA is reported ready to introduce a reel-to-reel adapter for its new cartridge tape recorder line expected to make its appearance in the fall. The adapter will sell for under \$5.00 according to reports but no price has yet been set.

TELEX received a \$450,000 contract for headsets from Electro Educational Developments. The headsets will be used to equip the language lab facilities produced by the firm.

TANDBERG OF AMERICA president Eric Darmstaedter recently completed a three-week business inspection tour of Norway and other countries. He submitted to the Tandberg factory a comprehensive report of American Hemisphere demands for recorders and other equipment as part of an exchange program whereby Tandberg factory engineers visit the U.S., talking with consumers and dealers and aiding in the establishment of Tandberg service stations in this country.

Full occupancy of the new building at Pelham, N.Y. which will house 600 employees will come this fall. New products scheduled for introduction as a result of the trip include a new version of the Model 5 tape system and a greatly improved Model 2. Also planned is the introduction of a transistorized, cordless shortwave radio.

UNITED STEREO TAPES will consolidate its operations at the Bloomfield, New Jersey plant. Only mastering and accounting functions will remain at the Sunnyvale, California address.

Ted Wallerstein, formerly president of Columbia Records will act as management consultant and also assume responsibility for the company's operation, reporting to H. L. Brown, prexy of Ampex Audio.

Dick Blase has been appointed national sales manager and John Spellman, UST product manager has been assigned additional responsibilities. All will be at the Bloomfield plant.

GENERAL MAGNETICS AND ELECTRONICS of New York will enter the stereo tape recorder field. Up to now the firm produced the Gemark monaural recorder and had no stereo units.

TELECTRO, a Division of DuMont-Emerson will market a line of four new recorders the cheapest of which will be a \$99.95 monophonic model.

AMPEX CORPORATION named William E. Roberts, formerly executive vice president of Bell & Howell as its new president and executive officer succeeding George I. Long, Jr. who will continue as a director. The announcement was made by Alexander M. Poniatoff, chairman of the board.

BELL SOUND, Columbus, Ohio has named Dan Neumaier as Distributor Sales Manager for the company's stereo tape components and tape cartridge line. The appointment was announced by J. A. O'Hara, newly appointed marketing manager at Bell. Mr. Neumaier will handle the Bell line through two-step distributors.

WILMEX LTD. of London will handle the exclusive distribution of UST stereo tapes in Great Britain. The first release covers some forty 4-track recordings of the Audio Fidelity, Concertapes, Everest, Vox and Westminster labels. These have been cleared for United Kingdom copyright and negotiations are underway to clear the majority of remaining titles in the line.

CBS LABORATORIES, Stamford, Conn. has announced that Frank A. Comerci has joined the staff as manager of the Magnetics Research Department. He was a senior engineer with Audio Devices before joining CBS and was one of the pioneer engineers in the tape field, having worked with Rangertone in 1946.

MAGNETIC SOUND, INC. of West Des Moines, Iowa, has merged with Conley Electronics, manufacturers of the Mood-Master background music machines and cartridges. Magnetic Sound will become the duplicating wing of the firm continuing under the direction of Stuart A. Steelman who becomes a Vice President of Conley.



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ST. PAUL 8, MINNESOTA  
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Cat. No. 1200-M, 1200 ft. reels —  
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Cat. No. 600-M, 600 ft. reels —  
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• • • • •

# TAPE CLUB NEWS

## Members Send Lambskin Mat



A beautiful lambskin mat with the WTP emblem worked into it was sent to World Tape Pals headquarters as a gift by Stan and Emily Cook of Brighton, Australia (pictured above). "In these few short months of WTP membership," said Stan, "we have made friends all over the world."

## WTP Emblematic Jewelry

A complete line of emblematic jewelry featuring the World Tape Pals emblem, a lighted torch inside a circle, is now available to members of World Tape Pals. Items for both men and women are available, including tie chains and bars, lapel pins and buttons, cuff links, and bracelet charms. Prices on the jewelry begin at \$1.00 and go up.

Dies for the jewelry were provided by WTP John Ramsey of Dallas, who is connected with the Balfour Company, well-known manufacturers of emblematic jewelry.

Members will soon be wearing the WTP emblem proudly, and sending it as gifts in the form of jewelry to their tape pals.

## Sweden World Tape Pals Members

Enrollment of several new WTP members in Sweden, and re-enrollment of former members is reported by Representative Stig Siegers, Dianavagen 22 11, Stockholm No., Sweden. Stig, who has recently undertaken the mammoth job of representing WTP, is a proofreader on a Stockholm morning daily newspaper.

## The Ray Albert Handicap Fund

A little known fund in the Indiana Recording Club, Inc. is an amount of money initially set aside by Ray Albert IRC5, to assist the blind or handicapped in payment for their IRC dues, purchase of tape, etc. If you know of such a person that would enjoy the benefits of tape recording, but cannot participate because of financial reasons, please get in touch with Ray Albert.

All funds for this work are contributed, so if you would like to contribute anything, even tape or equipment, to help this committee accomplish its worthwhile goal, please do not hesitate to let Ray know.

Mrs. Clara Dorband IRC11 is saving cancelled postage stamps from packages, letters, etc., for the benefit of this fund. These used stamps will be sold, in bulk, and if any fellow members would like to

help do this, the club would be most appreciative. Simply tear stamps off envelopes, along with the paper on which they are glued, taking care not to tear the stamp or the perforation on the stamp, and send them along to Clara

A most worthy club endeavor IRC—keep up the good work

## JOIN A CLUB

TAPE RECORDING Magazine assumes no responsibility for the management or operation of the clubs listed. This directory of clubs is maintained as a service to our readers. Please write directly to the club in which you are interested regarding membership or other matters.

**AMATEUR TAPE EXCHANGE ASSOCIATION**  
Ernest Rawlings, Secretary & President  
5411 Bodge Street  
Cartierville, Montreal 7, P. Q., Canada

**AMERICAN TAPE EXCHANGE**  
Cortlandt Parent, Director  
Box 324  
Shrub Oak, N. Y.

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

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

**INDIANA RECORDING CLUB**  
Mazie Coffman, Secretary  
3612 Orchard Avenue  
Indianapolis 18, Indiana

**MAGNETO-VOX CLUB**  
J. M. Roussel, Sec.-Exec.  
8140, 10 Ieme Avenue  
Montreal 38, Que., Canada

**ORGAN MUSIC ENTHUSIASTS**  
Carl Williams, Secretary  
152 Clizbe Avenue  
Amsterdam, New York

**STEREO INTERNATIONAL**  
O. B. Sloat, Director  
1067 Flatbush Avenue  
Brooklyn 26, N. Y.

**THE VOICESPONDENCE CLUB**  
Charles Owen, Secretary  
Noel, Virginia

**UNION MONDIALE DES VOIX FRANCAISES**  
Emile Garin, Secretary  
886 Bushwick Avenue  
Brooklyn 21, N. Y.

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

## OVERSEAS

**AUSTRALIAN TAPE RECORDISTS ASSOC.**  
John F. Wallen, Hon. Secretary  
Box 970. H., G.P.O. Adelaide, South Australia

**ENGLISH SPEAKING TAPE RESPONDENTS' ASSOCIATION**  
Robert Ellis, Secretary and Treasurer  
Schoolhouse, Whitesome By Duns  
Berwickshire, Scotland

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

**THE NEW ZEALAND TAPE RECORDING CLUB**  
Kenneth M. Tuxford  
P. O. Box 7060  
Auckland, W. I., New Zealand

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

## Tape Debates?

Our congratulations to the Indiana Recording Club for its continued fast progress. It is enthusiastic, active clubs like this we like to see organized. Your bulletin looks chock full of interesting items and planned club activities.

We like a suggestion by Indiana Recording Club member, Cal Waterhouse. Cal suggests organizing a Tape Debating Group. He maintains that while controversial subjects such as religion and politics can be difficult to discuss successfully, they can be discussed well and fruitfully on tape.

In the heat of an argument when one is supposed to be listening to the other fellow and at the same time concentrate on what he wants to say himself (when the chance presents itself), it is all but impossible and the discussion usually fails. But, as Cal says, discussion by tape is different. You can put forward your point of view clearly, carefully using the most explicit words, without time limit or fear of interruption. Furthermore, a replay will show up weak points which can be changed as many times as necessary before your opponent even hears it. His reply can be heard while you are in a calm state of mind giving full and proper measure to his strong and weak points of view. In this tranquil atmosphere the real goal of the discussion, truth, not necessarily victory, can be accepted.

Why not take Cal's suggestion—try it with one of your tape pals.

## Voicespondent "Gray Man"

The Voicespondence Club has always emphasized service to fellow human beings. VS-er James Clemer of Roanoke, Virginia, is a typical example of this spirit of brotherhood. Known as a "Gray Man" for his work through the Red Cross at the local veterans' hospital, Clemer has long used his slide projector and tape recorder combination to bring entertainment and pleasure to hundreds of hospitalized persons. Much of the material presented by Clemer has been collected by him over the years through his voicespondence contacts with other Club members throughout the world. The VA patients love to hear and see these people from other lands and other parts of our own country.

## New Librarian for CTRL

Joseph Stepanowicz of Hayes Road, Marcy, New York, has accepted appointment as Librarian for Catholic Tape Recorders, International. Joe is an active club member, he has handled most of the welcoming tapes for the club and he has assisted many new members toward successful tapesponding. Joe has asked that all parcels for the library be mailed to: CTRL Library, c/o Mr. Joseph Stepanowicz, Librarian, 127 Whitesboro Street, Yorkville, New York.

## Information and Discussion Group

A new organization is being formed for the purpose of discussion of tape recording. This is not a tapespondence club. If you are interested in hearing more about the organization contact—George A. Benton 3rd, 1018 Leo Way, Oakland 11, California—but the reason for your interest in the organization must be stated as membership is very limited.

# TAPE IN EDUCATION

Robert C. Snyder

(This month's column concludes a series begun in March.)

In the April column I cited a series of forward looking brochures written by Dr. J. Lloyd Trump, Associate Secretary of the National Association of Secondary-School Principals (NASSP).

**FOCUS ON CHANGE—GUIDE TO BETTER SCHOOLS**, by J. Lloyd Trump and Dorsey Baynham, an associate at the National Education Association, has been published since then in a paperback edition at \$1.25 by Rand McNally & Company, P. O. Box 760, Chicago 80, Illinois.

For the past five years the NASSP has sponsored and examined teaching experiments in schools across the nation. Many of the views, findings, and recommendations of this book are based directly upon the results of those experiments. Others reflect projections by the authors based upon their evaluations of these experiments and the results of other studies.

In addition to discussing needs of students, teachers, curriculums, and school facilities, **FOCUS ON CHANGE** proceeds to lay out the premises for change, give an analysis of some of the problems to be confronted, and indicate a number of views on future philosophy of education and the organization of instruction and facilities.

Sections deal with facilities requirements, classroom scheduling, fitting the educational program to the requirements of the individual student, encouragement of student responsibility for learning, improvement of teacher education, professionalization of teaching, improved administration, more constructive use of teaching and technological aids including tapes, films, and teaching machines, and suggestions for future research and experimentation to further improve educational techniques.

Dr. Trump has informed me that copies of **FOCUS ON CHANGE** have been distributed to all members of NASSP, so you can probably see a copy at your nearest high school principal's office. If unavailable at your book dealer, copies may be ordered direct from the publisher, address above, at \$1.25 for single copies, 95 cents each for 2 to 9 copies, and 85 cents each for 10 or more copies, plus postage.

This could be an excellent gift for friends who are interested in educational improvement, teachers, and members of your school board.

In these six columns I have tried to cover some of the new developments in theories of learning and teaching. Material covered has ranged from new structures of educational systems designed to encourage every student to reach the maximum of his individual abilities on through to concepts of programmed learning and various approaches used in designing teaching machines.

It is clear that many of these ideas de-

part greatly from past beliefs and practices both in direction and in distance.

What does all this portend for the future? As good a statement as I have seen is to be found in the book **TEACHING MACHINES AND PROGRAMMED LEARNING**, which was reviewed in this column three months ago.

The section which follows is quoted from the final chapter of that book entitled, "Concluding Remarks":  
**"THE FUTURE**

"Teaching machines and programmed learning can have a major impact on education. Their use can effectively and dependably guide the student's learning-by-doing as he proceeds, as rapidly as his abilities permit, through carefully pre-tested instructional programs. It can thus be made economically feasible to provide every student with many of the benefits of a skilled private tutor, since auto-instructional materials can anticipate and be responsive to his needs for mastering each aspect of a subject matter. Not only do programmed materials themselves thus have the potential for producing much more efficient learning than has hitherto been generally possible, but their wise use should make possible the much more constructive use of the teacher's talents.

"The basis for consistent improvement in educational methods is a systematic translation of the techniques and findings of the experimental science of human learning into the practical development of an instructional technology. To achieve the full benefits inherent in this concept, instructional materials and practices must be designed with careful attention to the attainment of explicitly stated, behaviorally-defined educational goals. Programmed learning sequences must be developed through procedures that include systematic tryout and progressive revision based on analysis of student behavior.

"The rate at which the methods of programmed learning may influence the practices, staff, and facility requirements of school systems is difficult to predict. However, it seems likely that we can look forward to significant revisions in concepts of classroom practices and teacher functions. We also need to foresee and plan for the time when, because of increased instructional effectiveness, a much more advanced range of educational content can be included in the precollege curriculum."

To me, this seems a fascinating challenge. And upon the shoulders of today's teachers, school administrative officials, and enlightened parents rests the burden of bringing this bright promise into being. While researchers, experimenters, and designers may bring the techniques and devices into being and make them available, only the administrators, teachers, and parents can actually transform the promise into reality in our schools.

