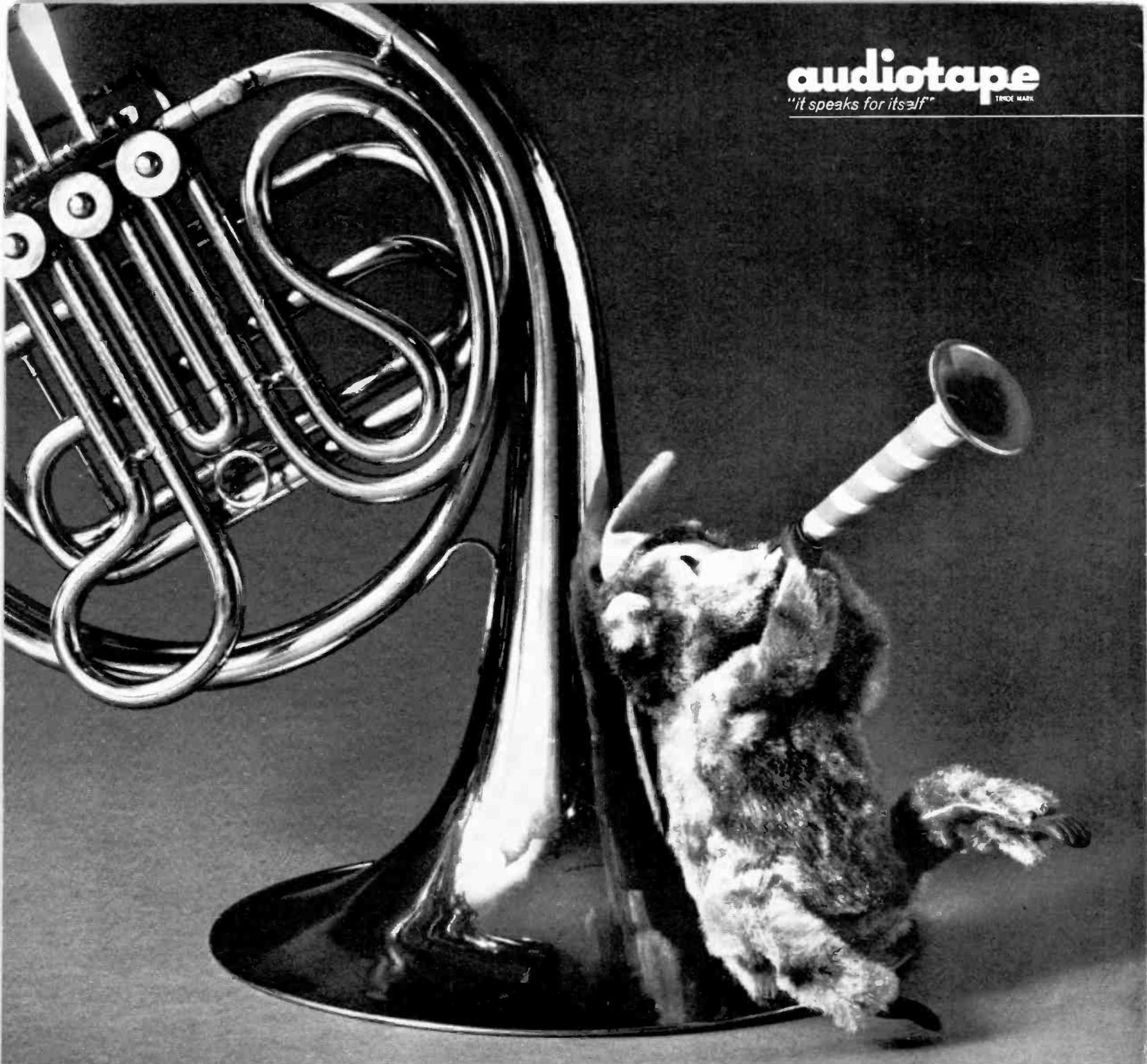


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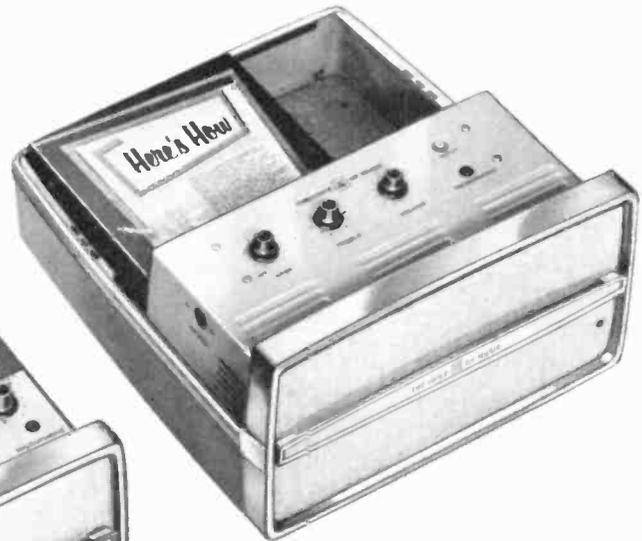
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TAPE RECORDING

VOL. 10 NO. 6

MAY, 1963

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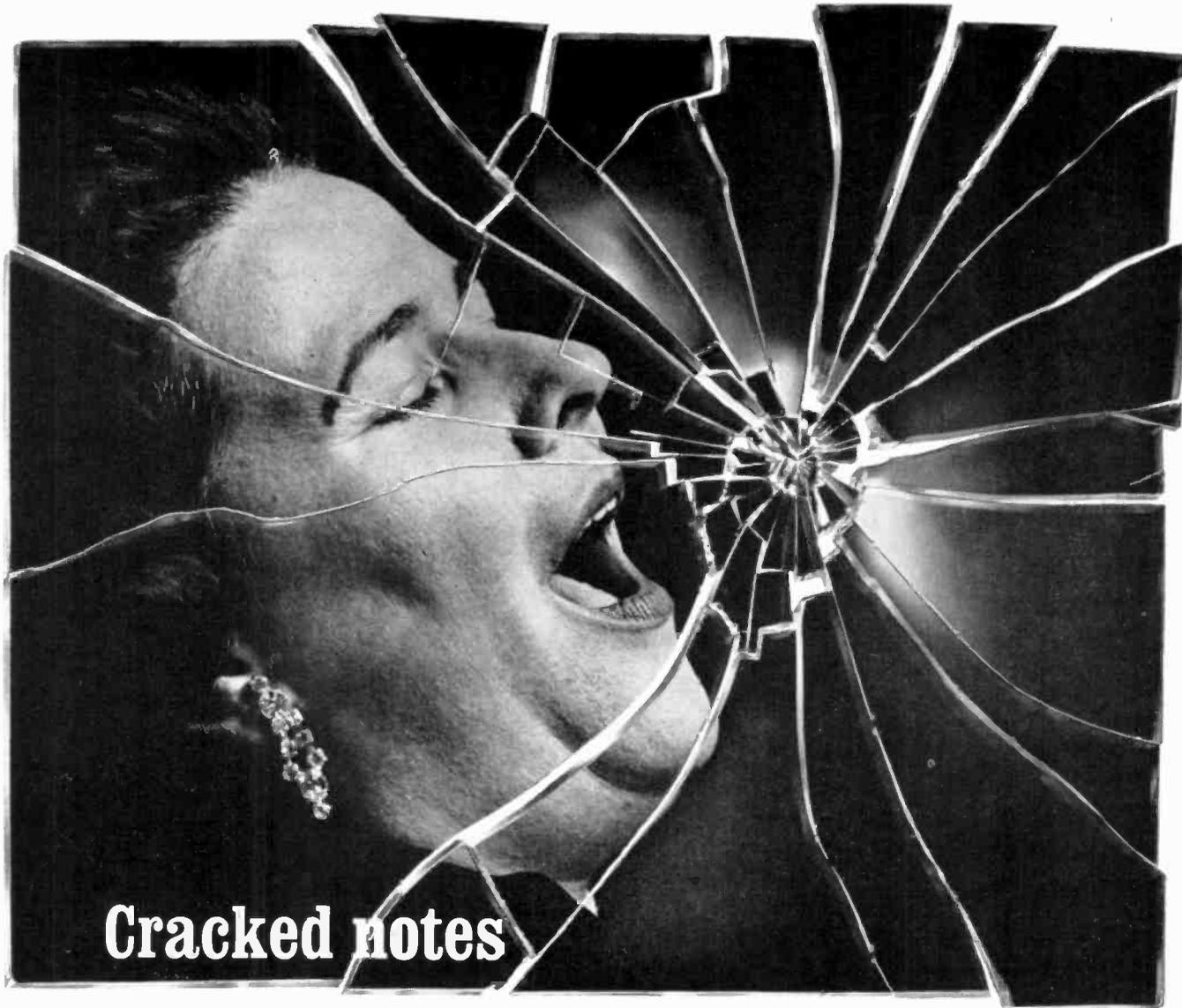
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Magnetic Products Division **3M** COMPANY

NEW TAPES

★—Fair ★★—Good ★★★—Very Good ★★★★—Excellent
 Classical—Robert E. Benson Popular—F. Norman West Jazz—George A. Heisch

CLASSICAL

MOZART: Symphony No. 35 in D, K. 385 "Haffner"

Symphony No. 41 in C, K. 551 "Jupiter"
 Amsterdam Concertgebouw Orchestra conducted by Eugen Jochum

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

PHILIPS PT 900-004

4-track, 7½ ips, 53 min., \$7.95

Under the direction of Eugen Jochum, the great Concertgebouw Orchestra gives spirited performances of these well-known Mozart symphonies, playing with their customary precision and accuracy. The Philips engineers have missed some of the orchestra's resonance, but the sound quality is very fine, and the tape can be highly recommended.

The label listing on the tape should be more detailed. It is not indicated anywhere on either the tape or the program notes that only the first three movements of the "Jupiter" are on the first track, with the last movement on track two, followed by the complete "Haffner" symphony.

TCHAIKOVSKY: Nutcracker Ballet (complete)

London Symphony Orchestra conducted by Antal Dorati

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

MERCURY ST-2 9013 (two reels)

4-track, 7½ ips, 80 min.

Still another tape of the complete Nutcracker Ballet, making a total of SIX different recordings, with others conducted by Ansermet, Abravanel, Irving, Rodzinski and Rozhdestvensky. Dorati offers a dynamic account of the score, and the London Symphony Orchestra plays magnificently, but the recorded sound tends towards shrillness, and there is a lack of impact in the bass.

This new recording is on two reels as compared with one reel for all competing versions, and it is a definite disadvantage to have three interruptions to the music instead of only one.

BIZET: Carmen (complete opera in four acts)

Victoria de los Angeles, soprano (Carmen); Nicolai Gedda, tenor (Don Jose); Ernest Blanc, baritone (Escamillo); Janine Micheau, soprano (Micaela) and others with the French National Radio Orchestra and Chorus conducted by Sir Thomas Beecham

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

ANGEL ZC 3613 (two reels)

4-track, 7½ ips, 2 hrs. 40 min., \$21.98

This recording was made several years ago amid extraordinary difficulties, including a violent disagreement between the leading soprano and Sir Thomas as to interpretation, and apparently there was doubt as to whether or not the recording would ever be completed.

The differences of opinion were settled, and the result is a superb "Carmen," if not a very exciting one. Usually the title is sung by a mezzo-soprano. Surely the soprano voice of Victoria de los Angeles does not provide the sound for the earthy, sensuous gypsy Bizet had in mind when he wrote the opera, and a darker voice would be much more appropriate. The rest of the cast is good enough, if not exceptional, and the real merit of this recording is Beecham's conception of the score, which sets a standard that will remain for years.

The reproduction here is definitely not suited for hi-fi display purposes; there is a big, rather cavernous quality to the sound, with occasionally blurred orchestral detail, but once one gets used to the acoustical environment, the reproduction is not objectionable.

The opera does not fit very conveniently onto tape, and none of the four acts is heard complete on one track. However, the tape is definitely superior to its disc counterpart, and the processing is fine.

MOZART: Quartet No. 14 in G, K. 387.

Quartet No. 18 in A, K. 464
 Julliard String Quartet

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

EPIC EC 827

4-track, 7½ ips, 59 min., \$7.95

This satisfying tape contains two of the six quartets Mozart dedicated to Hayden, for whom he had the greatest admiration. All six are considered to be masterpieces in the chamber music repertory, and the performances of the two listed above by the Julliard String Quartet are evidence that this group is one of the finest string quartets in the world. Epic's reproduction is resonant, full and natural, and this tape is a definite bargain in playing time.

MAHLER: Symphony No. 1 in D "Titan"

Boston Symphony Orchestra conducted by Erich Leinsdorf

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

RCA VICTOR FTC 2129

4-track, 7½ ips, 53 min., \$8.95

This is the second recording to be made by RCA Victor with the Boston Symphony Orchestra under the direction of its new Music Director, Erich Leinsdorf. The first was Bartok's "Concerto for Orchestra," a rather routine performance recorded with clean through small-scale, transparent sound.

I found this new recording of Mahler's "Symphony No. 1" to be disappointing in many ways. The Boston Symphony still has an over-all French quality resulting from its years under Munch, and this light-textured sound is wrong for a Mahler symphony. The music itself is scored for a huge orchestra, but on this tape one seldom gets the impression that there is a large number of players. The pick-up is very close to the orchestra, but the sound is clear only during softer passages. When the music gets loud there is considerable distortion, and strings are unpleasantly shrill. In addition, there is a lack of solid bass, and the dynamic range is definitely restricted.

Leinsdorf's interpretation is literal, and quite ineffective because of the inferior reproduction. Sir Adrian Boult's recording on Everest remains the best tape of this symphony, at least until Columbia releases their recording conducted by Bruno Walter.

POPULAR & JAZZ

JOIN BING IN A GANG SONG SING ALONG

Bing Crosby & His Friends
 Jack Halloran, Dir.

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

50 old favorites including Shine On Harvest Moon, Listen to the Mocking Bird, Sweet Rosie O'Grady, Annie Laurie, Schnitzelbank, Little Liza, For He's A Jolly Good Fellow, and others.

WARNER BROS. WSTC 1422

4 track, 7½ ips, 39 mins., \$7.95

With all of the sing-along albums being issued today by various vocal groups, it is only natural that Bing and his gang should issue another release that will be as popular as his first two.

The "Old Groaner" leads his enthusiastic chorus and rhythm group, directed by Jack Halloran, through fifty old favorites—the kind they don't write any more.

He gives a bounce to some, a sentimental sweetness to others, and even adds a bit of barbershop now and then.

The selections are short, with not more than a verse and chorus to each, and this gives a fast pace to the entire program.

For your next party, let Bing make 'em sing. They'll love it. Song lyrics are included.

OH YOU KID!

Dorothy Provine with Joe "Fingers" Carr

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

Side 1: I Don't Care & I've Got Rings On My Fingers, Cuddle Up A Little Closer & Ida, Sweet As Apple Cider,



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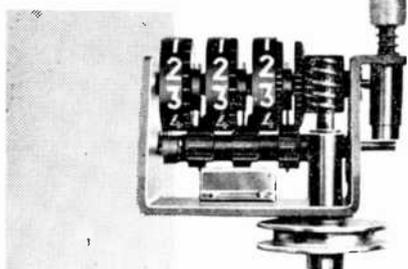
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On A Sunday Afternoon & The Band Played On, Give My Regards To Broadway & Ta-Ra-Ra Boom-Der-E, My Gal Sal & Frankie and Johnny, Wait Till The Sun Shines, Nellie & In The Good Old Summertime.

Side 2: I Love My Wife; But, Oh, You Kid!, & My Pony Boy, Daisy Bell & Sweet Rosie O'Grady, By The Light Of The Silvery Moon, Meet Me In St. Louis, Louis & Take Me Up With You Dearie, Alice Blue Gown & After The Ball, Meet Me Tonight In Dreamland & Let Me Call You Sweetheart.

WARNER BROS. WSTC 1466
7½ ips, 4 track, 31 mins., \$7.95

After romping through two highly successful albums of the Roaring 20's, darling Dorothy Provine now goes back to the earlier era of the Gay Nineties with two dozen nice and naughty songs that wowed 'em around the turn of the century.

She is aided in all of this nostalgic vocalizing by the inimitable Joe "Fingers" Carr and his tin pan piano, a quartet, the Four Sultans of Song, and a fitting orchestral accompaniment. Each one shares the spotlight with the dynamic Dorothy, as she belts out the songs just as they did back in the gone old days.

Close miked sound is beautifully recorded, clean and sharp. It's a lot of fun.—

TRUMPET AND STRINGS

AL HIRT with orchestra arranged and conducted by MARTY PAICH

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

Sequence A: Stranger in Paradise; Poor Butterfly; Fools Rush In; Sleepy Lagoon; As Time Goes By; East of the Sun.

Sequence B: Sleepless Hours; True Love; I'll Never Smile Again; I Cried for You; How Deep Is the Ocean (How High Is the Sky); Easy to Love.

RCA VICTOR FTP-1156
4-track, 7½ ips, 31:17 mins., \$7.95

The talents of Al Hirt are displayed in an entirely different setting in this recording. Al, usually playing in a small Dixie combo, is here found backed up by strings. The tunes selected are worthy of the treatment given them by Al. His renditions prove that he has perfect control over his trumpet and that Al is capable of a smooth performance in the realm of sweet music. The entire recording is good listening music and should be in the library of the followers of Al Hirt.

OUR MAN IN NEW ORLEANS

AL HIRT with orchestra arranged and conducted by MARTY PAICH

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

Sequence A: Clarinet Marmalade; Ol' Man River; New Orleans; Panama; The Birth of the Blues; Ja-Da.

Sequence B: Wolverine Blues; Oh Dem Golden Slippers; When the Saints Go Marching In; When It's Sleepy Time

Down South; Muskrat Ramble; Dear Old Southland.

RCA VICTOR FTP-1166
4-track, 7½ ips, 33:00 mins., \$7.95

Want Big Band Dixie? Well, here it is, New Orleans style. Hirt's small combo augmented by a brass section that really swings.

Marty Paich arrangements are excellent providing a terrific background for Hirt to show off his trumpet talents. The ensemble work of the brass section serves to accent the versatility of Al's horn. Although this is Dixie, a twinge of modernism occasionally is heard lending color to the performance.

The overall recording is definitely high quality. However, on the review tape there were one or two instances where a slight distortion occurred on the high note trumpet passages.

This is an appropriate recording to round out the collection of Big Band Dixie devotees.

BENNY GOODMAN IN MOSCOW

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

Sequence A: Let's Dance; Mission to Moscow; Meet the Band; I Got It Bad And That Ain't Good; Why You?; Titter Pipes; Feathers; Octet: On The Alamo; Octet: Midgets; One O'clock Jump.

Sequence B: Quintet Medley: Avalon, Body And Soul, Rose Room, The World Is Waiting For The Sunrise; Septet: Bei Mir Bist Du Schoen; Stealin' Apples; Bye Bye Blackbird; Swift As The Wind; Fountainbleau; Meadowland; Goodbye.

RCA VICTOR FTO-6003
4-track, 7½ ips, 1 hr. 25:37 mins., \$12.95

Who better could have been selected to carry American Jazz to Russia than Benny Goodman. The significance of this recording is historic, a break-through in the exchange of culture. As evidenced by this performance, the ovations given Benny and the band were tremendous. Maybe Mr. K would like to explain the applause given to what he calls "Decadent Capitalist Music."

The overall performance is excellent, hard driving, and a show of jazz talent. Yet, this reviewer believes that a few of the original compositions could have been replaced with some of the older tunes which would have had a deeper jazz meaning. This latter statement should not detract from those who love jazz, especially good jazz, and are disciples of the great Benny Goodman.

The entire gamut of Goodman's career is presented in the form of renditions by the Big Band, Quintet, Septet, and Octet (the only missing combo is the trio). The best cross section of artists make up the troupe and along with Benny play a session worthy to go down in the annals of jazz history.

IT'S ABOUT TIME

JOE MORELLO with his Sextet and Orchestra

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

Sequence A: I Didn't Know What Time It Was; Time After Time; Every Time; Every Time We Say Goodbye; Just In Time.

Sequence B: Summertime; Time On My Hands; Mother Time; Father Time; It's About Time.

RCA VICTOR FTP-1133
4-track, 7½ ips, 34:27 mins., \$7.95

A sideman comes to the top as leader. A long time to arrive at this pinnacle but here at last. It's about time for Joe Morello to display his talents as band leader as well as a top drawer performer. This recording appears to be the culmination of the many years experience Joe has had in the jazz field, notably with Dave Brubeck.

Joe has recorded in this album a most amazing performance of drum gymnastics. Yet, he never attempts to outshine the other artists or to hog the act. His main effort is that of driving the band and accentuating the solo work of John Bunch, pianist; Gary Burton, vibes; and Phil Woods, alto sax. Big Band Jazz at its acme in this session.

Credits are in order for the splendid arrangements of Manny Albam as well as those of Phil Woods.

This recording is a must for those who have followed the jazz career of Joe Morello and wish to hear him rhythmically put a big band through its paces.

WARM AND TENDER
The Three Suns

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

Sequence A: There Goes My Heart, Fly Me to the Moon, Unchained Melody, Love Is Like a Violin, Just Say I Love Her, Warm and Tender.

Sequence B: Poor Butterfly, Portofino Amour, I'm Always Chasing Rainbows, C'est si bon, The Lamp is Low, A Touch of Tenderness.

RCA VICTOR FTP 1170
4 track, 7½ ips, 35 mins., \$7.95

The Hammond organ, guitar, and accordion of the Three Suns sound that has been heard for over twenty years has now been augmented by an array of musical talents that practically brings this recording to full symphonic status.

The Suns have extended their sound by adding 12 violins, 4 cellos, an extra electronic organ, guitar, vibes, and harpsichord, and lead them all in their familiar style, while attempting to retain their own personality. The close miked, high level recording certainly possesses a tremendous amount of stereo effect, and the whole thing makes a good show-off tape.

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CAPSULE REVIEWS

LONDON LCL 80116, four-track, 7½ ips, 48 mins., \$7.95. BARTOK: Divertimento; VIVALDI: Concerti Grosso Nos. 10 and 11, Op. 3 played by the Moscow Chamber Orchestra conducted by Rudolf Barshai. Superlative performances of music in two widely divergent styles, magnificently recorded by London.

VANGUARD VTC 1651, four-track, 7½ ips, 43 min., \$7.95. Orchestral transcriptions by Schonberg, Webern and Stravinsky of various works of Johann Sebastian Bach, played with remarkable sonority by the Utah Symphony Orchestra conducted by Maurice Abravanel with Vanguard's usual rich sound.

CAPITOL ZP 8347, four-track, 7½ ips, 44 min., \$7.95. GROFF: Grand Canyon Suite, Mississippi Suite played by the Hollywood Bowl Symphony Orchestra conducted by Felix Slatkin. The performances here are exceptionally good here, but the recording apparently dates back to the early days of stereo, and there is a definite artificial reverberation quality to the sound.

CONCERTAPES 4T 4021, four-track, 7½ ips, 52 mins., \$7.95. MENDELSSOHN: Quartet in E Flat, Op. 12; Quartet in E Minor, Op. 41 No. 2 played by the Fine Arts Quartet. This pleasant music is wonderfully played by the excellent Fine Arts Quartet, with transparent, full-bodied reproduction. Big value in playing time, too.

EPIC EC 821, four-track, 7½ ips, 42 mins., \$7.95. SCHUMANN: Symphony No. 1 in B Flat, Op. 38 "Spring"; Manfred Overture, Op. 115 played by the Cleveland Orchestra conducted by George Szell. This conductor is a specialist in the music of Schumann, his orchestra is second to none, and Epic's sound is big and satisfying, if not sensational. Recommended.

ATLANTIC ALC-1918, John Lewis Presents CONTEMPORARY JAZZ ABSTRACTIONS. 4 track, 7½ ips, 36:25 mins., \$7.95. Herein is presented jazz composition that is adventurous. The recording is not meant for lovers of conventional jazz. However, this work may please the tastes of the "way out boys" who dig string quartet renditions. This album is a challenge to the most flexible of jazz minds.

SPECIAL

MTD 1 COMMUNIST BRAINWASHING, Major William E. Mayer, dual track, 3¼ ips, 90 mins., \$2.00. For those who would like to know something of the brainwashing techniques used by the Chinese Communists during the Korean Conflict, this recording is the answer. This is a factual report as to what happened to many of our servicemen and the information imparted is vital and urgent to every American. The tape can be ordered direct from, Magnetic Tape Duplicators, 7925 Santa Monica Blvd., Hollywood 46, California.



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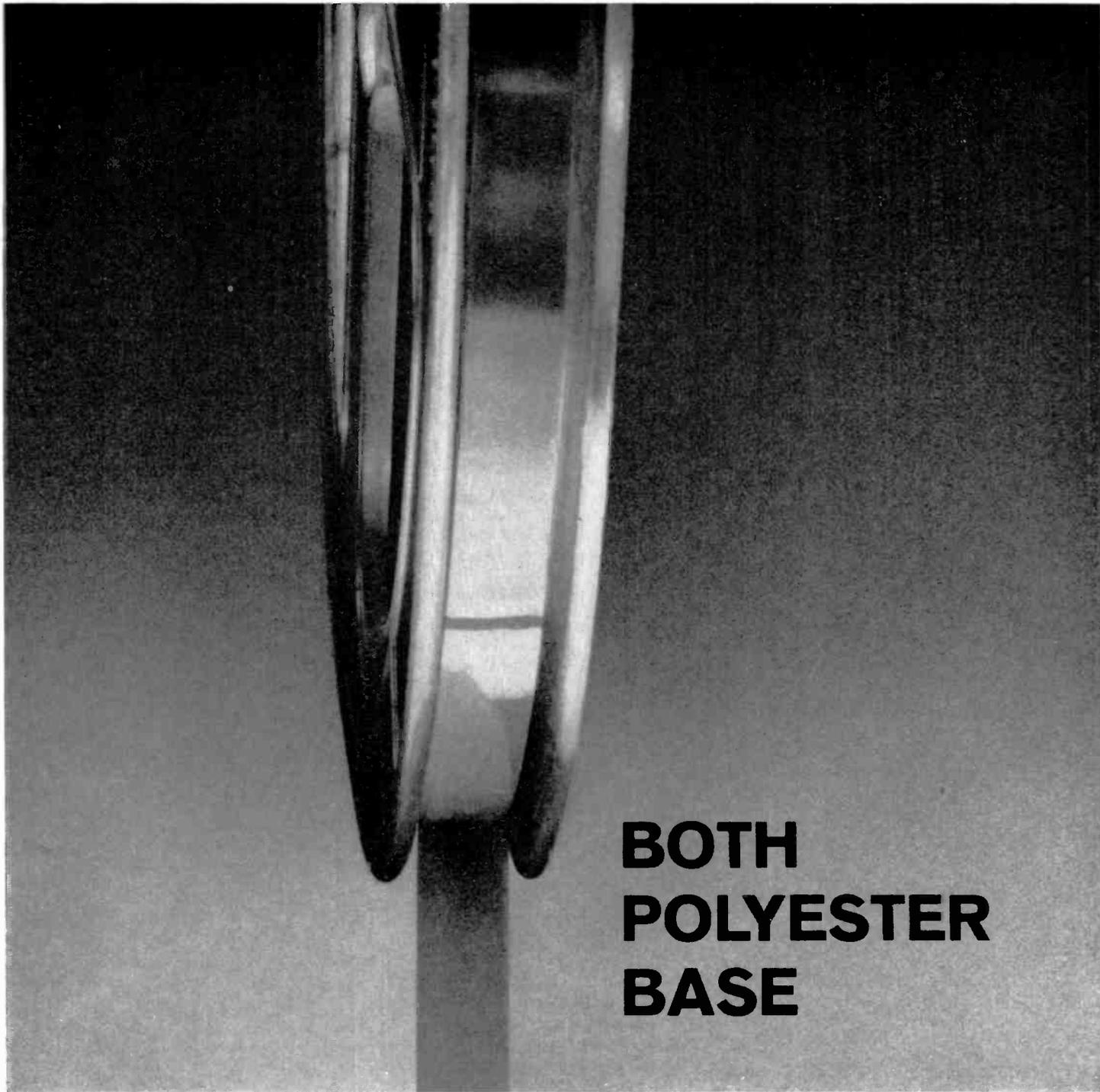
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Culver City, California

Dept. TR-563: Please send details & name of my nearest dealer for the Cosmopolitan.

Name _____
Address _____
City _____ Zone _____ State _____



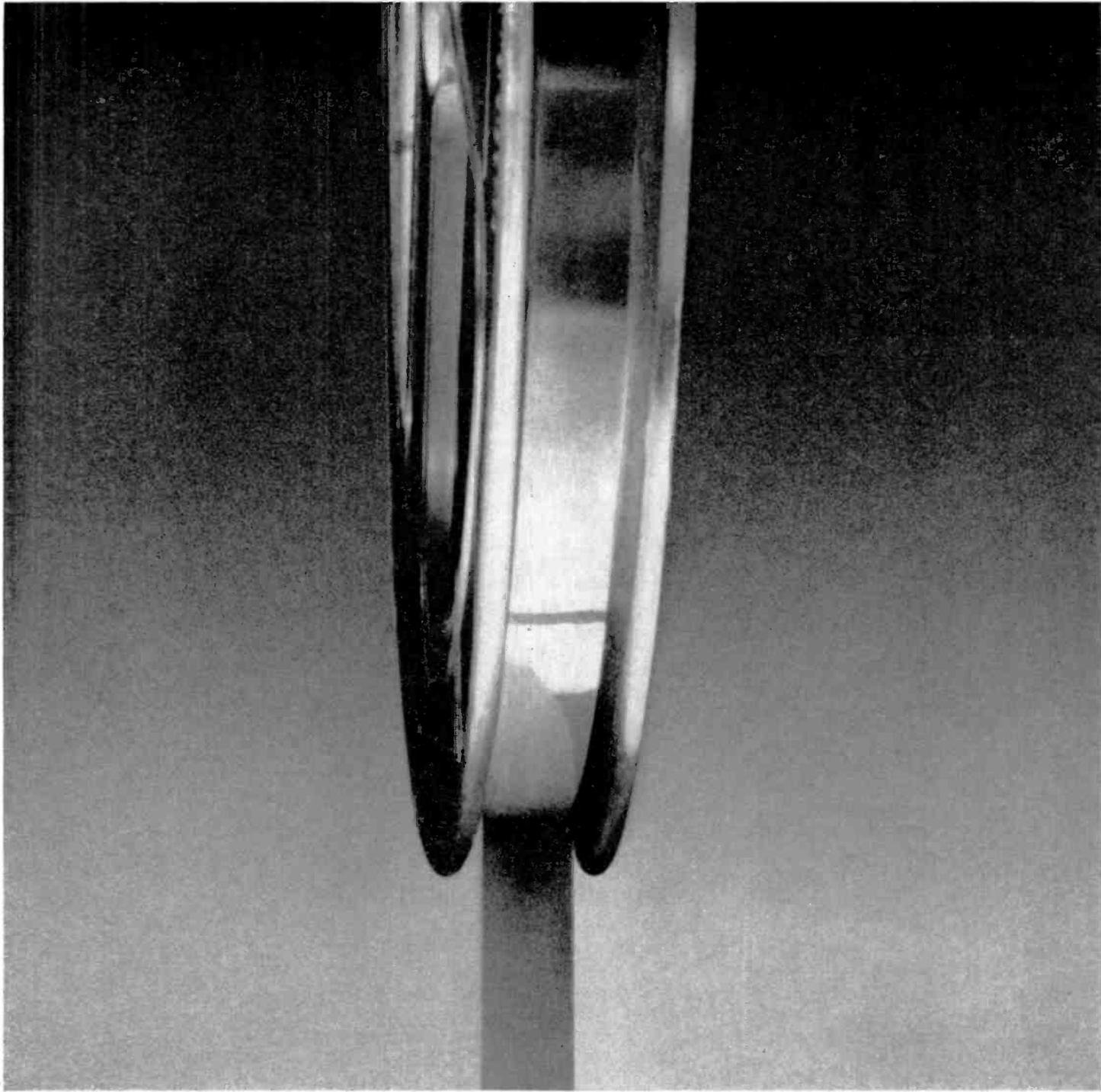
**BOTH
POLYESTER
BASE**

BUT ONLY ONE IS MYLAR® . . .