The opportunity is ours.

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#### 10 SCRIPTS INCLUDED

Kit No. 1 contains ten scripts—all different—all amusing. These skits are excellent for affairs where a goodly number of party-goers are present. Everyone has something to say and he or she can say it as his imagination interprets it. The ten scripts encompass 26 different characters, 14 male and 12 female.

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#### TAPE RECORDING

Severna Park, Maryland

Please send me Tape Fun Kit No. 1. I enclose \$2.00.  Send First Class. I enclose 24c additional.)

Name .....

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

# 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 question will be used in this department.

## Line Noise

**Q**—I possess a Norelco Tape Recorder, the "Continental Stereo." Upon recording from my hi-fi units into the tape recorder "radio-phonograph" jack the results are perfect, clear, no background sound, etc. However, when recording from the microphone I noticed a hum or buzz on playback. I was told that this was caused by "line noise." I then recorded in my building but another apartment and the results were the same. The same recording was made outside my building, in fact in a service shop, and not a sound of hum or buzz was detected, in fact, nothing wrong was found with the tape recorder.

I would like to know if this hum or buzz when recording is caused by line noise in the building and if this noise can be eliminated?—A. L., New York, N. Y.

**A**—It is entirely possible that the noise is coming in over the lines, however, if this were the case the odds would be that it would also appear in your recordings from your hi-fi rig. To double check this we would suggest that you secure a "Brute Force" line filter such as that made by Cornell-Dubilier. This can be obtained from your local radio parts house. Since it costs only a few dollars, it is a good investment. You should also check the mike cable to make sure that the shield wires are connected at both the input and output jacks. Sometimes buzzing noises can be picked up from fluorescent light fixtures, either in your own apartment or from apartments above or below. Another possibility is a loose connection somewhere in the microphone recording preamp.

Since you have not had this trouble outside your building, it would seem to indicate that the cause of the difficulty lies in the building. If the difficulty comes over the power lines, then the line filter should take care of it.

## Hum Bug

**Q**—I have two Webcor tape recorders and I make all my own tapes. I play the Hawaiian guitar, regular guitar, ukulele, harmonica and sing in three different voices in harmony. When the tape is finished and it comes out, it sounds very good, if I have to say it myself. But what I would like to know is this: I have an old phonograph which has three tubes and a 6 inch speaker. I removed the motor that runs the disc and would like to make an amplifier out of it. It has two RCA plugs, one goes to the speaker and the other to the sound source. When I play the television or any sound source into it, the voice or music chatters and there is a loud hum when I turn the power on the amplifier. Is there some way I can control the sound so that it comes through clearly and the hum disappears?—J. J. B., Cheektouga, N. Y.

**A**—If, as you state, one of the connections goes to the speaker and the other to the sound source, you should use the second since the speaker lead will have no amplifying effect.

We presume that the other lead is the one which goes to the pickup cartridge and this is the one to which the connection should be made. Since this lead would connect to a phono cartridge preamp, it is designed to handle very small currents and, most probably at high impedance. You are getting poor reproduction and hum when you connect it to the TV set because the output from your TV speakers is a high power source at low impedance and simply puts more current into the phono preamp than it can handle.

The solution is to cut down on the amount of current reaching the input and this may be done by means of a transformer, one side of which is a high impedance winding and the other a low impedance winding to match the speaker voice coils on the TV set. This will be in the neighborhood of 8 ohms.

A volume control may be inserted in the line to control the input current. The use of a transformer will also serve to isolate the input from the sound source and end the hum troubles. Your serviceman can give you good advice as to the kind of transformer and the connections to make.

## Classical Music Add-A-Track?

**Q**—Is there a recording on one track of the orchestral part of Rachmaninoff's second piano Concerto so that my daughter could add the piano part on the second track? The same for Prokofieff's third. Are there any tapes of Marek Weber's Orchestra? Is there a recorder on which I could add not only the second part, but also a third and fourth and play all four together?—G. M. B., Phoenix, Arizona.

**A**—We know of no recordings such as you mention. The only solution would be to make a recording from an existing tape or record of the numbers you want, putting the copy on track two and then recording your daughter's playing on the other track. Of course, this would also contain the solo piano part and we know of no way in which this can be eliminated.

You might ask your local record dealer for a catalog of Music Minus One records. These have the solo parts missing and may be of some help to you but we doubt that the specific titles you want are available.

It is unfortunate that there is not an abundance of this type of material available on tape for it could be of very great help in teaching music.

Regarding adding tracks beyond the second, which can be done on any recorder having the add-a-track principle, you will need another recorder. The out-

put of the two tracks is combined and recorded on the lower track of a new tape. This is then played and the next track added, and so on. Of course, with each dub, you will find the noise increasing so there is a practical limit to the number of times that new tracks may be added—to the point where the noise level becomes objectionably high.

Les Paul and Mary Ford, who use this technique extensively had built for them an eight channel Ampex using 1 inch tape. Each successive recording was then made on its own channel and any number of channels could be played back together to one master tape from which the records were cut. There were separate controls for each channel so that the proper blend of sound was achieved. In this way there was no continuous dubbing from one tape to another hence there was no buildup of noise.

## Squeal Again

**Q**—I recently purchased a stereo tape and when I play it there is a definite squeal which I am sure is not in the recording. It sounds as if the noise is being made as the reel unwinds during playing. I have run it through the recorder a number of times at fast speeds before playing but this seems to do no good. In some parts of the tape the noise does not appear but in others it is so pronounced that it disturbs anyone trying to listen to the recorder. Again, I might emphasize, the squeal is not in the recorded part of the tape.—J. C. R., APO, New York, N. Y.

**A**—There are a number of possible spots to look at for the cause of squeal. One is the pressure pads of the recorder which hold the tape against the heads. These, over a period of time, will accumulate a hard coating composed of shed oxide particles and dirt from the tape. When this happens, the pads become glazed and hard causing the tape to chatter at a high rate of speed, causing the high pitched squeal that you hear. The answer, of course, is to clean or replace the pressure pads.

To clean them, use any good tape cleaner or isopropyl alcohol and brush them up with a nail file or small piece of fine sandpaper to restore the nap of the felt and get rid of the hard coating.

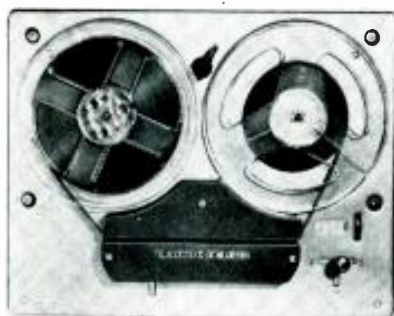
Actual replacement is easier, if you have on hand the necessary pads or similar material. The old pads are removed and the new ones cemented in place with any good adhesive. Be careful, when applying the adhesive, to see that none of it gets on the face of the new pads nor on the head of the recorder. It is best to apply a small dab of adhesive to the metal spring and then touch the new pad to it. By putting the recorder in the play position, the pad will be held against the metal while the adhesive sets. This pressure should not be continued too long without the recorder running, however.

A periodic squeal also may come from the edges of the tape running over a warped reel. By careful listening you may be able to locate the exact spot from which the squeal comes.

If the squeal is in the tape itself, which is unlikely in new tape, applying a tape lubricant is about the only solution.

# NEW PRODUCTS

TANDBERG TAPE DECK



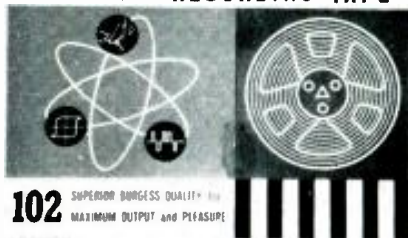
The model "65" 3-speed, 4-track stereo playback tape deck has been introduced by Tandberg of America, Inc., 8 Third Avenue, Pelham, N.Y. It features a playback head for 2 and 4 track stereo and monaural tapes, start-stop button, 2 outputs for plug-in preamplifiers, facilities for adding record erase heads. It is specifically designed for installation into new or existing high fidelity systems, and it is adaptable for language laboratory or industrial use. The deck has three speeds, a frequency response at 7½ ips of 30-20,000 cps, a hysteresis synchronous motor, an operating lever knob for playback, fast forward and fast reverse, and a 4 digit revolving counter. It is priced at \$199.50. Write Tandberg for complete specifications.

BURGESS BATTERY RECORDING TAPE

## BURGESS

mylar all purpose

## MAGNETIC RECORDING TAPE



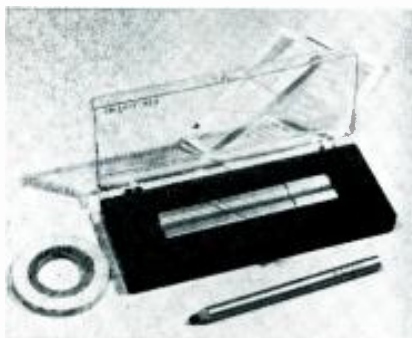
Burgess Battery Company, Division of Serval, Inc., Freeport, Illinois, has entered the magnetic tape market and is producing high quality recording tapes for business, home, broadcast, and laboratory use. According to the manufacturer, performance tests of the tape show it has signal output strength regulated to less than a half decibel of variance. To achieve faithful reproduction of high frequencies, Burgess uses a special acicular iron oxide powder filtered down to a particle size of 5 microns or less. Acetate or Mylar plastic is used as the base for the tape and they are pre-coated. A specially protected dust-free room is used for the application of the magnetic coating. Burgess audio tape is produced in ¼ inch widths and is being marketed in all standard reel lengths in seven of the most popular series. For prices and additional details, contact the manufacturer.

MAJESTIC ATTACHE



Majestic International Sales, 743 N. LaSalle St., Chicago 10, Illinois, has introduced a companion model to the Grundig-Majestic Niki tape recorder called the TK-1 Attache. This all-transistor portable tape recorder is completely battery operated and weighs only 8 pounds. It has a permanent dynamic speaker with a frequency range of 80-10,000 cps. A specially engineered recording level indicator provides visual proof of accurate sound control. The TK-1 Attache uses 4 x 1.5 V monocells plus one battery—3V. There is approximately 15 hours operating time on one set of batteries. The unit is priced at \$129.95. Write Majestic for all details.

MINIATURE EDITALL SPLICER



A smaller version of the EdiTall Tape Editing Block is now available from The Tall Company, 27 E. 37th St., New York 16, N.Y. The miniature S-2 EdiTall Block is designed for modern compact tape recorders and it is as precise as the larger S-3 EdiTall. The new block's dimensions are 4" long, ¾" wide and only ¼" thick. It is easily fastened to any tape recorder's top deck by means of double-sided pressure-sensitive adhesive tape, which is attached to the block. The KS-2 kit also includes china-marking pencil, roll of 7/32 splicing tape, instruction booklet condensed from the "editing" chapter in Joel Tall's book *Techniques of Magnetic Recording*. The S-2 block is \$6.50 and the KS-2 is \$7.50. Contact The Tall Company for other details.

STEREO TAPE HEAD KIT

Fidelitone Microwave, Inc., Chicago, Illinois, has announced its newest product, a compact kit containing a quarter track record and playback stereo tape head. With each head, the company is giving free a 3" reel of azimuth alignment tape, an elec-

## EICO new Transistor Stereo/Mono 4-track Tape Deck

Model RP 100w

Completely assembled, wired and tested with 3 heads, and stereo record and stereo playback preamplifiers.

Model RP 100K

Semi-Kit includes transaport completely assembled and tested with 3 heads; and control electronics, stereo record, and stereo playback pre-amplifiers in easy-to-assemble kit form.

Write for full specifications

### TAPE STORAGE OR CARRYING CASE

reg. 9.95, now 5.95  
(Heavy wood construction, waterproof vinyl covering. Holds up to 24 tapes.)

reg. 2.45, now 1.49  
(Pressed cardboard, holds 10 tapes or 60 45 rpm records.)



## SAXITONE RECORDING TAPE

\*Oxide guaranteed not to rub off or equal—or money back. Compare ours with other "Hi-zax" tape. You'll find it's more than just "pe" when you deal with us. We're original innovators in the tape recorder business and our reputation means everything to us.

600' acetate (plastic), 5"	.75
600' MYLAR 3" reel	.95
900' MYLAR (Polyester), 5"	.95
1200' MYLAR, ¼ mil, 5" reel	1.18
1200' Acetate (plastic), 7"	1.19
1200' MYLAR, 1 ½ mil. (Strong)	1.68
1800' acetate (plastic), 7"	1.79
1800' MYLAR 1 mil. thick	2.39
2400' MYLAR, untempered	2.69
2400' MYLAR, tempered	2.99

Studios, Large Users Even Lower. Plus Postage

### TAPE STORAGE CAN

Unique twist-lock insures dust-free moisture-proof, non-breakable. High impact styrene. Ideal shipping container. reg. 89c now 59c



FERRO-DYNAMICS "Bookshelf" open end case reg. 1.25, now 89c

30% off Entire Stock Precorded Music Tape 30% off

## NORELCO SPEAKERS

DISCONTINUED MODELS: Famous 977—successor to 8710M (win cone—original list 39.95, (40-20,000 cycles) usual NET 29.97 NOW 11.95; also 3800M, list 16.00, usual NET 9.00, now 4.95 while they last. PLUS POSTAGE. Other sensational speaker reductions on a first come, first served basis. SEND FOR SPEAKER SPECIFICATION SHEET.



## SAXITONE TAPE SALES

(DIV. OF COMMISSIONED ELECTRONICS, INC.) 1776 Columbia Rd., NW, Washington, D.C.



trical connector and the necessary hardware for making the attachments. Simple, illustrated directions for mounting are included. The tape head is identical in workmanship, size and tonal quality to the tape head the company supplies to original equipment manufacturers. For cost and more information, contact Fidelitone.