When tapes of Du Pont MYLAR* polyester film first appeared on the home-recording scene, they brought a standard of performance that was unknown before. Naturally enough, the people who wanted assurance of tape that wouldn't break, tape that kept precious per-

formances for years in all climatic conditions, couldn't risk using other tapes. MYLAR was preferred for top-quality tapes. ■ Now, other polyester films are beginning to appear. They are not all the same; MYLAR is a polyester film, but other polyester films are not MYLAR. In the

**Du Pont's registered trademark for its polyester film.*



PROVEN IN USE

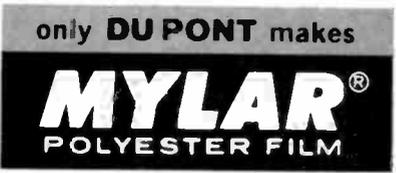
past you could be sure you were getting MYLAR when you bought a box of magnetic tape marked "polyester". Today you cannot.

■ There's only one way to be sure you're getting the MYLAR you've come to depend on for proven premium performance.

PICK THE BOX WITH THIS TRADEMARK



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



CROSTALK

from the Editors

HOW CAN YOU have more fun with your recorder? How can you get the most from your investment in a machine that records sound?

* * * * *

SIMPLY TIEING THE recorder into a home music system is a bit like using a team of race horses to pull a wagon. While recording from the radio and TV is very worthwhile and lots of fun, and playing recorded music tapes can provide many hours of enjoyment, the full capabilities of the recorder are not being realized if it is limited to such activities.

* * * * *

TAPESPONDENCE WITH PEOPLE all over the world is a thrilling activity. Through it you can meet and talk with folks who have the same likes and dislikes, hobbies and interests as your own. You never lack for congenial companionship and you can learn much about the life and thinking of people overseas.

* * * * *

YOUR RECORDER CAN become a charitable tool if you put it to a worthwhile use such as recording for the blind. While much classical material is available in recorded form for the blind, the current issues of magazines in which the blind may be interested are hard to come by unless some kind soul will take the trouble to read them on tape. Your local Workshop for the Blind can give you the name and address of someone you might help, if you're so inclined.

* * * * *

THE RECORDER IS a creative tool also, just like a camera. Those who make snapshots and let the photofinisher develop and print the pictures are not getting the maximum fun from their cameras. The photo fan who does his own work and sincerely tries to make works of art with camera and darkroom equipment in turn gets that much more satisfaction from using his equipment. The owner of a tape recorder who is content to copy the efforts of others from radio or TV is not going to have as much fun as the man who puts together his own shows, made up from his own imagination and put together with kind and loving care to create an audio masterpiece—or as close as he can come to one.

* * * * *

WITH THE ADVENT of the portable, battery-powered recorder and the home-auto type, the ability to take the recorder far afield has increased. With it you can record the sounds of your vacation and trips. These may be used to enliven your color slides.

* * * * *

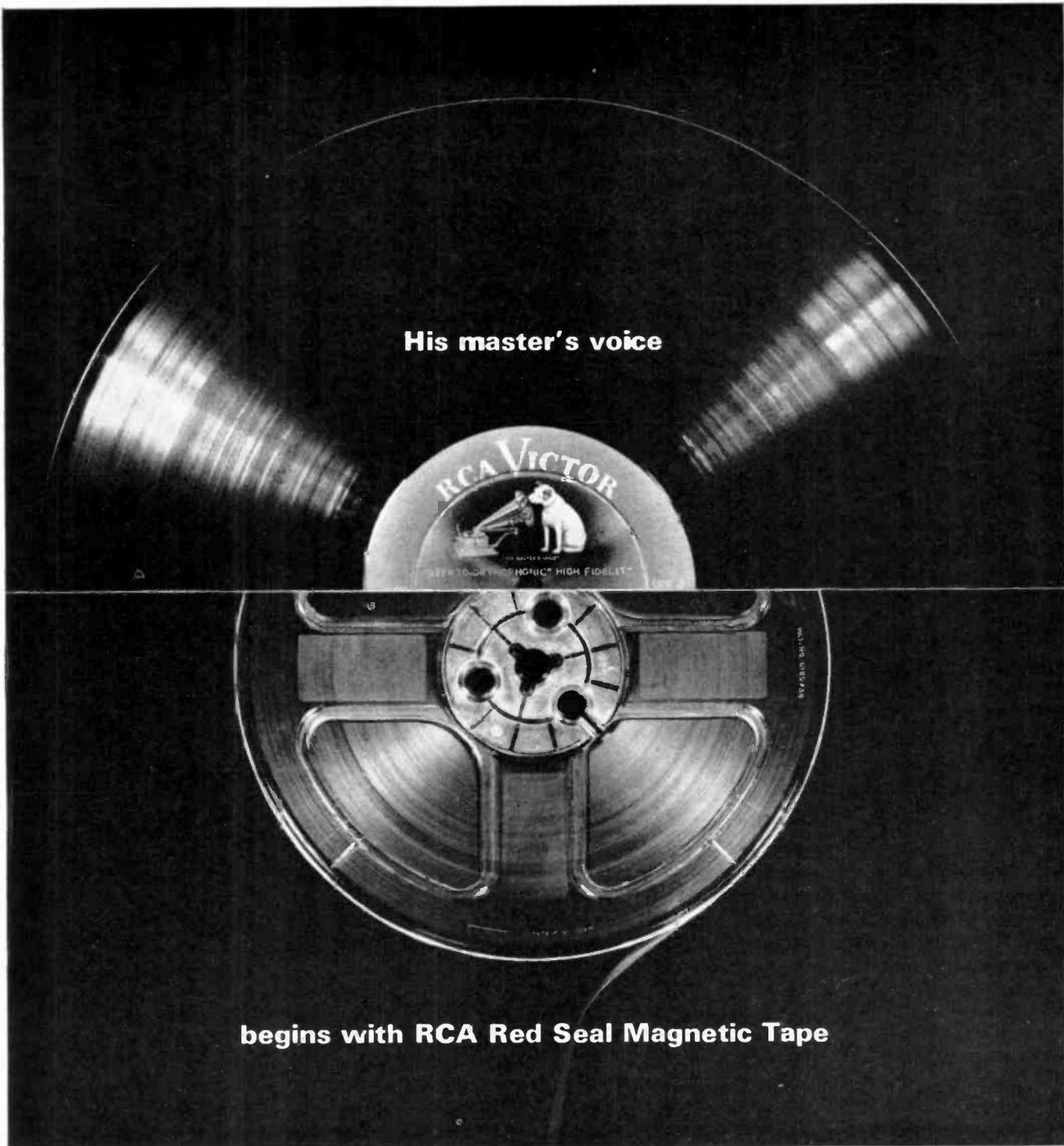
SELF-IMPROVEMENT IN many forms is one of the many functions of your recorder. It can help you to improve your speech or reading ability. It can help you to learn a foreign language and, coupled with a short wave receiver, to build a library of tapes in the foreign language of your choice. It can assist in memory work of any sort and for any age.

* * * * *

IF YOU ARE interested in amateur theatricals, the recorder can prove invaluable, not only for helping you learn your lines but to provide sound effects for the play itself and also furnish background music for before and after the show.

* * * * *

PERHAPS YOU SHOULD take another look at your recorder and figure out what more it can do for you.



His master's voice

begins with RCA Red Seal Magnetic Tape

(the very same super-quality sound tape available to you!)

The world's greatest artists are recorded on RCA Victor Red Seal Records. And the first-generation source of this great sound is RCA Red Seal Magnetic Recording Tape—the same super-quality tape you can obtain (and should demand!) wherever you buy recording sup-



plies. No matter what the job, for the unqualified best in home recording always specify RCA RED SEAL MAGNETIC TAPE. Also ask your dealer about the economical "Vibrant Series" Sound Tape—the high quality, low-cost magnetic tape, in all standard reel sizes.



The Most Trusted Name in Sound

RADIO CORPORATION OF AMERICA

PLANNING A PARTY??

Here's the answer to the old-time question of what can we do that's different?



SEND FOR A TAPE FUN KIT

The Tape Fun Kit is composed of whimsical, hilarity provoking, laugh-filled skits, all of which are designed primarily for fun—and lots of it. Each skit is short and each has a script for every character called for.

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.

TAPE KIT NO. 1—\$2.00

Order yours today. Use the handy form below.

(Add 24¢ each if First Class Mail delivery is desired.)

TAPE RECORDING

Severna Park, Maryland

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

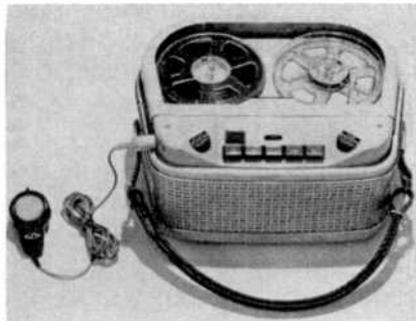
Name

Address

City Zone State

NEW PRODUCTS

Butoba Recorder



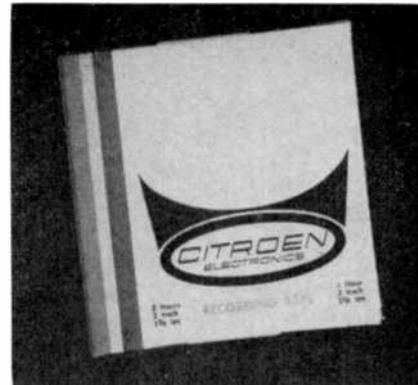
The Butoba recorder, from West Germany, is exclusively imported and distributed to the U.S. market by Stanford International, 569 Laurel Street, San Carlos, California. It is designed for professional quality applications. It operates on 8 standard flashlight batteries for 40 hours, or A/C operation. It has two motors with transistorized electronic speed control, instant start and stop, separate volume and tone controls, built-in push-pull amplifier, tape position indicator and 5" x 7" heavy-duty speaker. Response is 50-13,000 cps at 3¾ ips, and 60-6,000 cps at 1⅞ ips. It comes with an attractive carrying case and microphone. For catalog literature, write to Stanford.

Astatic Lab Headset



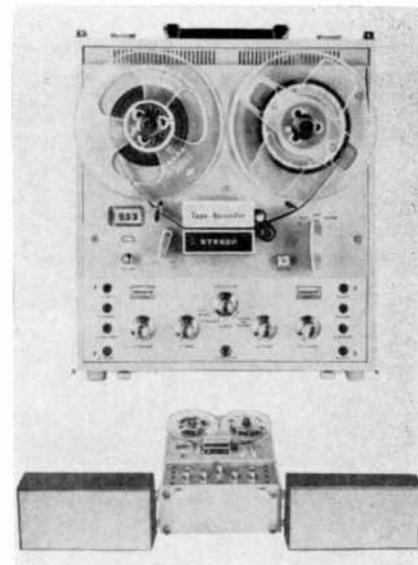
The Astatic Corporation, Conneaut, Ohio, has introduced a new headset-microphone unit called the "Astiphone." Design of the unit was based on a thorough anatomical study of the human head. This resulted in a lightweight set with comfortable, well-fitting ear pieces which do not touch the ears to create tiring pressure. The units are available with both crystal and ceramic headphones. The microphone is available only in the ceramic unit, and is available separately including a new wiring harness. The units are practically tinker proof.

Citroen Tape



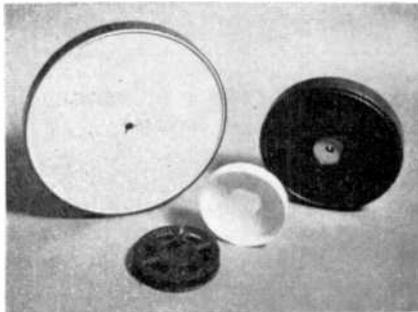
Citroen Electronics Corporation has developed a new 3¼-inch tape reel containing 600 feet of tensilized Mylar tape and offering two full hours of playing time. This new reel is designed for CEC's Models 550 and 660 portable recorders and is now included as standard equipment on these models. Literature on the new long-play tape for portable recorders is available now from Citroen Electronics Corporation, 729 N. Highland, Los Angeles 38, California.

Cipher VII Recorder



Inter-Mark Corporation, 80-00 Cooper Avenue, Glendale 27, New York, is marketing the Cipher VII stereo tape recorder. The unit features a heavy-duty detachable speaker system, three-speed operation, two VU meters, individual controls on each channel for volume and tone, instant stop lever, automatic tape shut-off, facilities for sound-on-sound and a stereo earphone connection. Jacks are also provided for radio, phonograph and microphone as well as for external speakers and amplifiers. Frequency response is given as 35 to 15,000 cps at 7½ ips speed. It may be operated horizontally or vertically

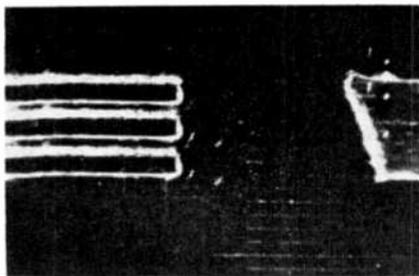
Reels and Storage Cases



Telephone Dynamics Corp., 32 Sunrise Highway, Baldwin, L.I., New York, has announced a combination of reels and storage cases for standard recording tape or 8mm movie film. The reels and cases are available in 3", 5" and 7" high quality, high impact styrene and in white and gray, or light and dark gray. The reel and case cover are machined to precision tolerances and fit together to provide a sturdy enclosed case for the protection and storage of tape or film. The new device itself forms a compact complete protection against dust, dirt and airborne particles simply by pressing the reel into the cover. A slight pressure through the finger hole pops the reel out.

For further information contact Mr. S. Scher, V.P. Sales at the company.

.7 Mil Tape



Agfa, Inc., New York, has announced its PE-65 tape which is only .7 mil in thickness including a coating of .23 mil. The micro-photo above shows three layers of the new tape contrasted with one human hair. A three- or four-inch reel holding 800 feet of the tape will play for 40 minutes per track at the 3 3/4 ips speed. A seven-inch reel will hold 2600 feet of the tape.

Reeves Soundcraft New Tapes

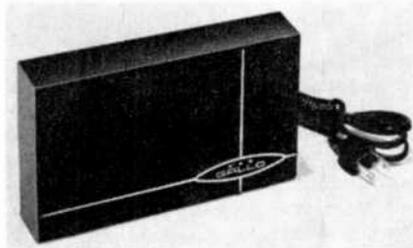
Reeves Soundcraft, Danbury, Conn., has introduced a new line of tapes designed especially for professional use. The new tape series includes a Low Print Mastering Tape, a High Output Mastering Tape and a new Duplicating Tape.

The Low Print and High Output tapes are available in 1/2" and 3/4" widths in 1 1/2 mil acetate and Mylar bases. The Duplicating tape is 1/4" wide and is available in 1 1/2 mil and 1 mil acetate and 1 mil Mylar. The Low Print tape offers 8 db greater high frequency output and also provides minimum layer-to-layer signal transfer in the production of critical recordings requiring low noise level and wide dynamic range. The tape is entirely free of static noises and editing squeal.

Soundcraft's Uni-Level coating provides a uniform depth of coating for flawless low frequency response.

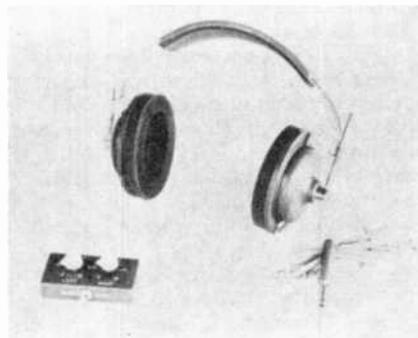
The High Output Mastering tape gives a minimum of 3 db more high frequency output in combination with substantially lower print through. The Duplicating tape has a new special magnetically active oxide which offers professional users 25 per cent greater high frequency output and a 7 db improvement in signal to noise ratio over standard duplicating tapes. The new tape eliminates the loss of high frequency response in high speed duplication. Spec sheets are available on request from the company at the address above.

Indoor FM Antenna



Gallo Electronics Co., 12 Potter Ave., New Rochelle, N. Y., is marketing the Gallo FMS-101 Antenna System for improved FM reception in city and suburban areas. It contains a built-in transistorized booster amplifier coupled to the patented Gallo antenna which rejects noise and interference automatically. It is equally sensitive in all directions and when once positioned in the home does not have to be moved. For further details and dealer name contact the company.

Stereo Headset



Roberts Electronics, Los Angeles 16, Cal., have introduced Stereophonic Dynamic Speaker headsets with a Stereo Master Control panel.

The panel has a stereo/mono switch for monaural listening and a two channel control for adjusting volume and stereo balance to individual preference. Volume can be adjusted for each ear separately, a feature of particular advantage to many persons whose ears vary in hearing levels. Headsets are light in weight and have soft sponge rubber earpieces and headband so that all outside sounds are sealed out. They may also be used to monitor stereo recordings or sound-with-sound master tracks as the audition track is being recorded. Price is \$29.95.



**OWN THIS
MACHINE
RECORDING
FOR US
PART TIME**

Territories still available in:

California	Maine	Missouri
Georgia	Oregon	Tennessee
Texas	Hawaii	Louisiana
New Jersey	Wisconsin	Florida

Other areas also. Send \$1 (refundable) for complete Literature Packet and Tape if sincerely interested.

ARTISTIC



recording systems

Box 3774, Oak Park, Mich.



**YOUR TAPES NEED
FilMagic!**

FilMagic Pylon (patented automatic silicone applicator), with Long-Life Conditioner and Cleaner Fluid insures clean, "wow-free" tapes and constant head lubrication. Pylon kit contains all essentials. One Pylon Applicator (suction-grip, flange or "pin-in" base), bottles of Tape Conditioner and Cleaner Fluid, extra sleeves, fluid dispensing pipette, and full instructions. At your dealer or send \$3.45 for postpaid U. S. delivery to:

The Distributor's Group, Inc.
204 Fourteenth Street, N. W. • Atlanta-13, Georgia



**NOW YOU CAN TAPE
HIGHEST FIDELITY
ANYWHERE**

*Tape highest fidelity sound
with this smallest,
easiest-to-use instrument.*

Audiophile
Net: \$15950



Like a picture, irreplaceable sounds can be recorded "out of focus." Answer is fabulous 75-15,000 CPS fidelity of Citroen Model "660," 3 speed professional recorder with wow/flutter an almost non-existent .18%! Revolutionary solid state electronics and mechanical engineering have reduced size to 7 1/2" x 7" and weight to six pounds—yet records up to 2 hours per reel. Now tape concerts, shows, events, lectures, in living fidelity—self contained batteries or AC power. Available only at franchised dealers.

• FREEMAN (CITROEN) ELECTRONICS CORP., Dept. TR5
• 729 N. Highland Avenue
• Los Angeles 38, California

• Please send me:

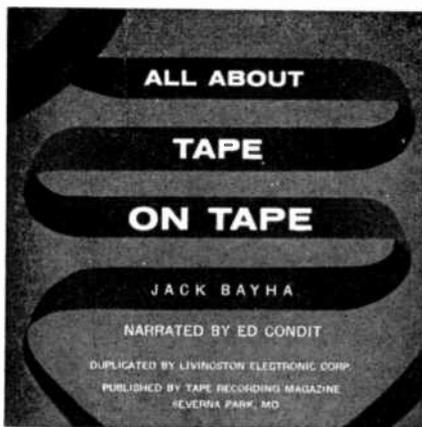
• Booklet containing ingenious suggestions on how to get the most from a tape recorder at work or play. I enclose 25¢ (coin, stamps) for postage and handling.

• Name of nearest dealer.

• Name _____

• Address _____

• City _____ Zone _____ State _____



ALL ABOUT TAPE— ON TAPE

Will give you the information you need about tape recording in sound, not in the written word.

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

7½ IPS, 7" Reel, Dual Track
\$6.95

3¾ IPS, 5" Reel, Dual Track
\$5.95

Including a 28 page manual of illustrations

TAPE BOOK DEPT.

TAPE RECORDING MAGAZINE

101 Baltimore-Annapolis Blvd.

Severna Park, Md.

Gentlemen:

Please send me a copy of All About Tape on Tape as checked below. I enclose

7½ IPS 7" reel \$6.95

3¾ IPS 5" reel 5.95

Name

Address

City Zone ... State

LETTERS

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

Recorder Needed

To the Editor:

Having been in the audio-visual field for more than 30 years, I feel qualified to address this letter to you and by necessity it will be lengthy.

We are having an increasing number of calls for a recorder-playback unit from college students, their parents, industry and others, which doesn't exist, to my knowledge. With the present overcrowded college classes and the apparent "survival of the fittest" attitude of the instructors, a lot of the students, especially in their freshman year are unable to sufficiently grasp and absorb the lectures. Psychologically, this is partially due to his fear of what it will mean if he fails the subject. Department heads of various industries are sent great distances to attend symposiums and clinics on matters vital to their very survival and are expected to return with an intelligent and worthwhile report to their management. And, by the same fear experienced by the student, he fails to absorb a great deal of what is said. We have actually sold the heavier, conventional recorders for this specific purpose. There is also a need for such a unit by reporters, law enforcement officers and others.

The unit which I feel would supply the above described demand should have the following features:

(a) Battery-powered, transistorized. Mechanism could be spring-powered if that would be an advantage cost and performance-wise.

(b) To be small or compact enough to be carried in coat-pocket or lady's purse.

(c) Sensitivity sufficient to pick up a lecturer or speaker in college class-room.

(d) Preferably 1 hour. 15/16 or 1⅞ i.p.s. acceptable.

(e) Start and stop by thumb-operated switch on microphone.

(f) To have built-in speaker and headset plug-in jack.

(g) High-impact plastic case with rough or fine cross-check surface to help prevent dropping. Case to be felt-lined for absorption of mechanical noise. Carrying case with shoulder-strap optional.

(h) To be packaged in sturdy cardboard or polystyrene telescoping box. This feature would definitely lend eye and sales appeal.

(i) The question always arises "what'll I do when it quits"—or "where can I get it serviced?". Therefore we recommend that the instrument we have in mind must have a "plug-in" or easily replaceable component amplifier.

NOTE: A technician who can service any transistorized, printed-circuit instrument earns about \$120.00 per week take-home-pay. This, plus other expense connected with maintaining a service department determine what he will spend his time on. We are turning down about as many small

recorder jobs as we are accepting. The very best man with many years of experience would have to be virtually a brain-surgeon to successfully repair some of the instruments now on the market. And, a customer can't be interested in sending anything "back to the factory" for service. He just doesn't want to be bothered with it and couldn't spare his recorder for the length of time required.

(j) Foreign manufacture will be acceptable providing it is sold through sales and service dealers widely distributed throughout the United States. Let me emphasize here that we are speaking of a *service instrument* and not one that will be bought just for amusement.

(k) Lastly, but of importance, the unit should retail for about \$150.00.

I hope that you will pass the above matter on to one or several manufacturers you believe most likely to be interested in creating the unit described. I honestly feel that many applications other than the ones I have mentioned, will develop after it is made available.—*Frank L. Rouser, Frank L. Rouser Co., Inc., 315 W. Cumberland, Knoxville, Tenn.*

We are printing the above letter to bring this need to the attention of those in the industry who are in a position to do something about it. The idea of making repairs through the use of modular components is a valid one and, considering the pay scale of repair personnel, would probably be cheaper in the end.

Tapespondents Directory?

To the Editor:

I wish to become a subscriber to your magazine. Enclosed is my check.

It has seemed to me that many magazines often contain incongruous and congesting material. I wish to commend you for putting out a magazine that doesn't appear to be that way, but is down-to-earth, clean, simple and is congenially read by all. Keep your magazine small. That's why I'm ordering.

Enclosed is my postcard for the tapespondents listing. Incidentally, I wonder if it would be somewhat better to have the tapespondents available in a booklet, perhaps available at extra cost every (6) six months or quarterly. Wouldn't this be more fair to those who sent their names in?—*Sincerely, Hal Rupp, Los Angeles 42, Calif.*

Thank you for the kind words. The tapespondents listing is maintained as a reader service so that people can get their toes wet in the wonderful world of taping. The various tape clubs do have permanent directories and we would suggest that you join one of them.

"WHY MY RECORDER IS IMPORTANT TO ME" CONTEST

WIN A REEL OF TAPE. Tell us in your own words why your recorder is important to you, not why it could be important to someone else. Entries will be judged on the basis of their usefulness to others and on the uniqueness of the recorder use. No entries will be returned. Address your entry to: Important Recorder Contest, Tape Recording Magazine, Severna Park, Md.

Gentlemen:

When I became an active amateur radio operator (ham) I felt that what had been my No. 1 hobby—Hi-fi—would be relegated to second place. Not so, however! I find that they go together, and belong together, the same cornbeef and cabbage—or, to use a more appropriate comparison, like the two sound tracks on a stereo tape.

In a ham "QSO" (contact over the air) I frequently inject the question "Do you have a tape recorder?" and then follow with "If so, would be glad to exchange tape letters. Have large library of recorded tapes and dubbing facilities."

Many times the answer takes a form something like this "Sorry O.M. (old man) do not have tape recorder. Sounds like fun. If I get one will sure let you know."

Every so often, however, the answer is affirmative. Then one or the other of us breaks the ice and mails a pilot tape. I now have some 24 ham tapespondents from all over the U. S.—with the tape letters often enlivened by snapshots of the ham shack and rigs, members of the family, etc.

I have also helped other hams, and been helped by them, through the exchange of code practice on tape, pointers on how best to prepare for FCC Code tests, written exams, etc.

So—without too much elaboration, my tape recorder is important to me—and is becoming increasingly more so—as an adjunct to my hamming activities. Incidentally several ham operators who did not have tape recorders at the time of our first radio contacts are now recorder-equipped and endorse, enthusiastically, what I said about the supplemental enjoyment they make possible. I always include a reminder about tapespondence on "OSI" card as shown on sample enclosed.—*Ralph W. Smiley, St. Petersburg, Fla*

Gentlemen:

My recorder is important to me for all the usual reasons plus a few unusual ones—but it is particularly important to a seven-year-old lad who happens to be my son.

This youngster was recently faced with the understandably frightening prospect of having his tonsils and adenoids removed. Now, at that age, the standard reasons for undergoing such an operation don't seem very compelling when stacked up against the looming specters of surgery, convalescence and a week-long sore throat. But what reason could he be given that would make the whole thing seem worthwhile from his personal point of view? What result could he look forward to that would be meaningful on his own terms?

My recorder suggested the answer: the sound of his own voice. His nasal wheeze couldn't help but sound better after the operation!

Thus, several days before the big event,



YOU GET **2**
COMPLETE LONG
PLAY RECORDS

ON ONE REEL OF BURGESS TAPE

New 1500' 1.0 mil Mylar* or Acetate, at 7½ IPS

No more cutting out the last selection of your favorite record and no more unused tape on the end of the reel. It's the right amount of tape to do the job completely—from Burgess.

Burgess 1500' reels are priced right! Only a little more than 1200' reels—substantially less than 1800' reels!



*T.M. of DuPont

BURGESS TAPE MEETS HIGHEST PROFESSIONAL STANDARDS

Burgess Magnetic Recording Tape gives you Lower Print-Through even after months of storage, Higher Frequency Response, Freedom from Flake-off, Superior Built-in Lubricant and Consistent Quality, reel after reel.

BURGESS BATTERY COMPANY

Division of Servel, Inc.

MAGNETIC TAPE DIVISION

Freeport, Illinois • Niagara Falls, Canada

TAPE CLUB NEWS

Job for Clubs?

There is a note in one of our British contemporaries (Amateur Tape Recording and Hi-Fi) which might apply to American schools. They suggest that school tape clubs (they have them in England) record the local dialects and exchange recordings. This will show how the kelt, Saxon and Dane have left their imprint on the England of today.

In the United States there are regional differences which are quite definite and striking. Recordings of these should be quite valuable to teachers of English in the schools.

From Boston to the bayous and from Brooklyn to L.A. there is quite a difference in the pronunciation of words we use every day. An exposure to this difference, on tapes which school children could make, would widen their horizons.

ITF Members Take A Holiday

Three members of England's International Tape Fellowship club, namely Barry Carter, Terry Nurse, and Jack Talling, spent a busy twelve days holiday on the island of Jersey. Cameras were worn and the spools of a recorder were spinning, capturing scenes and sounds for the preparation of a slide show, complete with commentary. A few interviews with visitors and local people were obtained, though once, the tables were turned and the I.T.F. members were in turn interviewed by a representative of the Jersey Tourist Asso-

ciation, conducting a survey on the islands tourist invasion.

Jersey is famed for its cattle and its scenic beauty. Approximately 600 photographs and 12 reels of tape were used during the holiday.

Puppet Show Highlights IRC Meeting

More than 80 people attended the March 17 meeting of Indiana Recording Club in Indianapolis, with a large number of children present to see the Judy Heiken Marionettes. The meeting opened with a short business session, Art Hendricks, Vice-President, presiding. The secretary read the minutes of the previous meeting. The treasurer reported on income and disbursements. Rotha Calhoun suggested that the custom of wearing name-tags be revived, and the problem of purchasing name-tags was referred to the Board of Directors. Dan Shattuck talked about maintaining the dignity of the club by not asking for special discounts from electronic dealers who already do more than anyone could expect to support Indiana Recording Club.

The program for the day, the puppet show, was accompanied by music and sound effects on a Wollensak tape recorder. The ingenious animals, all made by IRC Judy Heiken, were clever, imaginative and agile. Following the show, different IRC members conferred with Jack and Judy Heiken, making suggestions for other taped sounds and ways to make the show even more interesting.

SAXITONE RECORDING TAPE

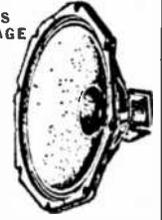
*Slide guaranteed not to rub off or squeak—or money back. Compare ours with other "bargain" tape. You'll find it's more than just "price" when you deal with us. We are original pioneers in the tape recorder business and our reputation means everything to us.



225' MYLAR, 3" (in mailable box) .39
600' acetate (plastic), 5 inch.75
600' MYLAR 5 inch reel.85
900' MYLAR (Polyester), 5 inch.89
1200' MYLAR, 1/2 mil, 5 inch reel. 1.15
1200' MYLAR, tenzilized, 5 inch.1.59
1200' acetate (plastic), 7 inch.1.15
1200' MYLAR, 1 1/2 mil, (strong)1.29
1800' acetate (plastic), 7 inch.1.39
1800' MYLAR 1 mil, thick, 7 inch.1.89
2400' MYLAR, untensilized, 7 inch.2.59
2400' MYLAR, tenzilized, 7 inch.2.89
(Large Users Even Lower)

SAVE 30%
4-track stereo music on tape PLUS POSTAGE

NORELCO SPEAKERS
Famous ADB800M, twin cone 8" (75-10,000 cycles) comparable net 9.90 now 4.95, 2 for 9.00, plus postage. OTHER Norelco models at BIG DISCOUNTS. Specifications on entire Norelco line sent on request.



SAXITONE TAPE SALES

div. Commission Electronics, Inc.
1776 Columbia Rd., N.W.
Wash. 9, D.C.

Tape/Slide Visit

Members of Reel 1 in Dallas and visitors visited the Holy Land and the Cape Province of South Africa by tape/slide shows at the March 8 meeting. Gladys Neal of Toronto, Canada, compiled a show on her recent tour of the Holy Land, and sent it to Clyde and Naomi Driscoll of Dallas. LeRoy and Lenora King, also of Dallas, provided the second show from Johnny Pearce of South Africa. Slides and talks on Civil Defense completed the program. A letter from Jack Murdoch of Australia complimenting Reel 1 on their postcard show of Dallas was read to the membership.

The February meeting of Reel 1 drew many visitors and featured a show from Dr. Robert Shaw, prominent Dallas surgeon now with Medico in Afghanistan, also an Alpine holiday show prepared by Wolfgang and Johanna Kossian of Vienna, Austria.

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.