## FREE CAMERA-RECORDER BOOKLET

Webcor is offering a free 12 page booklet "If You Own a Fine Camera You Should Own a Fine Recorder—Webcor." The booklet shows many ways in which a camera and a recorder can be teamed for sound movies and slide shows, darkroom work, portraiture, etc. You may have a free copy by writing to Webcor Sales Co., 5610 W. Bloomingdale Ave., Chicago 39, Ill., and requesting it.

# FEEDBACK

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

## Speed Adjustment Wanted

To the Editor:

In reference to Robert I. Colin's "WANTED, Two improvements in Home Tape Recorders" in the May '61 Issue of "Tape Recording."

I emphatically endorse Mr. Colin's suggestions, both in respect to standardizing the operation and calibration of the digital revolution counter and for provision of a manually operated vernier speed adjustment to regulate tape velocity at  $3\frac{3}{4}$  and  $7\frac{1}{2}$  I.P.S. probably better than 2% plus or minus.

Owning two tape recorders, one an Ampro 757 two track, the other a VM 720 four track which can also playback half-track; I have noted the difference in pitch, when my recordings, whether music, voice or both are played back, when recorded on one machine and played back on the other and vice versa.

In timing the velocity of tape travel at  $3\frac{3}{4}$  and  $7\frac{1}{2}$  I.P.S. for 150 and 300 inches respectively, both recorders were not accurate, there being a difference of  $3\frac{1}{2}$  seconds, more or less, between each recorder than the required 40 seconds for that length of tape. No matter what mechanical adjustments were made, such as pinch roller pressure, take up reel torque, lubrication, installing new pinch rollers, drive belts, etc. even to slightly reducing the diameter of the integral drive belt groove on the flywheel of the slow machine; by doing the latter one second was gained, from 42 seconds to 41 seconds for said length of tape. But this is a trial and error method for those who have no machine shop equipment and requires dismantling and re-assembling the recorder components, too much reduction in pulley diameter would cause over speeding. There was no other way of slowing the tape velocity on the newer machine, which was fast by 1 to 1.5 seconds for said length of tape.

Now, the average tape recorder owner may say "What's the difference in accurate tape velocity" evidently it never bothered him, but let him try his own carefully recorded tape, monaural or stereo, on a friend's recorder or playback machine and listen to the difference in pitch and music and/or voice, if played back on a fast or slow running machine not having the same tape travel velocity as his recording.

It is assumed that manufacturers of pre-recorded tapes, record for hi-fidelity at exact velocity speeds, therefor a purchaser of such tapes, when playing them back on his fast or slow machine (without a speed control) would surely become dissatisfied with its fidelity and place the blame on the producer of the tape.

There are thousands of home movie film makers who also own a tape recorder, many own two recorders. They project their films with taped background music, commentary or sound effects, synchronizing their recordings with film speed projection of 16,

18 or 24 frames per second, this involves a great deal of patience and accuracy and is a satisfaction when played back on the equipment which made it so. With the introduction of constant one speed film projectors a tape travel velocity vernier would be most useful on the recorder or playback machine, why? because many of the quality made and prize winning films with their tapes are entered in contests or sent around to various movie clubs for screening and for amateur movie shows. Should these organizations have fast or slow, above or below the registered speed recorders or playbacks, the recorded tapes would run out or be far behind the film cues, even with using the various synchronizing gadgets now being sold. With variable speed projectors some compensation may be accomplished by slowing or increasing the film speed projection, providing the tape is played back at the exact speed and pitch in which it was recorded. If the projector has no variable speed control the synchronizing gadget will not hold film or tape sound in appreciable sync. when played back slower or faster than the original speed at which it was recorded.

At film projection speed of 16 frames per second and inaccurate tape velocity speed (supposed to be  $3\frac{3}{4}$  I.P.S.) 150 inches of tape, running 42 seconds, instead of 40 seconds, will advance the film by 32 frames out of synchronization, and in the case of screening a 200 ft. reel of 8mm film it would be well over 500 frames. With 150 inches of tape running at 38 or 39 seconds, the reverse would happen, i.e., the tape would out run the film.

Another reason for provision of a tape speed vernier on home recorders would simplify duplicate tape recording from one recorder to another, where one is faster or slower than the other. In order to tape background music with commentary or sound to accompany the screening of films I use the four track VM (which runs fast) recording music direct from phono disk pick-up into recorder on track 2, then rewinding the recording back to feed reel, setting the Add-a-track knob in proper position and recording commentary or sound through the microphone, the film being projected for cues when to speak or add sound. The mike being housed in a blimp covered with towels (except front) for deadening possible projector noise, and placed 6 to 8 feet from projector, which incidently is a quiet running machine and connected with an electronic synchronizing coupler, the drum of which the tape from the feed reel operates.

This tape can be played back stereo, the recorder speaker will emit the voice or sound as recorded and an external speaker, through a separate amplifier emits the musical recording. Combining both these tracks, through a home made mixer, to half-track on the other recorder (using shielded cable) with a few tape try-outs and

manipulation of the volume controls on the recorders and mixer, the musical background can be diminished somewhat with its proper control so as not to drown the voice or sound effects.

If both recorders had operated with a tape speed velocity of  $3\frac{3}{4}$  or  $7\frac{1}{2}$  I.P.S. there would be no further recording due to the fact that this half track tape could be played back on the VM machine and any other two track recorder. But the Ampro recorded at a slower speed and the VM played back at faster than  $3\frac{3}{4}$  I.P.S. changing the pitch of both music and voice. Therefor another recording had to be made on fresh tape, this time using the Ampro recorded tape and playing it back from this machine to one of the (quarter) tracks of the VM recorder in an effort to regain the proper speed and pitch at which the first recording had been made. But I doubt whether this third recorded tape can be played back on every two track recorder, due to different head alignments, it played back a dead track on the Ampro; when it was reversed, and put into play, the recorded quarter track played back in reverse.

Tape slippage and stretch, should it occur, when synchronized with movie film speed would not materially offset the frames per second projected to such an extent as would a slow or fast moving tape across the playback head of a recorder.

As has been mentioned phonograph manufacturers had provided adjustable governors to control R.P.M. speeds of disks, so why not some equivalent mechanism to control the R.P.M. speed of tape recorder capstans to hold tape speed velocity to standard speeds.—*Herman Hensel, Jersey City, N.J.*

## Teacher's Tape Club

To the Editor:

I would like to poll, through *Tape Recording* all teachers who are interested in forming either a U.S.A. Teachers Tapers Club or a Talent Tapers Club, or both. The clubs would aim to serve as pools, mainly for exchanging, via tape recording, ideas and actual content—taped lessons, on the spot happenings of literary, historical, scientific and musical (art) interest for building brains and talent through use of magnetic tapes.

Right now, leaders in both fields throughout the country are wracking their brains proposing great sums in support of something we could do in fun while improving our resources professionally and benefiting the Republic immeasurably. Taped libraries would come easier than ever, a shot in the arm for Audio-Visual.—*H. B. Behrendt, Education Communication Specialist, P.O. Box 346, San Antonio 6, Texas.*

## Sound Synchronizing

To the Editor:

As a regular subscriber and intense reader of every column in your magazine may I state I get a big bang out of some of the new gadgets advertising the synchronization of slides with tape.

May I humbly state that I have been recording sound since the first early days of the wire recorder. And although I still rank myself as a much perfected amateur I have, for some years now, been recording



and narrating not only the slides but home movies with almost 100% perfection.

It has become quite simple for me and a matter of fact, although quite astonishing to my guests who are always amazed as well as delighted.

I have a V-M stereo 4 track recorder with the matching Mate amplifier and use this in conjunction with a Revere 777A self-threading projector.

Proceeding to record, I place a 1200 foot tape on the recorder and carefully wind exactly four turns on the empty spindle.

I then place about seven or eight records on my Grundig-Majestic Console. These, of course, are carefully selected to correspond with the various scenes I am going to project. As an example: "Swanee River" for southern vacation films, "Last Roundup" for western scenes, etc.

Having both tape recorder and projector plugged into one central AC cord I have but to press a simple AC switch and I'm in business.

I first record all of the musical background, using fading effects off and on, on the Add+A+Track.

After this is accomplished, I then re-record on track 1 and narrate all of the events while leisurely seated in my comfortable lounging chair. The results are quite amazing and professional.

I have even gotten down to where I can pinpoint certain scenes shown quickly with accuracy.

I would be glad to go into this further and advise any parties interested as to the details, etc. upon receiving from them a tape sent to me and upon which I will correspond on the second track and return it to the sender.—*Laurence J. Chenier, Sr., 1928 S. Central Ave., Cicero 50, Ill.*

*That's a mighty kind offer. Readers wishing to take advantage of Mr. Chenier's long experience should ask their questions on one track on the tape and Mr. Chenier will then reply on the second track.*

**Wollensak Kinks**

To the Editor:

I would like to submit two more kinks for the Wollensak 1600.

When you finish playing or recording on the instrument be sure to depress the stop control before turning off the machine. In doing this you will release the pressure roller from the capstan. When this recorder plays or records to the end of the tape it automatically shuts off but does not release the pressure roller. Look and you will see. Also, when using the metal strips on tapes to replay be careful that the strips are attached in such a manner that they do not come in contact with any part of the tape which has been recorded, even on wrap-over as sometimes these strips become sticky and remove any oxide with which they come in contact.—*Pat Malone, New York, N.Y.*

To the Editor:

Tapes are identical in width to 8 mm. movie film and I have found a low-priced splicer (just file down the pins) is fine for tape. In editing, the tape counter may go off slightly because of the high speed of rewinding. To return to the original spot I either punch a hole in the tape or mark it with yellow touch-up lacquer.—*Ted Sbarbel, Whittier, Cal.*

To the Editor:

I have been taping for many years, going back to the days of the black oxide paper tape and the wonderful early *Sound-mirror*. The whole thing was such a novelty to everyone that a great deal of "family fuss" was put on the tape. Now, many years afterward I am grateful to have it all.

It has been my experience that many people will erase more than they really should. The nonsense of family get-togethers can become terribly, terribly important when deaths, marriages and separations of miles occur.

I now correspond on a weekly basis with my mother in California by tape and only wish that everyone I know had a recorder. Letter tapes are much superior to anything else.

I now have two Wollensak recorders and transfer from one to the other, a very useful and convenient facility. I am an expert editor and for many years have used tape to enhance my slide shows, in many cases interpolating the voice of the person on the screen.

I compliment you on the "how-to-do-it" features and urge that you continue them—particularly if they are written in a non-technical manner that everyone can benefit from without a degree in radio-electronics.

I think it would be interesting reading to devote a column in each issue submitted by subscribers on "Why My Tape Recorder is Important to Me (or Us)", awarding a cleaning kit or tape to the most printable each month.—*Holland R. Morris, New York, N. Y.*

*We think you are entirely correct in stating that much is erased which in later years would be of almost priceless value. Too often, surrounded as we are with the everyday sounds of home, we tend to overlook their importance to us. In fact, they may sometimes be downright annoying. But as the years pass these sounds, however annoying they might have been once, now become part of our memories.*

*Regarding your suggestion for a new feature "Why My Tape Recorder is Important to Me," we'll try anything once. If the reader response is great enough to make it a continuing feature, fine. We will award a roll of blank tape for each acceptable letter. Address your entry to Important Recorder Contest, TAPE RE-CORDING Magazine, Severna Park, Md.*

*Entries will be judged on the basis of their usefulness to others and also on the uniqueness of the recorder use. Explanations must be personal—why your recorder is important to you—not why it could be important to someone else.*

*Letters should be kept as brief as possible and yet tell the story and preferably should be typewritten, although handwritten letters will be acceptable.*

*We regret that no correspondence can be entertained regarding the entries and none will be returned.*

*So there you are, an excellent subject and simple rules. We'll see how reader Morris's idea works out and we'll send him a roll of tape for his account of why his recorder is important to him as a starter.*

# CONVERT TO 4-TRACK STEREO



NEW

## ROBINS M/M TAPE HEAD

If you own one of these 2-track stereo tape recorders: Bell-T-200, T-201, BT-203, BT-205-1B, T-206, T-207S, T-211, BT-205-0B, Ekotape—350, 360, 362, VM-714, 750A... these and many others—you can convert to a 4-track stereo with the new Robins M/M 5Q17 ¼ track record playback tape head.

The 5Q17 can also be used to convert single track tape recorders to 4-track stereo with the addition of an amplifier. List \$30.00.

At dealers, or write Dept. TR-8.

ROBINS INDUSTRIES CORP., Flushing 54, N. Y.

**LOOKING FOR LOW HI-FI QUOTES?** STEREO RECORDERS and ORGANIS. **Hi-Fi** BUILT 1932 EST. 1950. Send us YOUR list. Free Bargain Sheet and Tape Cat. 15173-TR EASTON RD., ROSLYN, PA. THE BRAND NAME STEREO SPECIALISTS.

### TAPE RECORDERS

**HI-FI COMPONENTS SLEEP LEARN KITS**

Unusual Values Free 1961 Catalog **DRESSNER** Low cost, high quality recording tape, in boxes or cans. 1523AA, Jericho Tpke, New Hyde Park, N. Y.