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

AMATEUR TAPE EXCHANGE ASSOCIATION
Ernest Rawlings, President
5411 Bocaque Street
Cartierville, Montreal 9, P. Q., Canada

AMERICAN TAPE EXCHANGE
Clarence J. Rutledge, Director
1422 No. 45th Street
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CLUB DU RUBAN SONORE
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INDIANA RECORDING CLUB
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Indianapolis 27, Indiana

INTERNATIONAL VOICES OF YOUTH
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Emile Garin, Secretary
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University of Pittsburgh
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Diap River
Capetown, South Africa

THE NEW ZEALAND TAPE RECORDING CLUB
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Auckland, W. I, New Zealand

WORLD WIDE TAPE TALK
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35 The Gardens, Harrow
Middlesex, England

TAPESPONDENTS WANTED

This listing is for those seeking tape correspondents, looking for swaps of tapes, etc. and it is a free service for our readers. If you wish your name listed send us the following information on a post card: 1-Name, 2-Mailing Address, 3-Kind of recorder, speed and number of tracks. 4-Subjects on which you want to tapespond or items for which you are looking. 5-Indicate whether you are an adult or teenager. Listing will run two months and then be dropped to make way for new listings. Address your postcard to: TAPESPONDENTS WANTED, Tape Recording Magazine, 101 Baltimore-Annapolis Blvd., Severna Park, Md.

Tape Recording magazine assumes no responsibility for any inquiries between people listed in this column which are not answered.

James Fishel, 137 5th Street Northwest, New Philadelphia 1, Ohio; Recorder: Trav-Ler, 3 $\frac{3}{4}$, 7 $\frac{1}{2}$ ips, 2 track; Interests: Comedy shows, religion, sports, music, ham radio, electronics, photography; Adult.

Philip Moshcovitz, 65 Bellingham Road, Chestnut Hill 67, Mass.; Recorders: Webcor Royal Coronet, stereo playback, 2 track, 7 $\frac{1}{2}$ & 3 $\frac{3}{4}$ ips; Wollensak Model T-1500, stereo playback, 4 track, 7 $\frac{1}{2}$ & 3 $\frac{3}{4}$ ips; Interests: I would like to tapespond with anybody seriously interested in horror and science fiction pictures and special effects in the movies. Also people who collect material on this subject; Teenager (19).

Avon Keeton, 1611 S. Adams St., Marion, Indiana; Recorder: Silvertone, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips; Interests: Good Gospel singing and sermons; Adult.

Ed Faith, 20584 Eastwood Ave., Fairview Park 26, Ohio; Recorder: V-M, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips, 2 and 4 tracks; Interests: Amateur radio, easy way to learn code, abnormal psychology, para-psychology, medicine, hypnosis, adult party recordings, all controversial subject matter, books on strange subjects, the unusual. Will pay fee for recording of Abbott and Costello's "Who's On First, What's On Second." Send tapes, will answer immediately; Adult (39).

D. H. Hansen, 10011 Ramona Blvd., Cleveland 4, Ohio; Recorders: Concertone 505-4, Uher 4000 Report (battery portable), Wollensak 1515-4, Bell Transport. Have duplicating and mixing facilities, speeds 7 $\frac{1}{2}$ to 15/16 ips, any and all tracks, mono or stereo; Interests: Exchange of highest quality tapes of medieval, baroque, chamber, opera and other classical music, especially 3 B's and Schubert and Mozart (4 track stereo if possible). Also interested in sound effects and folk music. Would like to correspond with resident of Hawaii (Honolulu) or any nation (English only) on following subjects: Education, art, music, photography, audiovisuals and tape recording. Own over 250 4 track classical tapes and many sound effects and educational programs from radio (FM) and TV; Adult (30), art teacher.

John Washko, 13956 Kentfield, Detroit 23, Michigan; Recorders: Webcor Royal Stereo, Webcor Royal Coronet Stereo, and Silvertone—all two track, 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ ips; Interests: Would like to copy as many as is possible "Greatest Story Ever Told" half-hour programs that were sponsored by the Goodyear Tire & Rubber Company a few years ago. Have last 100 myself, will lend to interested parties. Also interested in Gilbert & Sullivan Light Operas by the D'Oyly Carte Opera Co.; Adult (56).

Al Block, 735 Cedar Ave., San Bruno, Calif.; Recorder: Ampex 600, Grundig TK 64, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips, half track, quarter track; Interests: Collecting old radio programs. Primarily interested in the following radio shows: James Melton, Great Moments In Music, Prudential Family Hour, American Album of Familiar Music, or any air shots of Nelson Eddy, Jan Pearce, Gladys Swarthout, etc. Have hundreds of radio programs to exchange, also many movie sound tracks of the 30's and 40's, personalities, comedy, drama, classical, opera, jazz, swing, etc., all 1929 thru 1947. You name it!; Adult.

Ray Foreman, 9300 Lorel Ave., Skokie, Illinois; Recorder: Sony 101, 2 track mono, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips; Interests: Black and white photography, current events, politics, psychology, philosophy, criticism on most all subjects the average intelligent person may care to discuss, books, adult humor, controversial discussions, current living conditions in foreign countries, general tapespondence. Will answer all tapes absolutely. Would like to hear from people including teenagers with problems; Adult (34).

T. G. Holmes, 73A, Long Nuke Road, Northfield, Birmingham, 31, England; Interests: Books, sports (fishing especially), all music (jazz, classical, pops, etc.) and general interests. Want American tapespondents, male or female; Adult (20).

Dick Davis, 205 West Holly St., Pasadena, Calif.; Recorders: 2 Magnecords, 7 $\frac{1}{2}$ ips, monophonic; Interest: Tape recording player piano rolls, especially old rags, 88-note and earliest QRS; Adult.

Richard J. Arthur, 2217 Winterwood Lane, Topeka, Kansas; Recorder: Wollensak T-1515, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips, 2 track, monaural & stereo; Interests: Square dances with calls. Will trade tapes of good professional or semi-professional callers. Send sample of one singing and one patter call and/or further information. Non-commercial, strictly hobby and fun; Adult (37).

Peter N. Bernstock, 2205 Davidson Ave., New York 53, N. Y.; Recorder: Ampex, 2 track mono and stereo, 4 track playback only, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips; Interests: Talk to anybody, any place, about anything except religion. Would prefer people around my own age (18-25). I'm a college student majoring in Communication Arts (radio & TV). Interested in all music, hi-fi, stereo, radio & TV electronics. Can converse intelligently on most subjects. Send tape or card, all answered within 3 days.

Victor Wise, 1331 Teller Ave., Bx. 56, N. Y.; Recorder: American Concertone 505-4, records 4 track stereo-monaural, plays 4 track stereo, mono, half track (dual), 2 track stereo, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips; Interests: Would like to tapespond with anyone interested in the aspects of broadcasting, announcing, D. J. shows, techniques involved, also jazz, classical and popular music, sound effects—lots of records to exchange, will soon have provisions for dubbing tapes. However, if there is any-



NEW GIBSON GIRL® STEREO 4 TAPE SPLICER

The new GIBSON GIRL® STEREO 4, is especially designed to meet the precise requirements of splicing 4-track tape. A new streamlined Gibson Girl shape protects program material on the tape, yet leaves tape edges free of adhesive. Splices glide past your tape head with never a hint of their presence. See the new GIBSON GIRL® STEREO 4 at your tape recorder and hi-fi dealer.

List Price \$11.50

ROBINS INDUSTRIES CORP., FLUSHING 98, N. Y.

one who would just like to shoot the breeze about anything at all, don't hesitate to get in touch, will answer all tapes; Adult (22).

Bob Piedot, Rt. 1, Box 212, Menasha, Wis.; Recorder: Wollensak, 2 & 4 track, mono and stereo, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips; Interests: Receiving tapes of popular organ, pipe and electronics to build library, also TV and night club comedy (Jose Immenez). My collection small but available for exchange. Other interests — sports, water skiing, etc. No need to write, will answer all tapes. Would like to obtain worldwide contacts.

Robert Ettinger, 3821 18th Avenue, Brooklyn 18, N. Y.; Recorder: Wollensak 1500, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips, dual track, monaural; Interests: Big band swing, music of the 30's and 40's, New Orleans and Dixieland jazz music; Adult (37).

Mike King, No. Eastham, Cape Cod, Mass.; Recorder: Webcor Music Man, 1 $\frac{7}{8}$, 3 $\frac{3}{4}$ & 7 $\frac{1}{2}$ ips, mono and stereo, 2 and 4 track; Interests: All kinds of music, especially R & R, sports, radio broadcast band DXER, bowling, will tapespond with boy or girl; Teenager (16).

Jim Oser, 5 Young Path, Newton Center, Mass.; Recorder: Realistic 999, mono record, stereo playback, 1 $\frac{7}{8}$, 3 $\frac{3}{4}$, and 7 $\frac{1}{2}$ ips; Interests: Music, R & R, Coins, Social Science, Politics, Sports (I have recordings of some professional basketball games and some world series game); Teenager.



TAPE YOUR WAY TO FOLK DANCE FUN

by

Rainer F. Meyerowitz

... with the music and calls on tape you can join the dance.

AS THE Scotsman would say, nae doot about it: Almost all that I have done with my tape recorder can be accomplished without this revolutionary little machine, provided you have on hand 1) lots of that green stuff to buy a P. A. system, several hundred records, a turntable, and record cases; 2) a small truck for transporting all of this paraphernalia; and 3) six—well, at least three!—husky men to tote it wherever you need it. If you can meet these requirements, a tape recorder may not appeal to you. If you can't, you probably belong to the ordinary-mortal class to which I belong.

Some years ago friends of mine dragged me to the fourth annual Folk Festival sponsored by the Syracuse University Outing Club. Folk dancing was a closed book to me (indeed, all dancing was!); and I was duly impressed and aroused by the lively folk dances from many different countries. What really excited me, however, was the sight of a pretty girl

whirling around to a fast polka; I would have given a hundred dollars then and there to be in her partner's place.

The very next day I began a gruelling course in the art of dancing the polka. For six weeks I endeavored, three or four evenings a week, to master the hop-step-step-step of that particular dance. At the end of this period my incompetence was so alarming that people pointed at me, confiding to one another: "That poor fellow will never learn to dance!" Visions of pretty girls succumbing to my charms via the dance, however, filled me with grim determination. By the time the next year's festival rolled around, this determination had borne fruit to the extent that I participated in the demonstration by the Syracuse group—I had "arrived"!

When the sixth festival approached, the group decided to do a medley of six Israeli dances. This is where the tape recorder became indispensable; as it happened, I possessed the only available one. We planned to do four sequences

An Israeli Medley of Folk Dances is performed by bare-foot dancers in the Women's Gym of Syracuse University. Dancing four sequences, the first two in one direction and the last two in the other, a very effective pattern is achieved.



Right: The author and his partner, Sandra Rosebrook, clasp hands in the performance of one of the folk dances. In addition to finding and recording authentic folk music, the dancers enjoy dressing in native attire for each particular number. Below, top: Around she goes as the author twirls his partner while dancing the Hambo, Swedish national dance. Below, middle: A couple demonstrate a step for Mr. Meyero-witz shown kneeling beside his recorder. Folk dancers eagerly welcome newcomers into their fold and are happy to have them copy their dances. Below, bottom: One of the many variations of the American Square Dance. This is an all-time favorite of all folk dancers.



each of six dances, dancing the first two sequences in one direction and the last two in the other, with an inner circle reversing the whole process; we achieved a pattern that brought the house down. Not only would it have been impossible to avoid awkward pauses between dances if records had been used, but it would have been out of the question to include all of the dances that we used because from some of them we had to take the *last* four sequences to achieve proper musical effect. Using my recorder, the transitions were made smoothly and noiselessly, with just enough of a pause so that we could step into position for the next dance. I might mention here that I then had a different recorder—one with manual rather than electronic controls. The "engineer" could not start the machine despite previous instructions; and, after a lengthy silence during which nothing happened, I had to dash back across the dance floor. The crowd enjoyed this immensely, but I'm glad now that I have a recorder with electronic controls.

My equipment now consists of a Revere tape recorder and half a hundred tapes. All but three of the latter provide me with classical music, folk songs, poetry, and drama and thus have nothing to do with the topic under discussion; therefore, I can state flatly that all you need for what I'm going to describe is three or four tapes. Even one will suffice to give you a flying start. The recorder incorporates two things which to my knowledge are not found together in any other machine sold at this price or less; one of them is essential, the other is helpful but not absolutely necessary. Your machine *must* have an index counter; mine also has a built-in hook-up by which you can use the mike and speaker as a P. A. system while the machine is in "stop." The recorder amplifier is powerful enough to fill a good-sized hall or auditorium. Anyway, figure on \$200-\$250 and you're in business. Those of you who already have such a machine need only invest in an extra tape.

On one standard seven-inch reel you can place about 45 folk dances, while on the Long Playing seven-inch reel there is room for more than 65! Prices for reels of this size will vary all the way from \$2.50 to \$8.50 (L.P.). On the other hand, the price of records would be around \$50-\$60 for 45, many folk dance records selling for more than \$1.50. You may ask, where the devil am I going to find someone with folk dance records? Well, your community may have a university but no folk dance group, for they are often few and far between. Don't give up, however. Instead,



Swing your partner and dosey-doe. Even bystanders tap their feet when the dancers execute the Square Dance. Fun and friendship at these affairs is as contagious as the measles. The various steps and change of partners creates rare good fellowship and is better than any formal introduction between new found friends.

investigate the local or nearest YWCA or YMCA; most of them do some sort of folk dancing, usually with emphasis on the American square dance. If they don't dance themselves, at least they will be able to tell you where to look farther afield. Local ethnic groups may provide a store of records, dance instructions, or even "live" music to tape. If you want to keep some records as originals while you work with the recorder, you will find that almost every major recording company has a series of folk and square dances both at 78 and at long playing speeds; the Victor-Michael Herman series is a good example of this. At least one company (Folk Dancer label) puts out only folk dances. Local square dance callers (with prior permission) may even be flattered to have you record their calls.

If you live near cities like New York, and Washington or near the West Coast you will have any number of folk dance centers to go to. If you don't, you'll probably discover that you live within a hundred miles of some folk dance activity, for it is a widespread, if thinly-scattered disease. Once you have found a source, you'll have no difficulty in getting permission to copy dances—folk dancers are invariably so glad to make one more convert that you'll get the impression that *you* are doing *them* a favor. Did I—by any chance—hear you say that 100 miles is a long way to go to do some folk dancing? Brother, once you've been infected by this malady, you'll drive three times that distance to a folk dance and think nothing of it!

At present I have approximately one hundred folk dances from about twenty countries. In the storage space of my recorder there is room for six seven-inch reels or roughly 550 dances. If you type them up in single spacing, you could put all their titles inside the lid, side by side. So you see, the whole works are literally contained in one box. Once

you have taped a record its quality will never alter though you will have to keep the "head" of the recorder clean and check it at long intervals for alignment and, eventually, replacement. Your "records" will never break or warp short of your leaving the tape on the furnace or allowing Junior to go to work on it with the magnet he got for Christmas (in which case you can start from scratch); no matter how boisterous the dancers may become, no amount of stomping will jar the music as it undoubtedly would with a record and needle. The advantage of owning a tape recorder should be clear.

As I have hinted before, though, no matter what make of tape recorder you buy, if you wish to use it for folk dancing you must have an index counter on your machine. This little gadget resembles a car odometer; setting it at 000 when you start recording a tape (electrical recording eliminates high-volume distortion), you note down whatever number appears at the end of each dance on your index. From then on, by skipping the tape until you come to the number preceding or following (whichever system you prefer) the dance you want, you can pick out any dance anywhere on the tape with precision. Without an index counter you would have to guess and stop and start until you found it—an extremely annoying and time-consuming process. If you happen to be working with a group of children such pauses may lead to a minor revolution! It is in working with children especially that the P.A. hook-up on my Revere has come in handy; in between dances and while teaching the steps to a dance you can save your voice by using the mike. My partner and I still remember one very sad session when we were using a regular P.A. system to teach teen-agers and the mike broke down; by the end of the evening we could hardly whisper condolences to one another. The limitation on my recorder,

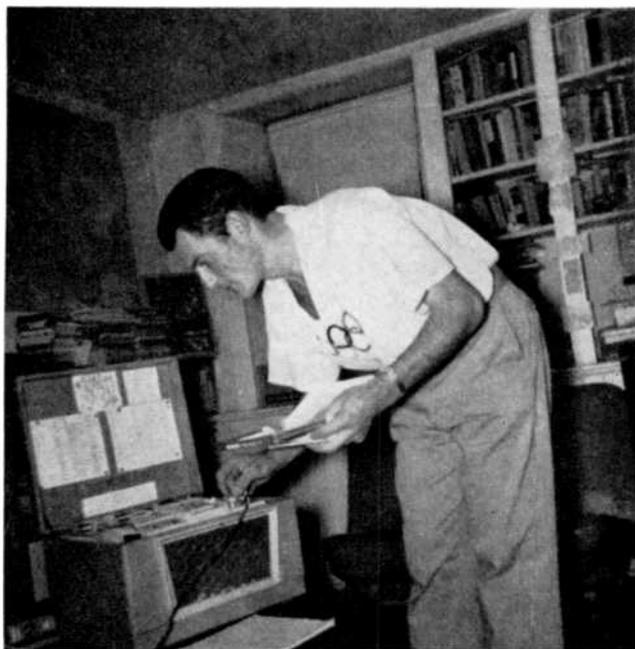
however, is that the machine must be in "stop" for the mike to be used; in other words, you cannot play dances *and* talk into the mike at the same time. There may be machines with which this is possible; perhaps it will be standard or optional equipment on future models. If you do find such a machine, however, remember that the index counter is much more important.

In the months that followed our first performance of the six Israeli dances, we demonstrated this medley and taught other folk dances to various school and community organizations. We have demonstrated folk dances for old peoples' homes and to Girl Scout groups, to clubs with an audience of two or three dozen people and at the Niagara Falls Folk Festival for a crowd of several thousand people. On less exciting occasions we often had two demonstrations scheduled for the same evening, whereupon we split the chores between the tape recorder and the Outing Club's more cumbersome P.A. system.

Trips offer opportunities too. I took a trip to Florida, coming back through Louisiana, Alabama, and Georgia. In Florida I was able to add something new to the monthly square dance night in the Everglades National Park by teaching the rangers and their families a few folk dances. A stay of several days with some friends in Georgia was enhanced when I discovered a girl who could dance the Hambo, the Swedish national dance which is the favorite of folk dancers everywhere. Indeed, finding a partner for the Hambo in an unexpected place is like finding water in the middle of a desert.

Actually, a tape recorder can be used in combination with these dances as a key to unlock any number of pleasant (and possibly lucrative) doors for you and your friends. It is a means of finding inexpensive and convenient recreation within the home; neither children nor adults feel awkward learning dances that are so much fun to do. Churches, schools, and other community organizations would find this both a wholesome and an educational activity. Excluding travel, I can think of no better medium for creating interest in and understanding of other countries and their customs, including their geography, languages, and crafts; not all of us can afford to travel, but we can all afford to dance.

Once you have acquired a small repertoire of dances you may want to offer yourselves out as a demonstration group at local functions; a series of such demonstrations at a reasonable fee would soon return your investment in equipment. You don't have to be a prima ballerina to demonstrate these dances; the most important thing to remember is to enjoy your dancing and to let the audience know that you're having a good time. While you should do the dances correctly, to my mind spirit is more important than perfection. For such demonstrations it is handy (and looks quite



The author getting his tape recorder ready for action. Tapes for a dance session can be stowed in the recorder. Note how the tapes are cataloged on a sheet in the lid of the recorder. This makes it easy to locate any number needed.

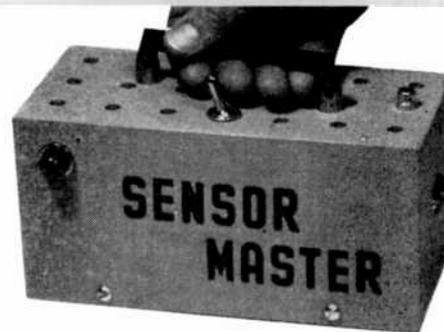
professional) to have a special tape with your demonstration dances in sequence and separated by pauses that are long enough for you to announce the next number or to return from whatever spot on the floor you have happened to reach during the course of the last dance. You'll find that a simple costume will enhance your dancing in exchange for a minimum amount of time and money.

Probably the biggest return on your original investment will be received in the form of fun and good fellowship. Once a tape starts unrolling at a folk dance session you just can't miss: there are dances for couples, trios, all boys, all girls, and no partners; there are formations of circles, squares, broken lines, and whatever contours your basement or hall has to offer. Friendship is so contagious in such a setting that the philosopher, Bertrand Russell, used it as an illustration in his Nobel Prize acceptance speech. "I have never," said he, "heard of wars that started in dance halls." To that we say a hearty "Amen."

The idea of combining a tape recorder and folk dancing has two big advantages over the old ads which promised to teach you to play the piano so that you could be popular: one—it's easier to play a tape recorder than a piano; and two—it's more fun to dance with a partner than to keep company with a piano! I recommend that you start recording those first simple dances; you'll be a confirmed addict within a very short time.

Here's a "Magic Genie" for your Recorder

by Tommy Thomas



... This control box can work wonders for you.

LAST month we introduced you to a simple little relay device that coupled to your recorder for but a single function: the automatic control of a 35mm slide projector. Let's add greatly to its versatility by adding another relay plus a few switches and other assorted electrical paraphernalia. Now, limited mostly only by our own imagination, *we'll be able to do an almost infinite variety of automatic tasks with our tape machines.*

But first, so you can better understand a few examples of what magic can be done—and so as to get your own mind buzzing with ideas—let me briefly explain the main functions of the "Sensor Master":

Function #1: Connector "C" goes to a SPST set of 5-amp. contacts that are *momentary-acting* . . . that is, they only stay closed as long as current is applied to the relay. This is controlled by the length of the foil sensing strips on the recording tape as well as by the speed the tape is running.

Function #2: Connector "F" goes to a SPST set of 5-amp. contacts that are *holding contacts* . . . that is, when a short pulse of current causes the contacts to close or open, they STAY closed or open even though the current to the relay stops. Each new pulse of electricity (triggered by a new foil strip on the moving tape) reverses the position of the contacts.

Function #3: Connector "H" goes to the same set of SPST *holding* contacts, but also included is a direct hookup to 110-volts a.c. Hence, anything within the 5-amp. (non-inductive) limits of the contacts will not only be controlled by these contacts, but the necessary electricity is also supplied.

NOW FOR A FEW EXAMPLES!

Function #1: The best use for momentary contacts was demonstrated last month, with the slide projector, but there are other uses as well. For instance, you could hook up a *Signaling Device* (with flashlight batteries and a "blinker" light) that would signal you automatically every so often . . . perhaps letting you know every five or ten minutes that that much tape was used up.

Function #2: The "On-Off" holding contacts can be used in many different ways, but perhaps the most useful is when this switching control is hooked up to the MOTOR of your recorder (Fig. 7). This way, when the motor stops the tape stops too, but the amplifier remains on, warmed and ready to go. This function would be especially useful for those of you with recorders that do not already have an automatic shut-off feature built into the machine.

Function #3: This is the most versatile function of all because so many different electrical devices can be plugged directly into the Sensor Master unit both for power and automatic control. You can plug the recorder itself in, for example. Or even *two* recorders, say, if you're copying

tapes. Then, with a strip of foil on the "master" tape at the end of the selection you are copying, both machines will turn themselves off when through. You don't even have to be around to monitor the operation once you get it going. ***** Or you can plug ELECTRIC LIGHTS into socket "H" instead. For fun use, for instance, especially for kids at a party, set up with all the room lights off except a table lamp that is plugged into the Sensor Unit for power (and control). Then put on a narration tape where you're telling jokes and stories to the children. When you get to a ghost story, a piece of foil on the recording tape at that point will plunge the room into scary darkness by turning off the table lamp automatically, and then turn it on again when the story is over. ***** My own favorite with lights is to plug a small red lamp bulb (7 watt, 110-VAC) directly into the rear of the Sensor Unit, at "H", and then prepare my tapes with a foil strip a few minutes away from the end (see Fig. 12). That way, the red lamp will go on *before* the end of the tape is reached, alerting me to be prepared. Etc., etc.

Now let's build this unit. Last month we worked with the transformer and the first simple relay, so we'll pick it up from there. The added relay (Fig. 3, left) is a *Guardian* Type IR-610L-A115 Latching Relay with SPST contacts. It came from Newark Electronics Corp., 223 W. Madison St., Chicago 6, Ill., and is their Stock No. 24F097, selling for \$3.80 plus postage on 4 oz. This is a 60-cycle, 110-volt AC relay that is directly controlled by the first relay. NOTE! You may be able to get many of the following parts from your local hi-fi store or electronics supply house, but just in case you're not able to, I'll list a mail order source:

PART "A": An ordinary 110-volt male plug with about five or so feet of lamp cord attached.

PART "B": A *Switchcraft* Type 3501FP Phono Jack. This phono jack may be obtained from the Allied Radio Corp., 100 N. Western Ave., Chicago 80, Ill. It's their Stock No. 41H758, for 21¢, 3 oz. shpg. wt. You'll also need a matching Type 3501M Plug, Allied Stock No. 41H599, for 6¢.

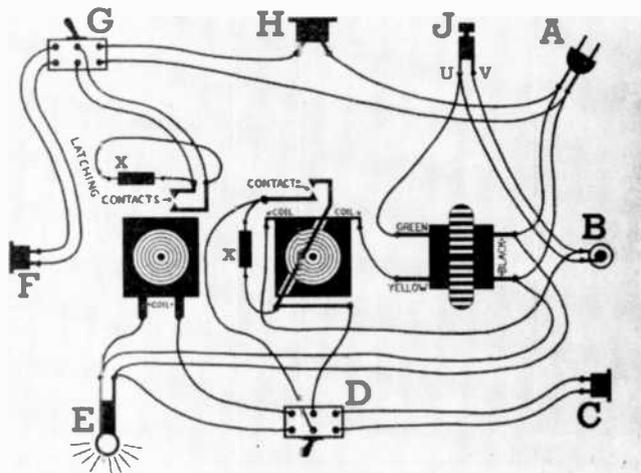
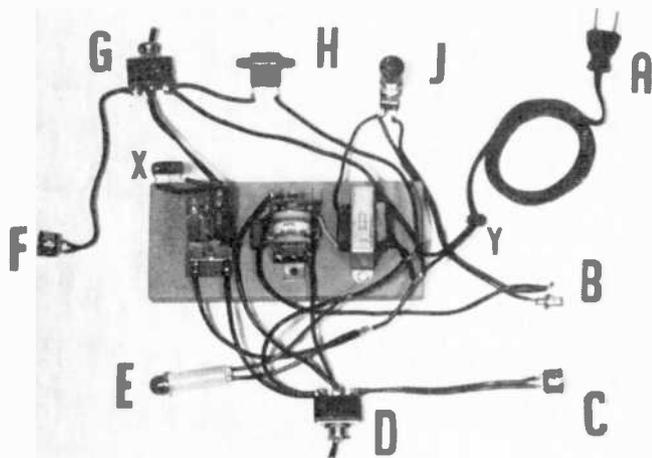
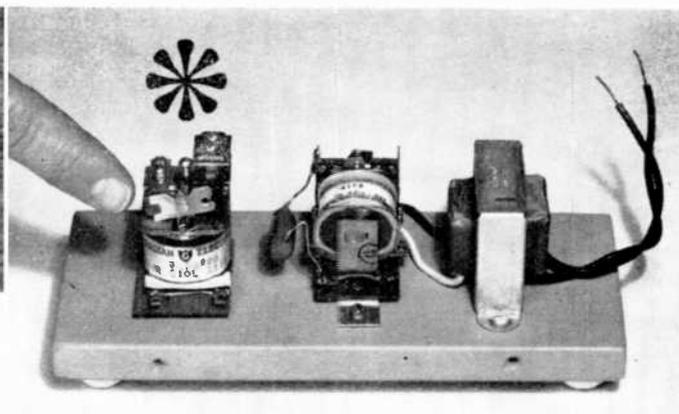
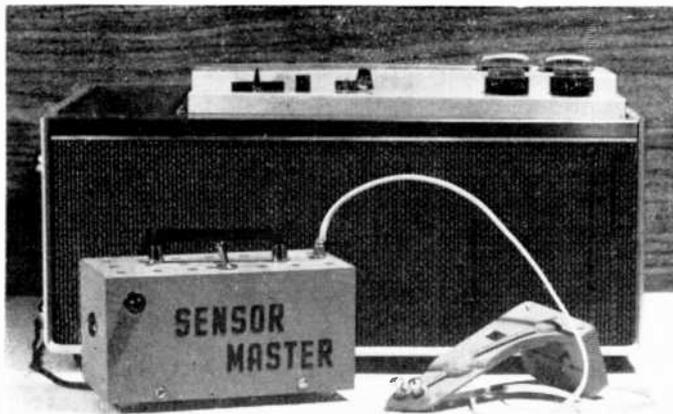
PART "C": A *Cinch-Jones* Type S-302-AB two-contact Socket for chassis mounting. Allied Stock No. 40H880, 27¢, 3 oz. The matching male plug is a *Cinch-Jones* Type P-302-CCT two-contact Plug with cable clamp. Allied Stock No. 40H802, 57¢, 3 oz.

PART "D": A heavy-duty 6-amp. DPDT Toggle Switch with bar handle, from Lafayette Radio Electronics Corp., P. O. Box 88, Syosset, L. I., New York. It's their Stock No. SW-22, 32¢, 3 oz.

PART "E": A neon On-Off "Jiffi-Lite" Indicator Lamp, Lafayette Stock No. MS-695, 46¢, 4 oz. So you won't leave the unit plugged in.

PART "F": Same as Part "C".

PART "G": Same as Part "D".



Upper left: Fig. 2—Of vital importance are the contacts (arrow) that go on your tape deck. . . shown here mounted in "outrigger" form as previously demonstrated. But now if at all possible, with all the many uses of this new control unit, it would be far better if the contacts were fastened and wired PERMANENTLY to the deck (see Fig. 9). Upper right: Fig. 3—A simple momentary-contact relay (center) holds its contacts closed only as long as current is applied, which of course is just perfect for auto-projector use. But when contacts must close or open AND STAY THAT WAY even after the current to the relay stops you need add a special "latching" (holding) relay to the circuit. Lower left: Fig. 4-a—Finally, to put the little transformer and the two relays to work for many different purposes, this mad scramble of added switches, sockets, wire and such are needed. You wouldn't do it this way, but wired without a housing it would look like this. Lower right: Fig. 4-b—Actually, of course, this is a rather simple circuit that can easily be put together by most anyone with a wee bit of soldering experience. Use ordinary lamp cord, "zipped" apart single where necessary, and follow this diagram one wire at a time.

PART "H": A Type 2R2 molded bakelite Chassis AC Socket. Allied Stock No. 40H830, 17c, 2 oz.

PART "J": A Type 805-41-E Momentary Contact Push Button SPST Normally-Open Switch, Newark Stock No. 23F119, 7-4c, 2 oz. This switch is used to bypass the contacts on the recorder when necessary: to test the relays, other equipment, etc.

PART "K": Same as Part "C".