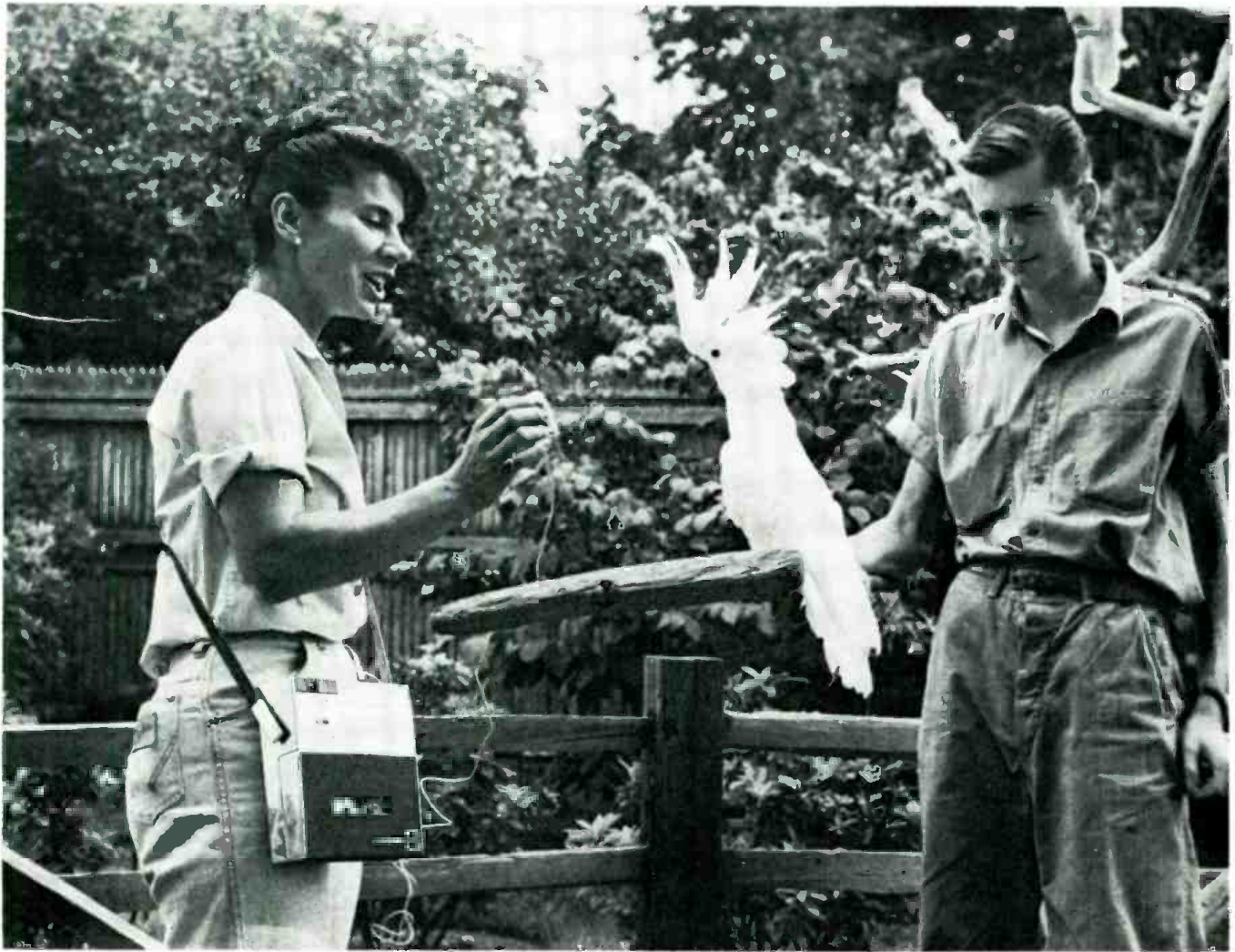
## HERE'S A NEW CONTEST FOR YOU—

**"Why My Recorder Is  
Important To Me"**

A good letter may win you a reel of tape.

Details in column at left.





Cockatoos, parrots, parrakeets and Mynah birds are the zoo's best talkers but frequently you have to do some tall talking yourself to get a response from the bird. This Sulphur-Crested Cockatoo named "Scratchy" lives in the Children's Zoo in the Philadelphia Zoo and can say "Polly Wants a Cracker."

## RECORDING AT THE ZOO

by Mark Mooney, Jr.

... a new world of sound awaits you at your local zoo

**T**HE zoo is one place where the recordist has an easier time than the photographer. While the photographer is continually plagued by bars in front and bad backgrounds behind his subjects, these things make not the slightest difference to the recordist.

Of course, in the newer zoos, with their outdoor moat enclosed yards, both the photographer and the recordist are on equal footing. The photographer will moan because of the distance between his camera and the animals and the recordist will have the same complaint.

Oddly enough, the best time to do recording at the zoo is when you would not ordinarily go. The fewer the visitors, the better, for then you do not have to contend with the background noises of people talking or children running and shouting.

One of the worst times is during the school year on weekdays when the children are taken to the zoo in busses for their annual trip. Free from the confines of the classroom, and excited by the exhibits, they can really blow up

a storm of noise as they run from cage to cage and yell for others to come look.

The teachers more or less keep them in line filing past the exhibits but the chatter will completely wreck any attempts to get good sound snapshots.

Another factor lies in the zoo buildings themselves. For the most part these are constructed so that they may be easily kept clean and they must be spacious enough to accommodate the crowds. This means hard floors, ceilings and walls from which the sound bounces and echos and re-echos, whether it be a lion's roar or the shouts of children.

The times when the zoo has the least visitors is on a rainy day or, in the dead of winter. At these times you may find no one there but the keepers and few sounds other than those made by the animals themselves.

Early morning is likewise a good time although the keepers are busy with their household chores and may not be able to stop to give you an assist. After the cleaning

up and early feedings are over, the keeper generally has a breather.

The keepers themselves are excellent material for interview type recordings. In the main, these men are devoted to their animals, they have even been known to spend 24 hours a day with one of their charges who was ailing. Sometimes, when young are rejected by the mother, they have reared them in their own homes until they were large enough to safely come back to the zoo.

Most of them can tell many stories of the animals in their care. They are familiar with all their little tricks and habits, some of which are highly amusing. For instance, at the Philadelphia Zoo, there was a Polar bear which loved to douse the Sunday crowds. When the people had gathered about three deep before the bars of his pool, so that the front row could not move quickly, he would leave his sunning spot on the rocks and walk along the narrow pool edge like a cat along an alley fence.

When he reached the spot where the crowd was the thickest he would simply fall sidewise into the water, like a side launching of a ship. This sent up a miniature tidal wave which was sure to wet a few people. We can't say that Polar bears laugh but this particular bear always surfaced rapidly after his dive so he could see the results of his splash and hear the cries of dismay from the doused spectators.

One of the most famous of the Philadelphia Zoo stories tells of the time when a researcher wanting to see if music had any effect on animals brought an orchestra to the zoo. The band set up in the monkey house and played but the monkeys and apes were uninterested, other than the normal curiosity that the animals had toward all the bright, shiny instruments.

The surprise came when the band set up near an elephant. This huge animal was staked out on a chain which was fastened around her left foot. The chain allowed considerable freedom of movement, including access to a bathing pool which also served as a source of drinking water.

Naturally the band set up at a safe distance, considering

the length of the chain. All went well during a classical number but when the band broke into some Dixieland jazz, the elephant went for a drink. But instead of squirting the water in her mouth she held it in her trunk and ambling to the length of her chain and extending the trunk, she showered the musicians, which broke up the concert.

There isn't a zoo in the land that does not have tales such as these to tell. The veteran keepers, some close to retirement age will, of course, have the largest collection of yarns because they have been there the longest. But even the newest keeper quickly gains some experiences that are worth the telling.

One point to remember is that keepers are busy men. Their charges are rather demanding and require almost constant service in one way or another. But at the same time they like to talk about their animals.

Another point to remember always is that the animals are dangerous. This applies especially to the big cats and other large animals which can move at a tremendous speed starting from what is apparently a resting position. Unlike a photographer, who might want to put his lens between the bars, the recordist has no real reason to get himself in a dangerous situation. Never closely approach any animal cage without first speaking to the keeper. Never cross guard rails, they are put there to protect you. At times the guard rails may seem to be unreasonably far out but they were placed at that distance because animals have long reaches and uncanny accuracy in thrusting an arm or leg between the bars.

It is also rather discouraging to see a "cute" monkey chewing up your microphone after snatching it from your hand.

In addition to being incredibly quick, animals are also incredibly strong, so don't figure that just because an animal is small size, he is harmless.

We have seen a bear cub resist the efforts of three grown men to hold him down long enough to give him a dose of cod liver oil and saw a photographer driven from an enclosure by a determined muskrat who attacked him again



Stories, both hair raising and funny are on tap from zoo old timers like John Regan who has been at the Philadelphia Zoo since 1902. Zoo keepers have many stories about the behavior of the animals in their charge and, like a man talking about his children, are generally pleased at an opportunity to have a good listener . . . and recorder.



The swans loud honking is easy to pick up at a considerable distance. Self-powered portables are practically a necessity for zoo recording. When the sound was played back to the swans they were amazed and listened intently.

and again until he drove him out the door. Only a broom used as a shield saved the man from a badly chewed leg.

The answer is the same—if you *must* get close, get help and have a keeper stand guard.

If you contemplate some serious recording which may go on over a long period of time, you should first visit the zoo office and make your request of the zoo director or public relations official. They seldom refuse a reasonable and necessary request and may be willing to provide you with a letter of introduction to the keepers which will assure you of their cooperation.

To acquire any real collection of zoo sounds you are going to have to make many visits. Some of the sounds will come easily, like the roaring of the big cats, the sounds of the birds, the chattering of monkeys.

But other sounds, like the howling of the wolves, the trumpeting of the elephant or the roar of the bull alligator are infrequently heard and it is just a matter of luck to be able to obtain them.

This would put the collection of zoo sounds in line with any collection hobby where the common varieties such as stamps or coins, get you off to a fast start and then a slowdown occurs as you are faced with the problem of obtaining rare items.

Fortunately most of the zoo sounds are loud, there is little problem with volume. As was mentioned, the principal problem is sound reflection and for this reason it is best to get as close to the sound source as is safe and reduce the recording volume to suit. This will prevent the pickup of reflected or background sounds. A directional mike which subdues sound coming from the sides and rear is also helpful.

Let's take a tour of a typical zoo and see what the sound potentials are. Unquestionably the most popular building is the carnivore or "lion" house. In this is kept the great cats, the lion, tiger, leopard, puma or mountain lion and, if the zoo is lucky such animals as the snow leopard. Generally these places are relatively quiet as far as animal sounds go except at the approach of feeding time. Then there is a restless stir that becomes evident throughout the whole building. Many times the lions will roar and some of them give out with a primeval growl when the keeper throws the meat to them. There may be some exceptions, such as a mountain lion at the Philadelphia Zoo which yowled frequently for no apparent reason.

Tigers will also roar on occasion and all the big cats will purr, just like the house cat except the purr is rumbley and much louder. To pick this up you would have to be dangerously close and even though the animal is obviously happy and contented as is evidenced by the purr, its mood can change in a twinkling.

Second in popularity with zoo visitors is the reptile house. Here you will be met with a stony silence for few of the exhibits ever make any sound.

In the spring, some of the frogs and toads will give out with trilling songs and once in a great while, if the zoo has a large bull alligator, he will shake the building with his roar. Among the snakes, the rattlesnake is about the only one capable of producing sound and this is a high frequency buzz.

The monkey house is also a popular spot and is fairly noisy, especially if there are chimpanzees on exhibit. These animals are the clowns of the animal world and dote on attention. If little is forthcoming they will scream and carry on until the crowd in the building comes running to



Sea Lions are very popular and love an audience. Some have been trained to perform juggling feats and make music on horns. This sea lion was leading the applause for himself with his flippers.



Safety-first is the rule at the zoo. A mike on a boom will keep you farther away from danger for animals can move incredibly fast and are powerful. Always seek the help of a keeper if you want to record any of the larger animals.

see what the fuss is about. Then the chimp has an audience, which he seems to enjoy.

The other great apes, the gorilla, orang-utan and gibbon are on the quiet side except for the siamang gibbon which has a large throat pouch and a tremendous voice.

The monkeys for the most part have chattering or twittering sounds, some of them almost bird-like. The baboons have a bark-like cry and the howling monkeys, as their name implies, howl.

In some zoos the monkeys and apes are kept behind glass to protect them from air borne diseases and improper food. If such is the case, by speaking to the keeper you might be able to get behind the scenes but don't be too disappointed if the answer is "no" since zoos do everything possible to protect the animals.

The bird house is unquestionably the noisiest place in the zoo and the difficulty here is a surfeit of sound rather than a lack of it.

By recording close up, you can feature the bird you are after and cut down on the background noise. Some birds, like the Brazilian Bell Bird have notes so loud they can be heard for blocks.

A talking parrot, crow or cockatoo, of course, is a joy to record if it is in a talkative mood. Some of them like to show off and are chatterboxes, others are probably introverts and won't speak unless the spirit moves them.

A noisy place at feeding time is the sea lion pool. As the hour approaches for the keeper to throw them their fish, they set up a barking clamor. They are kept in outdoor pools and there is no problem from reflected sound. In addition, the sound is plenty loud so no difficulty will be had in recording it.

The ungulates, or hoofed mammals, such as the deer, bison, elk, etc. almost never make a sound and hence are very poor subjects for the recordist. The giraffe never makes one so there is little use in waiting. Llamas and huanacos are quiet too but they can spit from between their front teeth for distances up to 15 feet so don't get chummy with them. They just might not like your looks and let you have it.

Likewise, the bears are quiet animals, as are the kangaroos and such odd fellows as the arrd-vark and the wombat.

The small mammal house may or may not offer possibilities, depending upon the collection. Grunts, groans, snuffles and wheezes are the most common sounds but sometimes one of the animals will give vent with a characteristic cry.