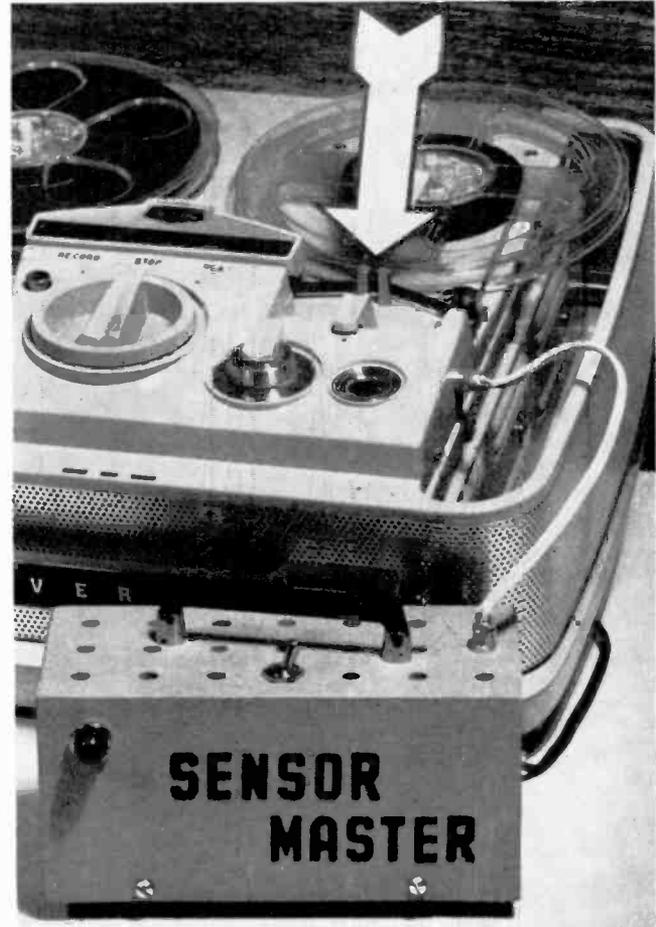
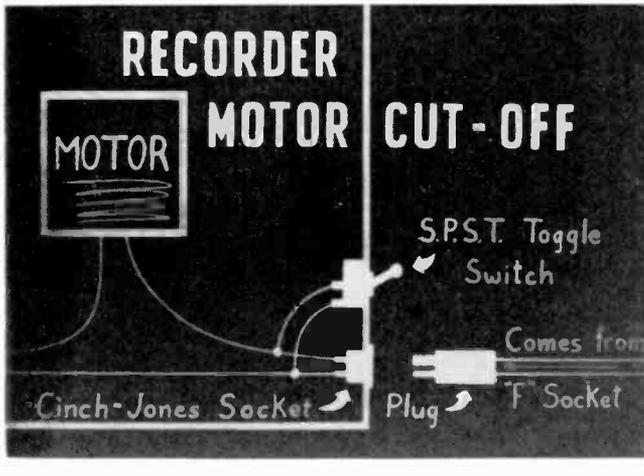
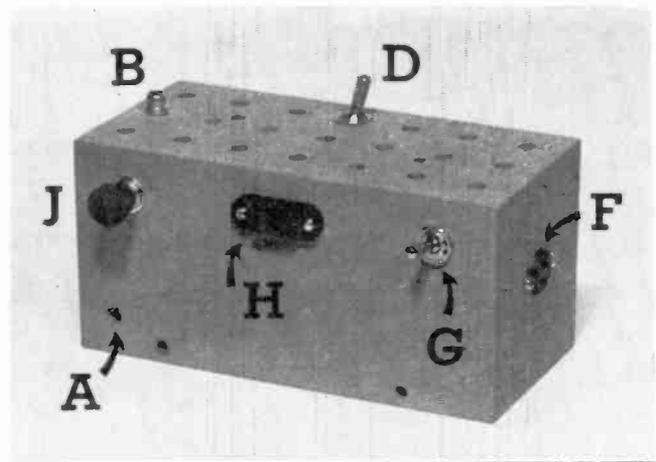
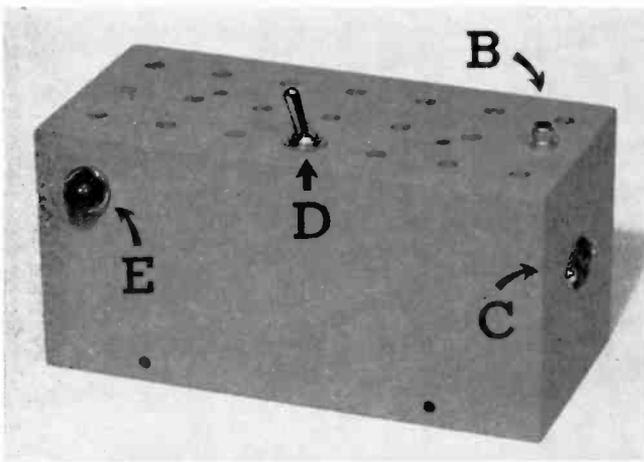
PART "X": The same 18c .01 Mfd., 600 VDC *Sprague* Capacitor mentioned in March issue, for shunting across the relay contacts to reduce excessive arcing whenever possible.

With these electronic parts, some 1/2"-thick wood for the base and 1/4"-thick Masonite for the housing, plus ordinary lamp cord for wiring, you should have no special trouble putting all this together as shown. Follow the wiring diagram wire by wire (wire lengths are not at all critical) and when you're through *be sure to check that the wiring is correct before plugging the unit in to try it out.* And of course, all joining wiring must be solidly twisted together and then soldered, and all exposed naked wires

taped for insulation. Then be careful, when "stuffing" all the various wires inside the housing when putting it together finally, that none of the wires foul up the movement of the contacts on either relay.

Switches "D" and "G" control the relays and hence the functions. Switching "D" to the *right* disconnects the left relay completely, for auto-projector or similar usage (Function #1). With switch "D" to the *left*, now switch "G" controls whether you're in Function #2 or #3.

Function #4 (optional): Rather than perhaps scare people away by having my wiring seem overly complicated, I left off this extra wiring except for those of you who will have need of this very special function. The Part "K" socket parallels the "J" switch, making it possible for you to plug in a bypassing switch via a remote control cord. You can make up your own cable and switch or there's a very good *Foot Switch* available from the Burstein-Applebee Co., 1012 McGee St., Kansas City 6, Mo. It's their Stock No. 18A162, for \$1.95, and the foot switch comes complete with an 8-foot cord and an attached Type P-302-



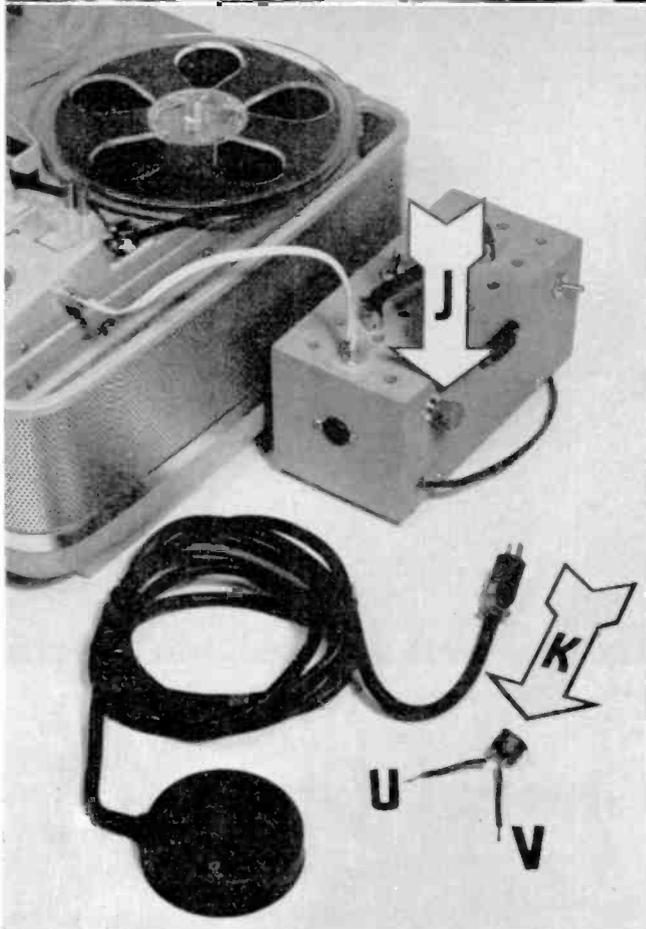
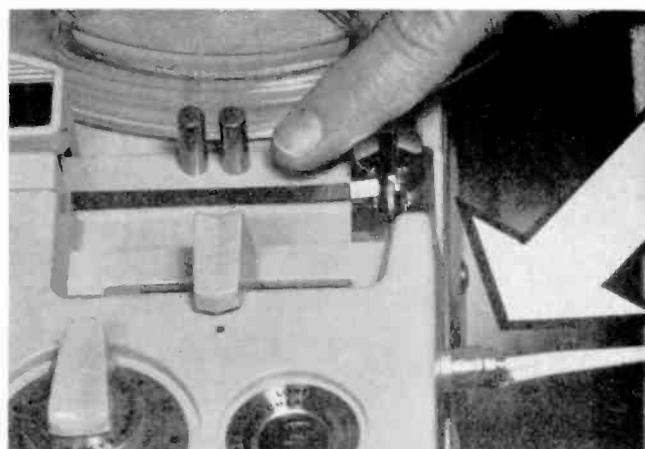
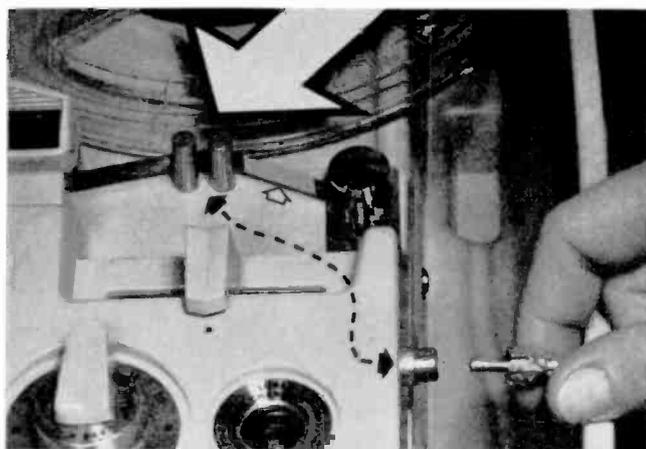
CCT Cinch-Jones male plug (see Fig. 11).

Some friends of mine, practicing for a Little-Theater play they were putting on, used this foot switch arrangement together with their recorder coupled to a Sensor Master unit to give them remote control over their recorded sound effects. They had the sound effects on tape, one after the other, in the exact order they needed them to appear in their play. At the end of each effect there was a few seconds of silence and a piece of sensing foil on the tape. So all they had to do during the play was to step on the foot switch every time they needed a new sound effect. The recorder was hooked up so the amplifier stayed on but the motor only was cut off (see Function #2), hence when they stepped on the foot switch this turned the motor back on and the sound effect played over a hidden auxiliary loudspeaker. Then, at the end of the sound effect, the foil on the recording tape made automatic contact and shut the motor back off, all ready for the press of the foot switch to begin the succeeding sound effect when it was time for it. Pretty neat!

PERMANENT CONTACTS ON YOUR TAPE DECK!

The big problem here, in locating these two vital contacts, is in finding a spot on your tape deck that will keep the passing tape under constant tension even when the tape has reeled off almost down to the hub. If you own a Revere recorder you're all set (see Figs. 8 thru 11) but even if you don't *it shouldn't be too difficult to duplicate the tape-path conditions that make the Revere so ideal for this purpose.* Note, in Fig. 10, how the normal path of the tape is straight out from the capstan to a special "guide post" a few inches to the right, where the tape

Upper left: Fig. 5—Here's a front view of the housing after being glued together, sanded smoothly and then painted. You can use metal or even plastic if you wish, but I especially recommend MASONITE (a common pressed-wood product) because it's easy to work with. Masonite PEG BOARD was used on top, to allow for ventilation of the transformer. Upper right: Fig. 6—The same housing from the rear. The exact size doesn't matter much (mine is 3½" square by 7¼" long) and the location of the various switches and sockets, etc., doesn't make any special difference. You can follow my setup as illustrated here or feel free to transfer parts around in any manner most convenient to you. Lower left: Fig. 7—To control the motor (only) of your recorder, you'll have to "break into" one of the two motor leads and attach the two ends to a female socket connector and to a parallel-connected switch. The SPST (single pole, single throw) toggle switch allows normal use of the recorder when you don't want special "auto-sensor" control. Lower right: Fig. 8—Finding the best location for the all-important TAPE CONTACTS will most likely be your most difficult job. Very best of all is when you can make them an integral and permanent part of the tape deck. That way, you can plug in and use the "Sensor Master" unit at a moment's notice, as shown here with a Revere recorder.



Upper left: Fig. 9—With a good setup, auxiliary Tape Guide Posts as mentioned (March issue) aren't even necessary. Here we simply used TWO BRASS POSTS about an eighth inch apart, with two wires going under the deck to the phono plug mounted conveniently nearby. Luckily the Revere deck is plastic here, so "insulating" was a minor problem. Upper right: Fig. 10—Just disappearing "round the bend" to the right is a FOIL SENSOR STRIP (for a better, full-length view of one of these attached "triggers," see Fig. 9, hollow arrow). Especially note that the normal path of the tape is nowhere near the two brass-post contacts, so they don't get in the way at all when they aren't needed. Lower left: Fig. 11—If you want the special (optional) STOP/START automatic foot-switch-controlled function described in the text, one more 2-contact socket is necessary. A convenient location is just below the push-switch "J," since the wires "U" and "V" from socket "K" are wired in parallel with the "J" switch terminals (see Fig. 4-b). Lower right: Fig. 12—Though I use my own Sensor Master for many different purposes, the everyday use I delight in is when I have it warn me that the end of a tape is near. Second only to liking generous colored leaders on all my tapes, I want a single foil strip a few MINUTES from the end to "Red Light" warn me the end is approaching.

wraps itself around at about a 90° angle before going on to the pickup reel. You can guide your own tape this same way simply by fastening a single *Nortronics* TG-5 Tape Guide Post (see last month) at a point on your own tape deck that more or less duplicates the Revere setup. Either fasten the Guide from below deck with a machine screw or Epoxy it in place from above. And it needn't be insulated from the metal deck.

Now you're all set to fasten your two brass contacts as shown in Fig. 9, off-setting them enough to give a good, constant tension to the REAR of the passing tape where the foil strips will be. If you can't handle this delicate installation yourself, have an expert at a hi-fi shop do it for you, with the contacts permanently mounted and wired to a phono jack (same as Part "B"). Be sure that the two contacts are brass or some other non-ferrous metal, so there's no danger of their becoming magnetized and ruining your tapes that pass by. The contact posts should be mounted atop the deck in such a way that not only are they insulated from each other, but from the metal tape deck also, or now you run the risk of inducing hum into your recordings. And *ultra important* is that the two contacts are mounted in such a position—let me stress once more—that a fair amount of tension is constantly applied to the passing tape, no matter how much is on each reel. This is no problem if you duplicate the Revere "system" of tape travel which I highly recommend, but otherwise position the posts carefully. Make tests with both full and near-empty reels of tape before making the positions permanent. And remember, the object is to make perfect foil contact across the two posts 100% of the time. Nothing else will do!



The group singing on one side of a ribbon microphone. Proper placement of the singers is important to a balanced recording.

How to Record Choral Groups

by
L. L. Farkas

Proper placement of the vocalists in relation to the microphone is fully explained in this clear-cut article.

THERE is nothing more beautiful than a good tape recording of a choral group. The blended voices swell and soften in well-balanced complex chords; they divide into harmony and counterpart; or they take the lead with piano or organ accompaniment. To record all these effects to best advantage entails two separate considerations: the pick-up and balance of the various voices in the chorus; the pick-up of the accompanying instrument and its overall balance with the chorus.

Considering first then the pick-up and balance of the chorus, we find such a group very much like an orchestra. It consists of a number of voices, each with a different pitch and intensity, which must be picked up correctly in order to produce a good musical blend on the recording. These voices may be set up for either a close or distant—

perspective effect—that is, the singers can be grouped closely in front of the microphone for an intimate "on mike" pick-up, or set quite a way "off mike" for a distant choir effect. Generally a small group will sound best if kept in close focus to the microphone, while a larger chorus permits a choice of either the close or distant type of pick-up.

Since the intimate pick-up requires that all voices sound directly on mike, the members of the group should form a close semi-circle in front of the microphone. The distance used will naturally depend upon the kind of singing selected. For instance, a crooning type of chorus should work approximately a foot away from the microphone; singers using fuller voices must stand back two or three feet to obtain good results.

The surest way to check the working position of each member, not only for the correct volume, but to determine that his voice blends effectively with those of the other singers, is to have the group assume an approximate working position and then, with the recorder turned on, have each vocalist sing his part of the choral selection alone. As this is done, check the volume of the singer either by noting the amount of light on your neon bulb or by the needle swing of your volume indicator. On recorders that have no visual sound indicators the volume of the voice recorded will have to be gauged by ear; but this is not particularly difficult to do and, after a bit of experience, a fairly good estimate can be made. Now if you adjust the position of each singer so that his voice level is approximately the same as that of the other singers, permitting only the lead voice to predominate, then you can be reasonably certain that you will have a good balance in your final recording.