The keeper can point out the noisy ones.

Some zoos, like the St. Louis zoo, are famous for their animal shows, mostly featuring trained chimpanzees, sea lions, etc. Some of the animals have been trained to speak on command or can easily be made to whoop it up. The

Many times a keeper will be able to take the time to help. By showing him how to operate the recorder and pre-setting the controls, he can safely make recordings which you would not be able to get. Afternoons are better than mornings for recordings which will call for the help of the keeper for by then they have gotten things well cleaned up and can take a break. Visiting the zoo on days when the crowds stay away will cut down on the background noise from people.



keeper or trainer will be a big help in this department.

Open bird lakes are features of some zoos and on these you will find geese, swans and ducks. Most of these birds are fairly talkative and the output of sound is reasonably constant except during the heat of the summer day.

Nocturnal animals sleep most of the daylight hours and wake up and become active when the sun goes down. Of course, at this time the zoo closes and the people go home. To record the night sounds you would definitely need the permission of the zoo authorities and the company of the night watchman. Unless you are well known to the zoo people it is doubtful that such permission would be granted as there is too much danger to you for which they would not want to be responsible. Like the keepers, however, an interview with the night watchman should be productive of some good stories.

What kind of equipment would you need for this zoo recording? A self-powered portable is practically a must and the better quality the portable the better sound quality you will get. Some of the sounds have a fairly broad frequency requirement.

Regular home-type recorders are a bit unwieldy for making on-location recordings such as this unless you carry a battery and inverter, which means more gear. All of the animal houses have electricity available, of course, but outlets are seldom in the public space since there is little need for them as far as the zoo is concerned. This means the running of long lines for power or long mike cables which requires the use of a low impedance mike with a matching transformer at the recorder.

In addition, the running of power lines when there is zoo visitor traffic means a creation of a hazard which the zoo people would not permit to avoid any possibility of accident to the visitors.

The purchase of a zoo guide book on your first visit will cue you on feeding times in the various houses or if the zoo is small and lacks a guide book, the feeding times are generally posted since this is a very popular zoo attraction. It pays to be on hand a little time before the feeding. This permits you to get a guard rail position and also, about this time, the animals begin to pace back and forth and may give off with cries of anticipation.

Unfortunately, feeding for more than one house may fall at the same time and since they are usually some distance apart, it is necessary to forego one or the other. Sometimes you pick the wrong house and you hear the most recordable racket coming from some spot where you are not and know that by the time you could get there the noises will be over . . . while the animals in front of your mike seem to take a perverse delight in remaining quiet.

But this all adds to the spice of doing a difficult job and the recordings which you do secure you will know cannot be duplicated by anyone else with less trouble than you have put into it.

Such a collection of zoo sounds can be very worthwhile in itself and makes an excellent dub in for movies or slide shows of pictures taken at the zoo.

Making a collection of zoo animal sounds will offer you more than the collection of sounds on tape, it will also considerably broaden your knowledge of animals and their ways, a mighty fascinating study.

# Do You Need Two Recorders?

by

Bart Pierson

**T**HERE comes a time in the life of every hobbyist when the decision must be made as to whether the present equipment should be kept or traded in on something new. Or, if the pocketbook is able to stand it, whether to get something new and retain the old.

The tape recordist is no exception. Over the years many improvements have been made in recorders. New heads with smaller gaps to increase high frequency response, Add + A + Track, that enables you to sing or play duets with yourself or to learn a foreign language using exactly the same techniques in the home as are used in the most modern language labs in the schools—or to synchronize tapes for automatic slide shows.

Or perhaps you are interested in stereo music. The advent of the four track recorder has not only meant that the music you want can be secured at about half the price of the older two-track tapes, but you don't have to rewind the reels, either.

Four track also enables you to pack twice the amount of information or music on a tape as you could with a dual track recorder and four times as much as with a single track machine.

In addition, within the past few years, self-powered transistorized portable recorders have made their appearance in increasing numbers. These machines have greatly extended the tape recording hobby by freeing the tape recordist from his dependence upon power lines.

So should you have two machines? Should you have one of them a portable which can be used for away-from-home recordings and the other a home-type machine? Should you have two home-type machines, one the recorder which you now have and a newer, more modern machine or should you continue with one recorder, maybe trading in the older machine for a new one plus some cash.

Let's take the matter of trade-ins first. You may be in for a shock when you learn the value of your old clunker in terms of trading it in. While recorders do not depreciate faster than other kinds of equipment, the improvements made in them over the last few years have rendered some of the older models less desirable from a resale standpoint.

And also, when a dealer takes your old recorder in trade he still has to make any necessary repairs and put it in tip-top shape before he can sell it at a reduced price as a second hand item. Someone has to pay for this work so he must be able to charge more for the machine than he gives you—and usually his margin is a pretty slim one. So, as we mentioned, don't be too surprised if your present pride and joy is not worth too much in dollars.

In fact, it may be worth a lot more to you as a second machine. With another recorder you are freed of the restrictions in editing multi-track recordings. As you probably know, when you edit a two, or four-track tape, you

destroy the other tracks while patching up the one you want to edit. With a second recorder you simply copy from one machine to another those parts of the tape which you want in your final version and then edit the copy tape.

Nothing could be simpler or easier. Having two recorders also enables you to copy any other tape for your own collection. This comes in handy when you want to swap with other recordists who may be collecting on tape the same kinds of sounds you are.

The second machine also comes in handy for the youngsters who can use it for homework or at parties without the fear usually associated with their use of a new piece of equipment. In fact, the old recorder might well go off to school or college with your offspring and thus provide a means of taped communication between him and your family. In addition, he will find it very useful in his school work and for providing the "music to study by" which seems so necessary to today's scholars.

Perhaps you should invest in a portable. If you do, it is best that its speed is such that you can play the tapes on your present machine. This is really not quite so important, however, since you can always copy the output of the portable into your home machine to get the tape speed you want. Some of the portables do not have a capstan drive, hence the tape speed will vary with the amount of tape on the take-up reel. In cases such as this, copying from the portable to the home-type machine is the only solution.

Portables open a whole new world of recording to you for it now has become easy to go where the sound is and bring it back with you. Because the price of batteries is not low, playing the portable tapes on a home machine is better than using the portable for playback, unless it has an adapter which will permit its operation on regular current supplies.

The only way to come to an intelligent decision on a second recorder is to analyze what you want to do in the hobby of tape recording. A quiet session with yourself and a pencil and pad will quickly reveal the uses you could find for it. Once you have the list in hand, then you can determine if the additional advantages are worth the cost . . . and only you are capable of making the decision.

Points you might want to consider are these: Are there other members of your family who would benefit from a second recorder? How much editing will you be doing and how well will it be facilitated by being able to copy from multi-track tapes which cannot be edited? If your present recorder is dual track, how much will you save through the use of a four track machine, both for recording and when purchasing stereo tapes? Will the addition of a portable recorder enable you to double your enjoyment of the hobby, or the usefulness of your equipment?

# Tape Travelogue—

... you can tape it with you.

**F**OR "reel" fun and many hours of enjoyment, take a compact battery-operated tape recorder along with your camera on your next vacation. When you return, you can spend some very interesting evenings combining the sounds of the far-away places you visited with appropriate color slides and produce a very effective sound-slide show.

To add a touch of professionalism, you can synchronize the slides with an automatic projector and sit back in peace and comfort—or even leave the room while the show goes on—to the amazement of your audience.

Here is how we did it on a recent vacation in Mexico. This is a fascinating country, rich in colorful picture possibilities, and full of strange and interesting sounds. The sounds and the pictures go together like Li'l Abner and Daisy Mae. Neither is complete without the other.

The isolated peninsula of Yucatan is particularly attractive. It has not yet been spoiled by tourists as have so many spots in the Caribbean. The mysteries of its ancient archeological restorations, its astounding Mayan Indian architecture, and its enchanting legends were irresistible. We had heard that English-speaking guides in this area were now available at reasonable prices and since our knowledge of Spanish was limited to such words as "Buenos dias," "Adios" and "Oley" we decided that a small portable recorder would be just the thing to preserve their comments and explanations. Besides, we would be spared the chore of note keeping. At the same time such recordings, including our own descriptions, would make it possible to eliminate forever that embarrassing moment which comes to all slide makers sooner or later (especially later) "Honey, where were these shots taken?"

There are several fine battery operated recorders on the market today. Most of the compact ones use a three-inch reel and offer one or two speeds, usually  $1\frac{7}{8}$  and  $3\frac{3}{4}$ . We happened to choose a Steelman Transitaape. This machine is fairly light as tape recorders go—about 7 pounds—and can be easily carried with a camera. It uses 13 penlight-type batteries, six for the amplifier and seven for the motor. We bought mercury cells for longer life, and carried an extra set for emergency use. Although this machine can be operated with its crystal microphone in the cushioned recess of the case, it is better to record with mike attached to some part of the clothing—or even hand held—in order to reduce motor vibrations.

Our camera equipment consisted of an Eastman Kodak Signet 35mm camera (1952 vintage) with flash attachment, eight rolls of Daylight Kodachrome, one roll of

Top: Gay, flower-decked boats are gently polled around the beautiful Floating Gardens of Xochimilco. Upper center: Temple of the Plumed Serpent "El Castillo" built over a thousand years ago has been restored by the Carnegie Institute in Mexico's Yucatan Peninsula. Lower center: Stone figure of Chock-Mool, symbol of the Yucatan, unearthed in the archeological zones at Chichen Itza. Bottom: Two Maya Indian girls pose before Yucatan's Temple of the Warriors.





# Yucatan, Mexico

by Russell B. Maxey



High-Speed Ektachrome. For the recorder we took along six three-inch reels of Audiotape. As you can see, this equipment occupies only a small space and can be easily put in an overnight case. For ourselves, we took along two thermos jugs of pure Columbia water. Good, safe drinking water is scarce in some areas of Mexico.

New Orleans was our "port of embarkation." A visa to Mexico is not required of U.S. citizens. However, a tourist card, good for 180 days, must be obtained. This costs \$3.00. You will also need some proof of citizenship, such as an Armed Forces discharge, voter registration, birth certificate or passport. All persons entering Mexico are also required to carry proof of smallpox vaccination within three years. Nor can you re-enter the states without this item.

You are allowed to take out of Mexico \$200 worth of goods, such as silverware, leatherwear, tobacco, alcohol, etc. It is advisable to obtain purchase receipts where possible. You should remember that in the higher altitudes you may find yourself getting out of breath quickly. (This is not necessarily due to old age.) Take it easy for a while. Unless something is seriously wrong, you will soon get used to it. Meals should be light. The main meal should be taken in the middle of the day rather than at night. Except at the best hotels, where good drinking water is available, bottled water is recommended. Mexican soft drinks and beer are excellent. Uncooked fruits and vegetables should be avoided. The plateaus and high valleys are pleasantly warm during the day, and refreshingly cool at night. Your wardrobe (for women) should include a serviceable suit, light coat and sturdy walking shoes. For men, a top coat, and, repeat, comfortable shoes. Apart from these items, summer clothing is most suitable. Slacks and



Make your own title slides and maps with water colors, or scissors and construction paper.

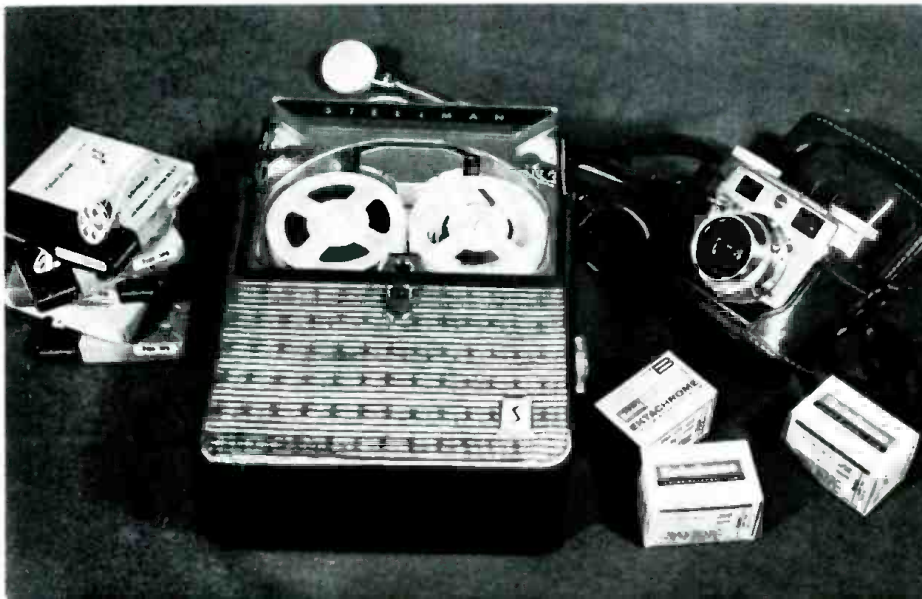
shorts are *not* worn on city streets, but you will need them for the resort areas. The rainy season begins about June 1 and ends around October 1. Don't forget your raincoat.

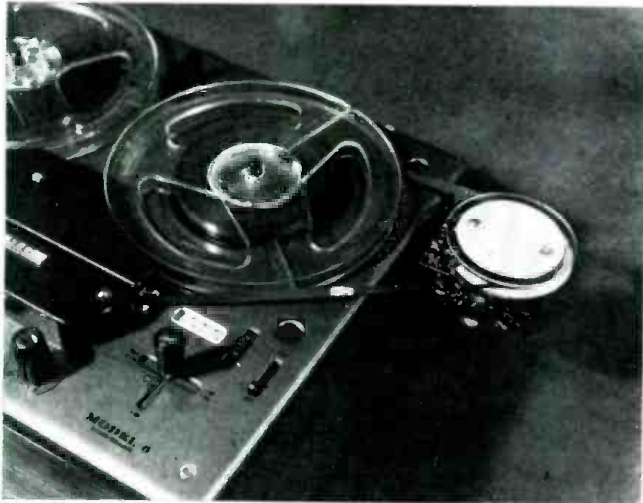
After the "briefing" at the airport was over, we looked around the modern vaulted waiting room at New Orleans, took a few interior snapshots, and made our first recordings: arrival and departure announcements over the p.a. system and, outside, the roar of planes taking off.

It is a two-hour flight south from New Orleans over the Gulf of Mexico to the Yucatan. Cloud formations make beautiful scenes through the ports. Use your pink sky filter to reduce the powerful blue tones, and don't let your camera touch the window. If your assigned seat doesn't lend itself to good photography, most passengers will

Right: Your camera and battery-operated recorder are easily portable.

Below: Compact equipment includes blank tape, battery recorder, camera and film supply.





Top: Typical projector, amplifier, tape deck and synchronizer set up in operating position. Bottom: Synchronizer attached to tape deck. Note half twist in tape and approaching aluminum tab which will actuate the slide change.

allow you to use theirs temporarily. But don't be a nuisance at it.

You must make out your baggage declaration during this flight. Besides the usual vital statistics, we noted that our Mexican form listed certain items as maximum duty-free limitations.

Also each person is limited to only 12 toilet articles, 40 packs of cigarettes, 50 cigars, 50 books, 1 still camera, 1 motion picture camera, 6 rolls of film for each, 3 toys for children, and 1 pair of binoculars. No mention is made on the form about tape recorders. However, one section does permit certain "scientific instruments."

It is a good idea to register your camera, recorder and binoculars with the U.S. custom officials before leaving so there will be no complications when you return.

During the flight over the Gulf, first class passengers are briefed on emergency water landings in both English and Spanish. Takes about 15 minutes with questions and answers in English. Later they come to the tourist class section and talk about two minutes, with no questions, and in Spanish! Better learn the language.

Landing at Merida, ancient capital of Yucatan, we soon learned that there is a difference in speed between U.S. and Mexican customs procedure. It is typical throughout the land.

You cannot hurry these people. Polite, yes. Fast, no. Perhaps they have something there. By the way, don't pack anything which you might be reluctant to display publicly. The contents of each bag are spread out on large tables for careful inspection by the officials. This provides great entertainment for the curious natives who flock to the airport to greet each plane. From a balcony overlooking the customs room they gaze, gasp and gesticulate excitedly as each item of your personal effects is exposed.

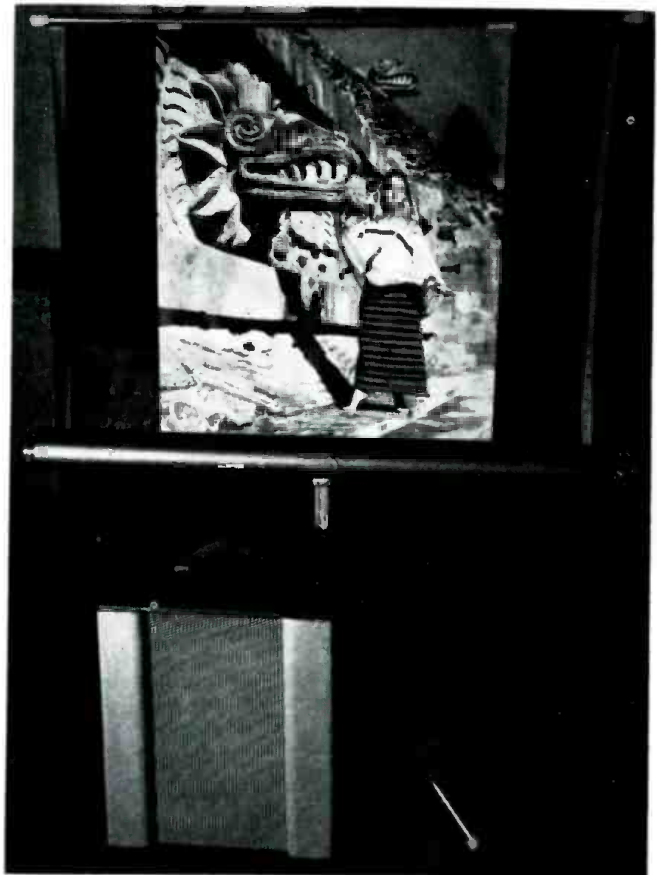
This hurdle over, we walked around the historic city, known as the cleanest in all Mexico, and rubbernecked. At the colorful Market Place our tape recorder was turned on and attracted no particular attention, as was the case throughout this land. Those who did notice assumed it to be just another camera of another crazy tourist.

We located a guide who furnished a car of sorts and drove us as far as the road allowed toward the jungle interior. Here the Carnegie Institute, under the direction of Dr. Sylvanus Morley has made remarkable restorations from the excavations of Mayan Indian ruins. As we toured the area, photographing the beautiful temples and figures of Rain Gods, our guide described the historical background of each building and artifact with an engaging commentary of his own. We kept our recorder running continuously. This material, particularly the local legends and side lights have never been completely recorded in printed form and we prize it highly.

It was here that we learned our first hard lessons in travel taping:

1. Do not attempt to economize by using the 1 7/8 speed. (Quality suffers)
2. Do not record with mike attached to recorder. (Noisy)
3. Do not use but one track. (Easier editing, later)
4. Take more tape along. (Less worry)
5. Buy larger reels and re-spool down. (Cheaper)
6. Use 1 mil Mylar tape. (Tougher and longer)

In the heart of this jungle, next to the archeological zone, a modern hotel has just been completed, and although there were only a few guests (this area is far from the usual tourist paths) the food and service were excellent.



Place speaker at screen position for professional results.

A four piece native combo provided music at odd times. With the exception of a guitar, their instruments were handmade. The main percussion piece was hewn from a hollow log, and had six small openings each partially covered with a reed. The reeds were plucked with great gusto and the overall effect was indeed captivating. We lost no time in putting these original "arrangements" on tape. It was difficult to tell who was fascinated the most. We, over their music; or they, over our recorder. They seemed literally hypnotized by the small neon light which indicates the recording level. This flashed on and off in time with their own rhythm. Experimenting by slowing down their tempo, then increasing the beat, they were unable to out-think it, and, looking at each other in wide-eyed surprise, they pointed and grinned like children.

But this was nothing compared to their amazement when we played their own compositions right back at them. Electronic equipment, even radios, are scarce in this area, and tape recorders are unknown.

In the nearby jungles we were able to record many strange and interesting sounds, as well as familiar birds, frogs and crickets. How we wished for a good parabolic reflector to more easily record these effects.

We were, of course, in a hurry to see more of Mexico, and so it was with great reluctance and much handshaking that we left our guide at the airport for the short but scenic flight to Mexico City. Natives call it simply "Mexico" and it offers many challenging subjects for the photographer-recorder. Starting with the usual street and traffic sounds, which seemed somehow of a more excitable nature than those same sounds in U.S. cities, we were held spellbound by the great bells of the Cathedral, where thousands come every day, walking the last mile or so on their knees. At the other end of town the National Lottery Building, a multi-story affair, houses the activities of this popular country-wide pastime. We recorded the high-pitched, sing-song voices of the young boys calling out the daily winning numbers. These were drawn from a huge 10 foot diameter brass cage revolving on a stage before a capacity audience. The boys may not continue in this ritual after they pass the magic age of nine, since until nine they are presumed incapable of contamination with worldly schemes.

On Sunday morning you have to go out to the Floating Gardens of Xochimilco, a nearby suburb. This beautiful area is criss-crossed by a pattern of peaceful canals. Natives and tourists alike rent gay, flower-decked boats and are skillfully poled around these romantic settings to the musical serenades of many marimba orchestras. As before, we allowed our recorder to run continuously while floating along and picked up first one then another marimba, merging them with the laughter of people having fun.

On Sunday afternoon everyone goes to the bull fights. Get your seat on the shady side if you want the best photographs. You can record the entire series from almost any spot, including the sounds of the opening trumpet fanfare, the whistles, jeers and applause of the audience, the cry of the drink vendors, down to the last oleys.

In the tiny silver town of Taxco, we obtained excellent candid recordings by strolling around the streets, pausing here and there to listen inconspicuously to conversations at the public square, and to pick up the strains of music and entertainment from the many inns. At night the fiestas with fireworks provide exciting sounds.

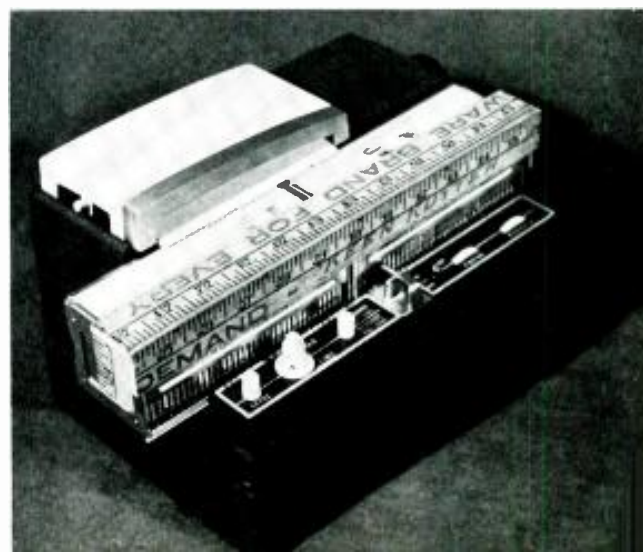
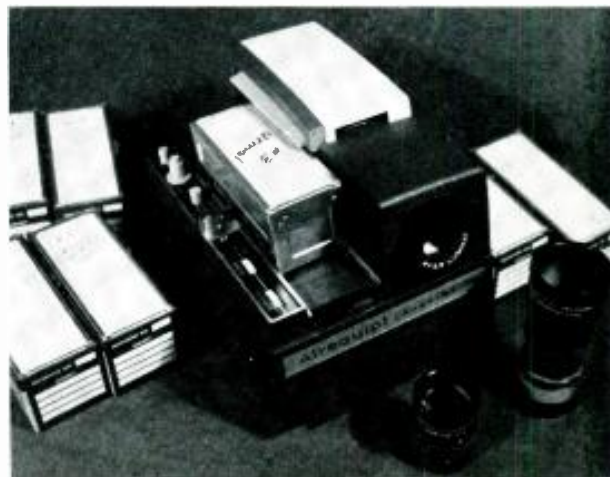
On the coast at the famous resort of Acapulco we completed our collection by taking the recorder along the beaches in the moonlight and picking up the exotic music of the hotel orchestras mingled with the soothing sounds of the rolling surf. This is truly a beautiful country.

Back home, we found that one of the most interesting parts of the vacation was in assembling and editing the various slides and tapes into a compact, story-telling form. Editing out your material is the only heartbreaking aspect. But it must be done.

To facilitate the process of selecting and arranging your slides in the best order, obtain a large sheet of plate glass about 2 feet by 3 feet. Support this on two sides at a comfortable height above the floor, and place a desk light, turned up, underneath. On top of the glass spread a thin sheet of tracing paper, or several sheets of thin typing paper, and sort out your slides on this diffused lighted surface. The large area will enable you to easily view over a hundred slides for proper arrangement.

This is also a good time to write your script. Your original location notes can be handily supplemented by information in travel folders obtained along the way. Viewing the slides on the glass table is much better than projecting them individually on your screen. It is more flexible and does not subject your slides to the heat of the projector bulb. You will find that title slides are valuable in grouping your various series. These can be easily made by shooting close-ups of travel posters, post cards, signs

Top: Projection lenses of different focal length will fill entire screen area from almost any distance. Bottom: Yardstick coupler permits first magazine to pull following through in piggyback fashion for uninterrupted show.



and maps. If you are handy with water colors or a pair of scissors, you can prepare your own titles and maps and then copy them with close-up "portrait" auxiliary lenses. No special lighting problems are involved if you will simply attach the material to be copied to a vertical surface, such as the side of your garage, in sunlight, move in as close as possible in order to fill the film area, and give normal exposure.

With slides in order and script prepared you are ready to start making your mastertape. You will probably find that the best sequence will be in the same order as places visited. This is where the small three-inch reels come in handy. We used the Tandberg 6 Tape Deck from our home music system together with the Steelman portable to assemble the sound tracks, connecting outputs to inputs electrically. Any dual track or quarter track recorder can be used. This makes it easy to record your commentary on one track, and to put the musical background and sound effects on the other. It also allows you to erase and re-record either track without disturbing the other. Believe me this is a big help.

We put our original 3-inch tapes on the Steelman Transi-tape and copied them to track 3 (channel 2) on the Tandberg. As the music, or whatever, is being recorded we monitored with headphones at the Tandberg output. Thus we were able to reduce its volume as we recorded the commentary on track 1 (channel 1) by microphone, and blend or overlap one with the other.

It is not necessary or even advisable to have a comment for each slide of a lengthy show. Groups of slides may be tied together by a continuous sentence with slight pauses between phrases. For instance with slide one: "This Franciscan cathedral—" (pause, slide two) "was constructed by Jose de la Borda—" (pause, slide 3) "in the year 1871—" (pause) etc.

Continuity may also be obtained by an uninterrupted musical background alone, which might provide a welcome relief from a monotonous voice. Thus an entire series of a particular group may be "covered" with an appropriate musical number.

It is interesting to note that some of the newer TV commercials utilize this same principle, and have abandoned short movie strips in favor of a series of still pictures with continuous sound, such as we are talking about here.

In order to synchronize all these efforts for final presentation, we considered several methods. Some devices which produce this effect use a sound signal superimposed on one track of the tape to actuate the projector. This is inaudible to the audience, but leaves only one track available for both commentary and music. Another uses a supersonic signal, which is somewhat final and inflexible, since it cannot be changed once it is applied. Others are quite complicated and expensive. We tried the inexpensive (about \$10) Meston Synchronizer after reading a test report on it in a recent issue of Tape Recording Magazine. This device uses self-adhesive aluminum foil tabs which are pressed to the back (shiny) side of the tape wherever a slide change is desired. Full use of information on each track is thus assured. An adjustable wood framework holds a couple of insulated brass discs, which act as electrodes, at the same elevation as the tape run. The tape is given a half twist as it leaves the playback head. This allows the aluminum tab to make contact with each disc, shorting

them out and actuating the automatic control of the projector which advances the next slide. After leaving the discs, the tape is given another half twist on its way to the take-up reel.

We discarded the somewhat cumbersome framework of this device and attached the discs directly to the recorder case making correct height constant, and removal easy.

There are two things which may give trouble, until corrected, with this system. First, is that considerable experimenting may be necessary in order to determine the correct length to produce a slide change. We started out using the entire length of the tab as it comes on the card—about 1½ inches. (Each card contains about 42 tabs.) This produced two or more impulses and slide changes before moving off the discs and was extremely frustrating. We halved this length, and halved again, until we had tabs only ⅛ inches long—and still got two changes. The solution is to cover part of the disc circumference with plastic tape in order to reduce contact time. This will vary with the individual according to tape speed and location of the discs. Secondly, the adhesive on the back of the aluminum tabs tends to ooze around the edges, much like splices made inadvisedly with cellophane tape, and sticks to the next layer of tape. A different adhesive is recommended to the manufacturer. Meanwhile, it is necessary to use a cleaning agent on the tabs after two or three tape runs.

In placing these tabs and coordinating the sound, do not space them methodically at exactly equal intervals, but utilize the "change of pace" principle by varying tab spacing. As with volume changes in your sound, and even musical content, the change of pace will prove effective in retaining viewer interest. Certain related slides may be allowed only a brief screen time, whereas others, such as map slides should be allotted longer intervals.

Our projector was on Airequipt Superba 77. This is a well performing machine which uses magazines of 36 slides each and eliminates the bugaboos of upsidetown and reversed slides. A coupling device made from a yard stick enables piggyback operation of the magazines allowing the first magazine to pull the following through after it thus producing a more continuous show. Our show consisted of 432 slides and runs uninterruptedly for 72 minutes. The 1-mil tape is played at 3¾ speed in order to get it all on one 7" reel.

At showtime, be sure to place your speaker system at the screen position, and let the sound appear to come from the picture instead of from where you sit with the recorder. Most recorders furnish an outlet for remote speaker operation, and you can run the outputs of both tracks in parallel to it. If two speakers and amps are available, you can go first class with commentary coming from one side of the screen while the music and sound effects come from the other. Certain effects, such as trains, planes, autos, etc. may be copied from stereo records and projected from the screen position in life-like, wall-to-wall presentation.

Bon voyage, on your next trip.



**SOUND STORY NO. 6  
TAPE TRAVELOGUE—  
YUCATAN, MEXICO**

by Russell B. Maxey  
7½ ips, dual track, \$1.00  
**Tape Recording Magazine**  
Severna Park, Md.  
Order from Sound Story #6

# A Potpourri of Tape Indexing

by Tommy Thomas

. . . suggestions for locating exact spots on your recorded tape.

**M**OST recorders nowadays come equipped with built-in *digital revolution counters* for indexing your tapes. These handy little gizmos merrily spin their numbers in time with the revolving tape reels, and let you in on the secret of just *where* within the reel you can expect to find any certain selection of tape. Unfortunately for some specific purposes, though, there's always a certain variable amount of tape slippage and such that leaves the time-after-time consistency of these counters open to a wee mite of suspicion. In fact, the very mechanical nature of most of them is such that split-second accuracy is not even expected . . . and to be fair about this, is usually not really needed. But for special, more exacting occasions (and for those of you who own a recorder that is without a built-in counter) here's a miscellaneous selection of supplementary "systems" of indexing and cueing tapes that can be put to all sorts of interesting uses.

First, though, I'd like to give a gentle "push" in the direction of making Digital Time Charts (Figs. 2 and 3) for your recorder. They're nothing new, by any means, but they *are* one of those choresome deals that is easy to keep putting off. So if you haven't already made yourself a chart or two then by all means set aside an evening soon and make them. They're just too darn useful to be without. And once made, you'll wonder how you ever got along without them. They'll not only be forever useful in letting you know just how much tape you've used and how much you have left (as you record or play a reel), but they'll make it easy for you to readily convert from digital figures to minutes of play, and vice versa. This can be done with any selection anywhere on your tapes, and will spare you the chore of figuring out mid-reel selection timings "the hard way" each time.

**DIGITAL TIME CHART**

INDEX NUMBER	*MINUTES PAST   TO GO	INDEX NUMBER	*MINUTES PAST   TO GO	INDEX NUMBER	*MINUTES PAST   TO GO
019	1   44	341	16   29	744	31   14
039	2   43	364	17   28	776	32   13
059	3   42	389	18   27	809	33   12
079	4   41	413	19   26	842	34   11
100	5   40	438	20   25	877	35   10
120	6   39	463	21   24	912	36   9
141	7   38	489	22   23	949	37   8
162	8   37	515	23   22	987	38   7
183	9   36	542	24   21	1027	39   6
205	10   35	569	25   20	1068	40   5
227	11   34	597	26   19	1112	41   4
249	12   33	625	27   18	1157	42   3
272	13   32	654	28   17	1206	43   2
294	14   31	683	29   16	1257	44   1
317	15   30	713	30   15	1311	45   0

\*Using Mylar 1-Mil Tape at 7 1/2 inches per second on Knight 7" Reels.

Fig. 3: Your own charts needn't be quite this fancy, and of course they'll be a bit different as far as the actual readings go. You'll need a separate chart for each thickness of tape for the different speeds you use. And for consistent-as-possible readings, always use the same hub-size TAKE-UP REEL when you use your charts.

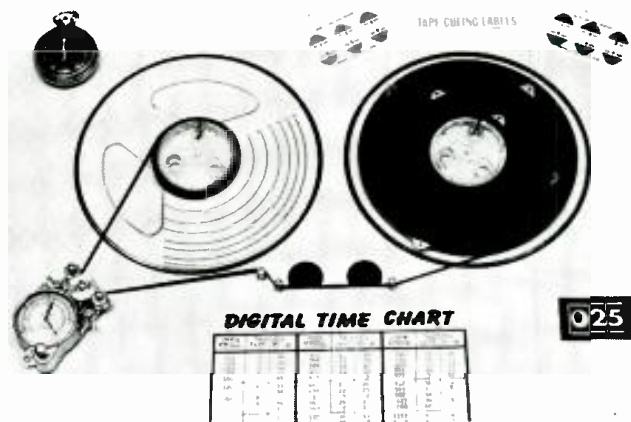


Fig. 1: The built-in revolution counter that is a part of most modern recorders will handle ALMOST all of your indexing problems. But for those extra-special situations, here are a few easily adaptable ideas that will enable you to handle even split-second editing indexing functions that were never quite possible before.



Fig. 2: For utmost use of your digital counter you should make up a few Conversion Charts relating the reading to actual playing time. First write the numbers from 1 to 30 on paper (or beyond 30 if you're using extended-play tape as I do), and then play a complete reel of tape as you make note of the digital reading every minute.

## The Sony Professional Tape Timer

This is a real honey of an accessory that was made especially for an older model Sony tape recorder, but can be adapted to work with almost any other make recorder. It's made to attach instantly to the side of the recorder, and is put into use when wanted merely by routing the tape around the extremely free-wheeling capstan as shown in Figure 5. Precision made with stopwatch accuracy, this wonderful timer actually indicates tape travel IN SECONDS AND MINUTES. And it works equally well



Fig. 4, left: Inexpensive digital revolution counters are available at surplus stores and elsewhere, so perhaps you can put a bit of latent mechanical ingenuity to work figuring out how to add one to your own recorder if it lacks one? This could either be coupled directly to the reel shaft, or coupled via a flexible (removable) cable.

with any thickness tape wound on any type of reel. Personally, I think it's terrific!

I'm going to have to *hedge* just a bit on this timer, though. As I mentioned, this is a Sony (imported by Superscope) product made for a specific Sony recorder. The good people at Allied Radio heard that I was looking for an accessory timer/counter that would work with most any recorder, and recommended this item to me as just what I was looking for. But, on the other hand, the Superscope people (Superscope, Inc., 8150 Vineland Ave., Sun Valley, Calif.) are a friendly but somewhat cautious bunch who might not want to come right out and say that this Model TC-30 Professional Tape Timer/Counter of theirs is the perfect answer to every recordist's dream. They feel quite strongly about the quality of their products and would rather lose a sale than take a chance on fitting one of these precision timers to a non-Sony recorder if they felt that it might not work to perfection. So if you're interested to the tune of \$19.95 (and don't let that price scare you, it's well worth every cent of it), I suggest you get together with your local Sony representative and see what the chances are of putting this beautiful item on *your* recorder.

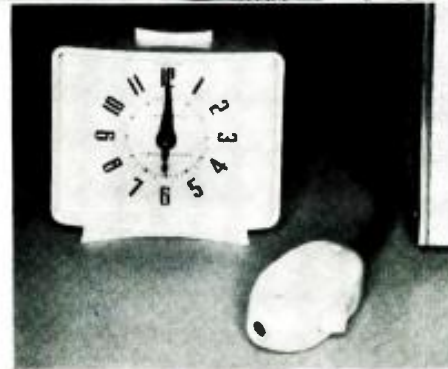
But for those of you who can't quite go twenty bucks for a timer no matter how terrific, how does thirty-five cents sound? That's what it cost me to put together the "timer" shown in Figure 6. Actually, all it is is an old electric clock with a switch added so I could readily turn it on or off. Then, with all hands initially set at 12 o'clock and with a fresh reel of tape in my recorder, it's easy to turn the clock on and off each time I use the recorder . . . giving me split-*minute* accuracy and information indicating somewhat exactly how much tape time has gone by and how much there is to go. And don't laugh, it really works!

#### Single-Flange Tape Reels

For special ultra-accurate editing, timing and cueing work, single-flange ("open face") tape reels have much to offer. You'll need at least two, for supply and take-up. *Note!* The set-up shown in Figure 1 duplicates my rebuilt Crescent recorder, with its supply reel at the right and the take-up reel at the left. Most likely your recorder works just the opposite, so merely switch reels.

Fig. 5, below, top: For the serious audiophile, here's a special "add-on" timer that can be adapted for use with almost any recorder. It works with stopwatch precision to give you the actual TIME in seconds and minutes, and is a pure delight to work with on those many occasions when the regular built-in timer isn't quite accurate enough.

Fig. 6, below, bottom: For strictly limited-use situations, an electric clock fixed up with an easily available on-off switch has genuine possibilities for tape timing. Just turn it on each time you start recording, and off again each time you stop, and you'll have a reasonably accurate indication of how much recording time you've used.



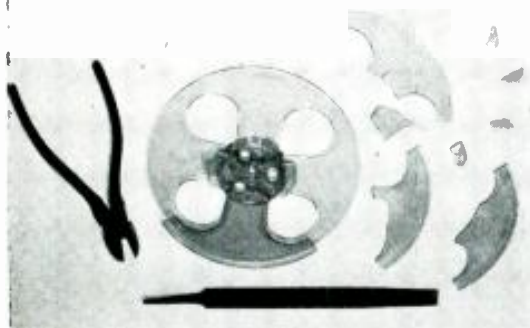
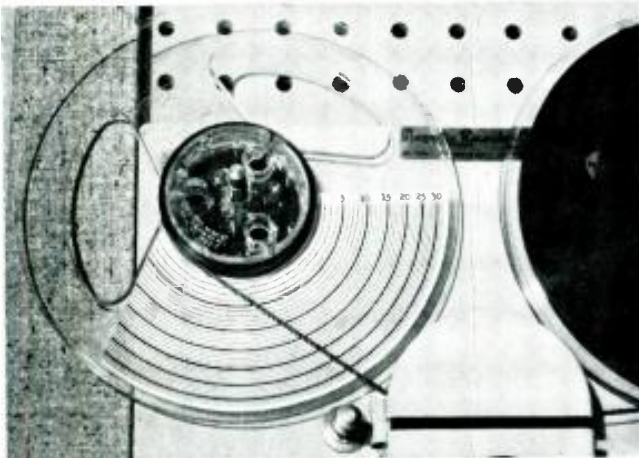
Now you're ready for action! Naturally, with reels having only a bottom flange, you won't be able to turn the reels of tape over (for the return trip of the tape), but that's of little consequence. These are merely special-purpose reels for certain work, and you will always return the tape to regular (double-flange) reels after you've worked on it.

Let's say that you have a reel of tape recorded from TV and you want to *re-record* only certain selections of music from this reel of tape onto another (using two

Fig. 7, right: Tape Cueing Labels have been on the market for some time now, but it's only with "open face" reels that their full potentialities can be exploited. Numbered, colored tabs are put right on the base side of the recording tape itself, clearly pinpointing all those selections you wish to identify for quick-cueing purposes.

Fig. 8, below, top: For special editing chores, this home-made paper guide glued directly to a single-flange reel will substitute for a regular digital counter. Fairly good accuracy can be achieved, and although the numbers can't be read while the reel is in motion, the lines themselves will blur into "full circle" for easy identification.

Fig. 9, below, bottom: Single-flange reels are made from regular 7" plastic reels by carefully trimming off one flange with a pair of diagonal pliers (dikes) and doing the final smoothing around the hub with a file. This plastic is usually rather brittle, so be careful, cutting off only a little bit at a time as you get closer to the hub.



separate recorders, of course, as mentioned last month). My little Crescent recorder doesn't have a built-in counter, but even if it did it wouldn't be accurate enough for really precision "cueing in" purposes. I monitor with headphones, of course, but even this isn't always precise enough or for some other reason won't fit in with the result I'm after. So that's when I use Tape-Cueing Labels (see Fig. 7). These are numbered, color-coded, pressure-sensitive labels you can get at your local hi-fi dealer's shop, and are used directly on the back of recording tape to mark where a

certain selection is located. They're made to be used with regular double-flange reels, but frankly I was never too sold on this idea. They get pretty battered up being constantly bent over between the flanges, and leaving them permanently on my recording tapes worries me. They ooze minute but definite amounts of "stick-um" around the edges and I keep thinking that this will eventually gum up my whole reel. Also, I get nervous watching these high-riding tabs careen through the tape guides on fast forward or rewind.

But these little numbered tabs are excellent indeed for temporary use in specialized editing/cueing chores. I go through the reel of TV music and general chatter, searching out just those selections of music I want to re-record. Using the numbered Tape Cueing Labels, I put one *exactly three inches before each selection I want to record*. Since these tabs stick up above the regular quarter-inch tape, they make an audible "bump" as they go past the tape guides and playback head. The three-inch lead gives the tape time to settle down again so I won't pick up a distorted recording. Finally, all selections marked *in the order I want to re-record them*, it's then a simple matter to precisely transfer the chosen selections to my "master" tape. Afterwards, of course, I immediately remove all the cueing labels and store them for reuse the next time.

NOTE! For really *ultra*-precision cueing that I sometimes find necessary, I go a step further. Instead of preceding the exact cueing point by only three inches, I place the numbered stick-up tab at least two or three *feet* ahead. Then I pinpoint the exact cue-spot on the tape (shiny side, of course) with a tiny sliver of white splicing tape that is only about one-eighth inch wide by half an inch long. And I place it *horizontally* in the middle of the tape so it doesn't stick up at all. The numbered tab alerts me when to look for this tiny marking, and the fact that it doesn't protrude above or below the tape keeps it from causing any "bump trouble" as it slides past the tape guides.

So, as you can see, working with a reel of tape that is not obscured by a flange on top makes things a lot easier for certain work. You don't have to use "store-bought" cueing labels, though, as ordinary *splicing tape* cut and

attached as shown in Figure 10. "B" will do a similar job for a lot less money. And although I show my white tape ("B") sticking up above the tape quite a bit for photo illustration, try to keep the height down so you won't have undue trouble with the tape going through the guides. In fact, if you don't mind a little bit of extra work, it might be a good idea to cut the tops of these bits of white splicing tape into *rounded points*, making it just that much easier for them to slide on through the guides.

Another use for single-flange reels and numbered cueing tabs is in sound effects work. Usually you have a reel full of many different sound effects, and during a certain play naturally you will only need certain ones. The problem is to be able to locate each of these effects as you want it, immediately and accurately. This is most easily accomplished, I've found, by temporarily marking just those sound effects you want to use with the numbered cueing tabs, with a little memo made indicating just which colored, numbered tab represents just which sound effect (and also listing how long the effect lasts, and at what volume it should be played).

Finally, before leaving our single-flange reels, notice the simple "indexing" system used in Figure 8. By marking a piece of paper at exactly where the tape comes to at one-minute intervals, and then transferring this to a semi-circular sheet with the aid of an inking compass, you have yourself a reasonably accurate indexing system in case your recorder is without a regular digital counter. Many inexpensive recorders already have much the same type of marking *on the tape deck itself*, but this is not nearly as accurate since different-size tape reels will throw it off. Also, it's further away from the tape and hence more subject to an incorrect "reading." Notice, by the way, that I made the paper and the inked circles covering approximately one-third of the reel (the paper is rubber-cemented directly to the plastic reel). By using one-third circles, I can still see them even when the reels are spinning at high speed forward or reverse.

The "C" bit of splicing tape in Figure 10 also has interesting possibilities, I believe. Note that it is stuck to the recording tape so it sticks out *both top and bottom*. I

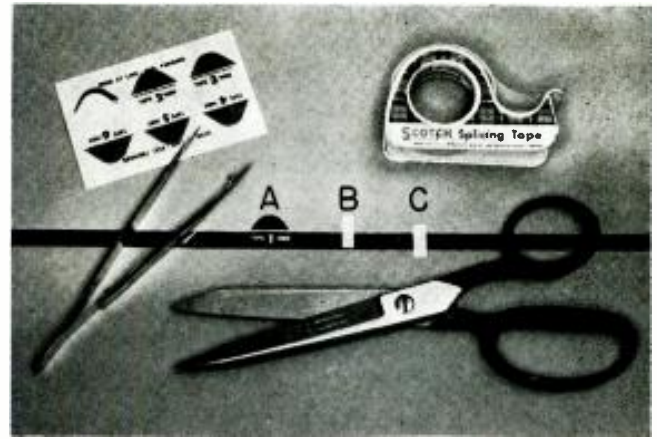


Fig. 10: Numbered tape-cueing tabs ("A") are nice because they make INDEXED cueing a simple matter. But if you wish to get almost the same results for less money, little slivers of white splicing tape ("B" & "C") can be used instead. Note that the special "C" taping extends both a bit above and below the regular recording tape.

use this marking when I want to combine several lengths of 4-track commercially recorded stereo music. These tapes usually come on large-hub reels, so I transfer two or three of them end-to-end on regular-hub reels (we're back to double-flange reels, now) for longer continuous playing. Then, I like to edit out as much as possible of the in-between blank tape (those rather long strips in between the separate, spliced-together tapes). This would be easy if it weren't for the fact that it's necessary to worry about the return tracks on the "other" side. Usually the beginnings and ends of the music are different on each. So I solve this by marking the beginning and end of each separate tape on the *forward* play-through, using the "C" type of marking. Then, when I play the tape on the return side, I can tell by the marker-tape sticking up whether or not I've run into the "first side" music, and I edit out the blank tape accordingly. Perhaps this sounds a bit complicated explained on paper, but if you actually go through this procedure once, marking the recording with bits of white splicing tape that stick out both top and bottom, you'll soon see exactly how this works out.



Fig. 11: Because of the split-second accuracy possible when using cueing tabs spotted within an open-faced reel, it's easily possible to add new recordings anywhere IN BETWEEN other recordings, without the usual danger of "running into" (and erasing) them. When working this close to your recorder, a unidirectional (cardioid pattern) microphone will considerably reduce pickup of recorder noise.



# NEW PRODUCT REPORT

STAFKSTED



## ROBINS STROBE AND LIGHT KIT

*. . . . a simple and effective means of checking the speed of tape recorders.*

**W**ITH this simple and inexpensive kit it is possible not only to check the speed of your recorder but check it for wow and flutter as well. It is suitable for use with  $3\frac{3}{4}$ ,  $7\frac{1}{2}$  and 15 ips speeds.

Four strips of tough paper printed with strobe lines and a bright neon bulb in a holder are included in the kit.

To check the speed of the recorder,

one of the strips is made into a loop by splicing the ends together. This loop is then slipped in the tape channel and the recorder placed in the play mode of operation. While it is running, the neon light is brought close to the tape.

The loop must be steadied by taking up the slack with a pencil or running the loop around a weighted object on the deck. The loop size can be

*Product: Robins Strobe and Light Kit*

*Manufacturer: Robins Industries Flushing 54, N. York*

*Price: \$2.00.*

made to suit the recorder.

If the lines appear to stand still, the recorder is running at the proper speed. If they seem to creep backward the machine is slow and if they move forward it indicates that the recorder is fast. This test should be made with the reels off the machine—it is a free running test.

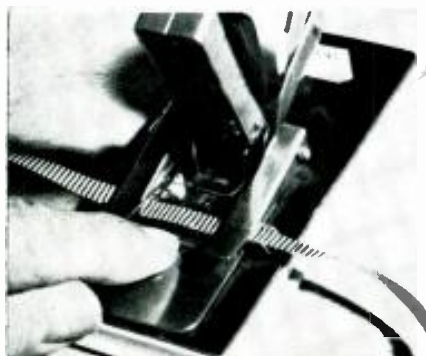
If the recorder has an automatic cut-off switch, it should be temporarily disabled so the recorder will operate. Usually the presence of the strobe tape in the channel will assure operation.

To calculate the percentage of tape speed, place a piece of pressure sensitive tape on the deck and make a pencil mark on it under the tape. At the  $7\frac{1}{2}$  ips, each line passing the point in the second represents .8%. At 15 ips this is halved and at  $3\frac{3}{4}$ , doubled. Commercial tolerances for low and medium priced machines will vary as much as 5%.

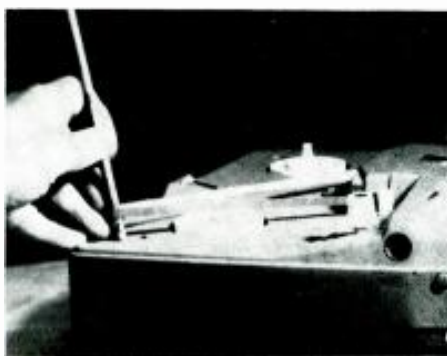
To make a full-load test splice a strip in a reel of tape at the beginning, middle and end and test as above.

If the lines on the tape seem fuzzy from vibration it would indicate flutter is present, if the lines waver back and forth while the loop is running, it indicates wow.

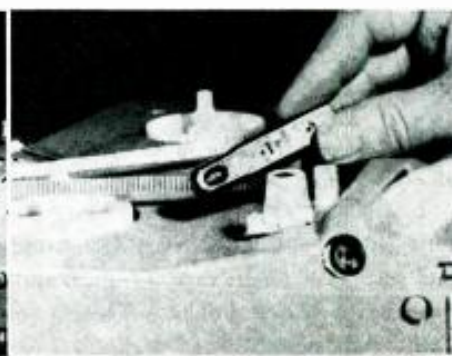
The test kit worked well and was easy to use. It can be recommended.



First step in using the kit is to make a loop, splicing the ends together. The lines should match where the splice is made.



To steady the loop, insert a pencil or run the loop around a weighted object placed on the deck of the recorder.



Hold the neon light close to the tape and watch the lines. If they move forward, machine is fast, if backward, slow.

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telling us why. See editor's reply  
to last letter in "Feedback" on page  
17.

**SHOP OR SWAP**

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

In figuring the number of words in your advertisement, be sure to include your name and address. Count each abbreviation, initial, single figure or group of figures as a word. Hyphenated words count as two words. The name of your city, local postal zone and state count as two words. Maximum caps first four words. Proofs are not submitted on classified ads.

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

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RENT STEREO TAPES—over 2,000 different—all major labels—free catalog. Stereo-Parti, 811-F Centinela Ave., Inglewood 3, California.

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FOR SALE OR TRADE: Globe King 400 watt amateur transmitter, complete with coils for 10 meters, 20 meters, 40 meters, 80 meters, and 160 meters. Johnson Viking all-band VFO, Budd antenna tuner. In perfect condition when removed from service a short time ago. Reason for selling, too busy—too tired—too lazy to operate. This rig cost almost \$800.00 when purchased from the factory new. Will sell for \$275.00 cash or trade for tape recorder such as Uher with Akusomit or equivalent. La Verne Gartin, Franklin, Nebraska. (W'OJWV)

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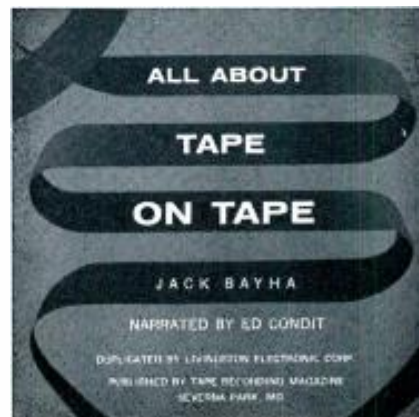
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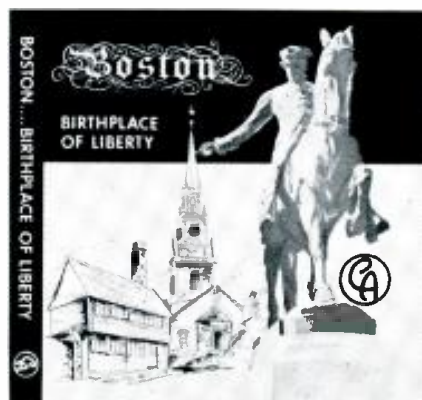
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A full 57 minute tour of one of America's most famous and historic cities. You visit in sound Boston Common, the Park Street Church, Kings Chapel, Old South Meeting and Faneuil Hall, the Cradle of Liberty. Hear the worship service at Old North Church in the belfry of which Paul Revere hung his famous lanterns and also hear the Vicar of Old North tell about the clear glass windows, kept clean so your forebearers could see the need outside, as well as the beauty inside. Every sound, every voice is authentic. Dual track, 7½ ips.

**\$595**

## ADD-THE-MELODY TAPE

Twelve old favorite tunes for you to sing along with. Specially recorded with the melody missing so you can sing or play with the tape then, on playback hear both parts together. Suitable for use on any recorder with the ability to play the lower track while recording on the upper. Can be recorded again and again without harm to the Hammond Organ accompaniment by Hack Swain. You can get a million dollars worth of pleasure from this tape.

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