With small groups, containing no more than three or four voices, it is often not necessary to go through all these steps to obtain a good balance. The members of the chorus take approximate positions in front of the microphone; they sing a selection; and a test recording of their voices is made. On the playback you can then generally tell when a particular voice is either too weak or too strong, and you can correct that singers' position so that you obtain the desired blend of voices.

Once set up, the members of a small chorus should keep their heads fairly close together as they sing. This will insure that their combined voices produce a solid tone. Should the singers be too far apart, the effect will be that of a few vocalists, each singing a distinct and separate part—an effect which is the opposite to the full and rounded chords produced by a correctly set up group. On small groups then, it is always well to remember that the closer the heads, the more solid will be the tones.

When a chorus consists of more than four or five voices, the members cannot be grouped easily in front of the microphone, especially if the particular unit used does not have a very wide pick-up beam. One way to surmount this difficulty is to make the lead voice take the center position with the two voices nearest in tone located on both sides of him, and then have the remaining members stand behind and sing past the shoulders of the first three singers. However, unless the persons in the back row have voices relatively stronger than those in the first row, it is not very easy to obtain a good choral balance. At the same time, the set-up makes it rather uncomfortable for the singers in the rear section to hold their music and maintain their position, even without taking into consideration the possible obstructions, introduced by the size of the persons in the first row, to the pick-up of their voices.

The best way to arrange such a group so that all the voices sound on mike is to stand part of the singers on the floor while the rest take their positions on a raised platform directly behind them. Generally the grouping is as follows: the sopranos are located on one side of the front row, with the contraltos on the other side. On the next level the tenors stand directly behind the sopranos, the basses take their position behind the contraltos, while the baritones take the center spot between the tenors and the basses. By then raising the head of the microphone to a height of approximately seven feet and tilting it so



This is the proper setup for recording a large chorus. For tighter grouping the male voices are placed on a third platform. Notice the screen placed to break up reverberations.

that it points roughly between the two groups, the distance between the persons on the two levels is kept the same, even though the persons on the floor level are only about three feet away from the microphone. In practice it may be necessary to favor the top level slightly because the high-pitched voices of the sopranos on the lower level have a tendency to cut through much more than the other voices in the chorus; however, the microphone should also be turned a bit toward the contralto and bass side of the grouping in order that these lower-pitched and therefore softer voices be picked up correctly. If the head of the microphone cannot be tilted, a similar effect can be obtained by decreasing the height of the microphone about a foot and moving it forward four to six inches. This will keep the singers in the first row within the microphone beam while still favoring the low-pitched voices of the top level.

For larger groups, from ten to sixteen voices, the microphone may be moved back six feet and raised to a height of ten feet without changing the close perspective. Here again the set-up should be made with the help of a test recording. Just as in balancing a small group, the level of each voice is recorded and the singer then positioned so that his tones will blend correctly with others, so in a large chorus the sections, such as the sopranos, the contraltos, tenors, baritones, and basses, are each recorded separately and either the position of the microphone or that of the section is adjusted so that all sections produce the same volume of sound. Of course if the blend of a separate section is not good then, as in the case of the small chorus, the singers within that section are also

balanced. And once all sections are balanced within themselves and their level is adjusted, the overall balance of the entire group is checked by a test recording. Should then an offending voice or section be noticed, it can be shifted slightly on or off beam until the defect is corrected.

Of course when a solo voice or a particular section of the chorus is featured, the volume of that part must be raised. This can be done by having the soloist or the members of the section being highlighted move slightly toward the microphone. A change of six inches on up to one foot will generally provide the necessary additional volume to bring out the solo part without changing its perspective. The same effect can also be obtained by having the background voices decrease their volume. In this case the soloists do not have to change position, but simply maintain their normal voice level. Generally the latter method is used when a number of voices, as in a section, take the lead. When one or two singers are featured, then it is simpler to have them move toward the microphone to produce the desired effect. The exact distance the soloist should move in, or the amount that the supporting voices must drop their level behind a solo, is determined by recording the selection and listening to the results. From these the necessary adjustments can be made to assure the desired balance.

Sometimes the size of the chorus or the characteristics of the room makes a straight intimate set-up impossible. If a ribbon microphone is available, a split arrangement may be used. By utilizing the duo-directional property of the microphone and grouping the members of the chorus on both sides of the unit, a great number of singers can be positioned closer to the microphone than with a single-beam set-up, thus producing the intimate pick-up desired. The high-pitched voices are generally placed in the first row on each side of the microphone, and behind them are set the groups with the deeper voices. With a smaller chorus the top voices can be placed on one side of the microphone and the lower voices on the opposite side. In either case the head of the microphone is set vertically at a height of about five and a half feet.

If you do not have a ribbon microphone but happen to own two single-beam units, you can still make a split set-up by placing the two microphones back-to-back and combining their outputs in a mixer. The only thing that you must avoid is having the two microphones out of phase—that is, opposing each other. This condition can be readily detected by the hollow distorted quality of the recorded sound whenever the two microphones are used. If this is the case, the wires from one of the microphones should be reversed to invert the phase, thus permitting the sound from the two microphones to be mixed without distortion.

For choral groups from twenty to thirty or more voices, the close pick-up is no longer satisfactory because the pick-up beam of the microphone is not wide enough to encompass all the singers. Furthermore, with such large groups, a choir or cathedral effect is preferred and one way to obtain it is by using a distant pick-up. With the chorus arranged in the straight conventional way, the microphone is set approximately twenty feet from the first row of singers. The head of the microphone should be fairly high—from ten to fifteen feet, with its face tilted down toward the center of the group. In this way the tones of the singers will have a distant perspective and while some

of the intelligibility of the voices may be lost, the mellow embracing tone of the full chorus, aided by the natural reverberation of the room, will produce a choral effect with more brilliance and beauty than can be obtained with any other type of pick-up.

However in the use of distant perspective the control of reverberation presents a serious problem. If the walls of the room reflect no sound, either because they have been too well soundproofed or they happen to be covered by heavy drapes, then the chorus will sound dead; if the room is too live, the recording of the voices will be distorted. In the first case reverberation must be produced artificially. This can be done easily if another microphone is available. By setting it fifteen to twenty feet away from the chorus microphone, facing it in the other direction, and then turning on its control when the chorus is being picked up on its own microphone, an echo is introduced which simulates the reverberation in a large hall or church. Of course the amount of echo added will depend upon how far the microphone control of the mixer is opened, but in any event it should be kept below the point where the tones start to become hollow, otherwise objectionable distortion will be introduced. This point can always be checked by making several test recordings with the microphone control in different positions and then leaving it on the setting at which the best results were obtained.

When the chorus is picked up in a very live room, such as a large hall or church with a high ceiling and numerous stained glass windows, the tones will be reflected to such an extent that serious distortion will result. Here then the voices must be picked up with the least amount of echo possible. One way is to have the members of the choir sing softly so that the sound of the voices does not bounce off the walls or ceiling; the other method is to pick up the singers at close range, even if this means using two or three microphones to cover all the sections of a large group. The difficulties in these two alternatives are obvious: in the first, the microphone must be opened fairly wide to obtain sufficient volume to record the voices properly. This may introduce microphone hiss and amplifier noise which may be just as objectionable as the echo. In the second method, the distant perspective is lost and there is also the problem of handling a number of microphones for level and balance. A compromise between these two types of set-ups can sometimes be made. The microphone is moved in so that it is from ten to fifteen feet away from the chorus. Then, by crowding the singers in as compact a mass as possible and having them keep down the overall volume of their voices, a large portion of the objectionable echo may be eliminated without appreciably affecting the recorded quality of the chorus.

Now whether the perspective of the pick-up is close or distant or whether the chorus is large or small, all the voices within the group should sound as though they originated from the same place—that is, they should all have the same perspective. Nothing mars a chorus selection more quickly than having a few voices sound very close to the microphone while the rest seem to be lost in the distance. This effect is quite noticeable on a small chorus, particularly with an intimate set-up; but it can be quickly remedied by having the singers keep their heads close together, as has already been suggested in order to obtain a solid choral tone. With large groups

using distant perspective, the actual distance of each member from the microphone is not quite as critical provided the individual sections stay at an approximately equal range from the microphone. This perspective balance can be checked on the same recording used to check the volume of sound produced by the different sections of the chorus.

Now that we have discussed the pick-up and balance of the chorus, we must turn our attention toward the instruments used to accompany choral groups.

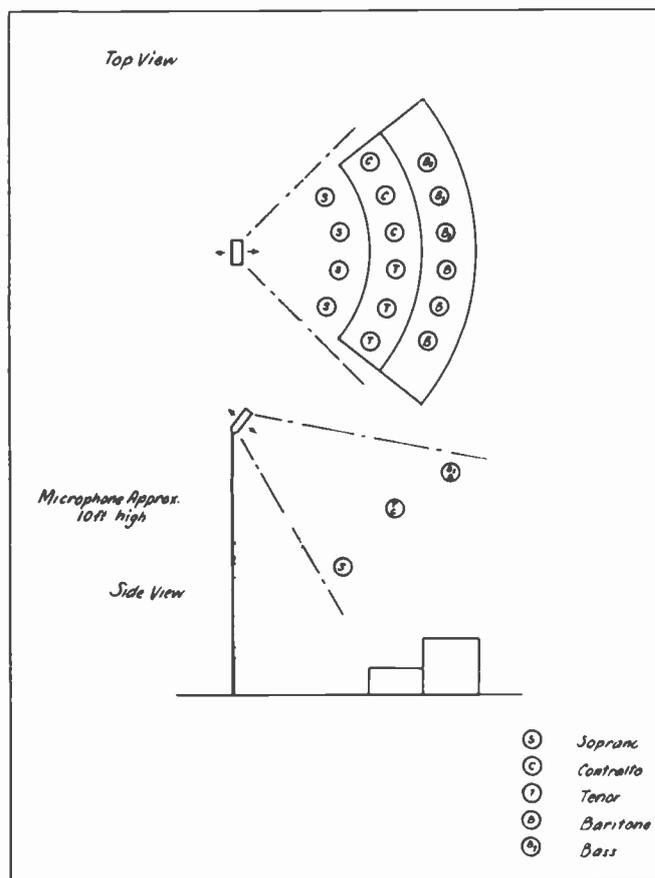
Perhaps the most widely used chorus accompaniment is the piano. The pickup perspective required on the piano is determined by the perspective adopted for the chorus. Some care must be taken, especially with a distant pick-up, that the piano tones do not boom through the chorus microphone, particularly when only one microphone is used to pick up both the chorus and the piano. As this occurs most frequently whenever a very live room is used, the best way to reduce the effect, if not to prevent it completely, is to have the piano play softly. Sometimes it will be necessary to move the instrument closer to the microphone so that it will create the correct background for the voices but, provided the perspective balance is not upset extensively, the resultant lack of distortion of the piano tones will do much to make the choral rendition still effective on the recording.

Probably even more in demand than the piano for accompanying a large choral group or choir is the pipe organ.

To pick up and record faithfully all the tones of the pipe organ, the microphone must be set a good distance—generally from twenty to thirty feet, away from the organ shutters. With the microphone in this location, the organ can be played using any degree of sound intensity or extremes of pitch without overloading either the microphone or the recorder. A closer pick-up might produce a better recording on the high-pitched notes, but it would result, especially if too close, in picking up the noise from the bellows and also in distortion on the low notes. On the other hand when the microphone is too far away from the organ, then all the tones of the organ will generally sound distorted. This, as in other too distant pick-ups, is caused by an excess of room echo. The obvious remedy, of course, is to move the microphone closer or, if this is not feasible, to break up the room reverberation by placing sound absorbing material—such as drapes, along different parts of the wall, particularly in the area between the microphone and the organ shutters.

Generally if an organ pick-up and recording can be made without distortion in a certain room, chances are that a chorus with pipe organ accompaniment can also be picked up with good quality. The chorus is set up about fifteen feet away from the microphone which should be tilted toward the center of the group. The normal pick-up distance for the organ is then reduced only slightly—the microphone being set from twenty to twenty-five feet away, to compensate for the tilt on the microphone which favors the chorus.

If the room is too live, then the tones of the organ will have a tendency to swell above the voices in the chorus. One way to cope with this situation is to use two micro-



This diagram shows the placement of a group in relation to the microphone. Note the height of the mike to equalize the volume from the various voices and the placement of the different types.

phones. By placing the chorus as far as practicable from the organ microphone and then making very close pick-ups, on both the chorus and the organ, the organ tones are kept out of the chorus microphone and reverberations are reduced by the directness and closeness of the pick-up. All that is required then is to balance the volume of the chorus against that of the organ and this can be done easily by adjusting the volume controls of the individual microphones.

When only one microphone is used the problem is more difficult. The microphone must be set tentatively at different distances from the organ shutters, with the chorus arranged each time for very close perspective. Depending of course on the characteristics of the room, it is sometimes possible to find a location for the microphone from which the chorus, heard on a test recording, will sound full and the organ tones will still be reasonably close to the perspective of the voices. Again in this case the nearness and directness of the vocal sounds will decrease the possibility of distortion.

On an overall basis, whether the chorus is accompanied by piano, pipe organ, or electric organ, the points to consider remain the same. First the voices must be balanced in volume and perspective so that the recorded chorus sounds full and integrated. Second, the accompanying instrument must be picked up in such a way that its tones match those of the chorus in quality and perspective and so that they have sufficient volume to furnish the desired background for the voices. Keeping these factors in mind and making frequent test recordings to check the pick-ups should help you obtain good results with any type of choral group.

NEW PRODUCT REPORT

STA **OK** STED



SABA TK 220S

... four-track stereo record and play, transistorized input stage, low impedance mike inputs.

THE Saba TK 220-S is a two speed, four track machine, recording and playing back both mono or stereo. Speeds are $3\frac{3}{4}$ and $7\frac{1}{2}$ ips.

In addition it has provision for sound-on-sound by playing a recording on one track to another and, at the same time, adding sound from the mike or other source through the built-in mixing facilities.

The recorder is housed in an unbreakable plastic case measuring 16" x 15" x $7\frac{1}{2}$ " and of a dark grey color. The carrying strap is detachable if the unit is mounted as a deck.

Weight is approximately 28 pounds.

The recorder has a transistorized input circuit and uses DC heating in the tubes to keep the noise level at the very minimum. The unit has two speakers mounted in the sides of the case and has an output of 5 watts (2 x 2.5 watts stereo). Provision is made through jacks on the rear panel to connect it to external speakers.

The inputs include two microphone inputs of 200 ohms which means that low impedance mikes are used with the unit. The mikes are not furnished

Product: Saba TK 220S

Distributed by: Lone Pine Electronic Products Corp., 519 Federal St., Camden 3, N. J.

Price: \$399.50

but Saba or other mikes may be bought separately.

The use of low impedance on the mike circuit means that mike lines of any length may be run without affecting the signal and it also eliminates the necessity of using microphone transformers, as are necessary with high impedance mikes.

To make a mono recording it is necessary to depress the 1-2 key then the start and record interlock key. For recordings on the other tracks the 3-4 key is depressed. The recordings are made with the standard four track system. For stereo recording both the 1-2 and the 3-4 keys are depressed which will activate both head poles. The same keys should be depressed for stereo playback.

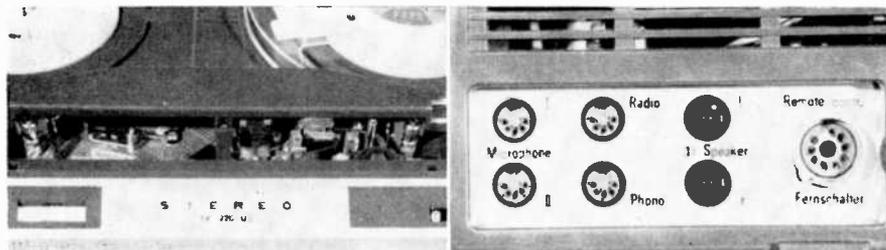
Since European recorders are made to be sold worldwide they generally use symbols on the controls instead of words. This has been done on the Saba but it takes only a few minutes of operation to become familiar with them. Likewise the recorder employs the European 5-prong jacks and plugs instead of the more familiar cinch plugs or telephone jacks. The proper cords and plugs are available however.

The speed control is combined with the on/off switch, which is a good idea. This is located at the top of the case and when it is thrown to either $3\frac{3}{4}$ or $7\frac{1}{2}$, the power is turned on at the same time.

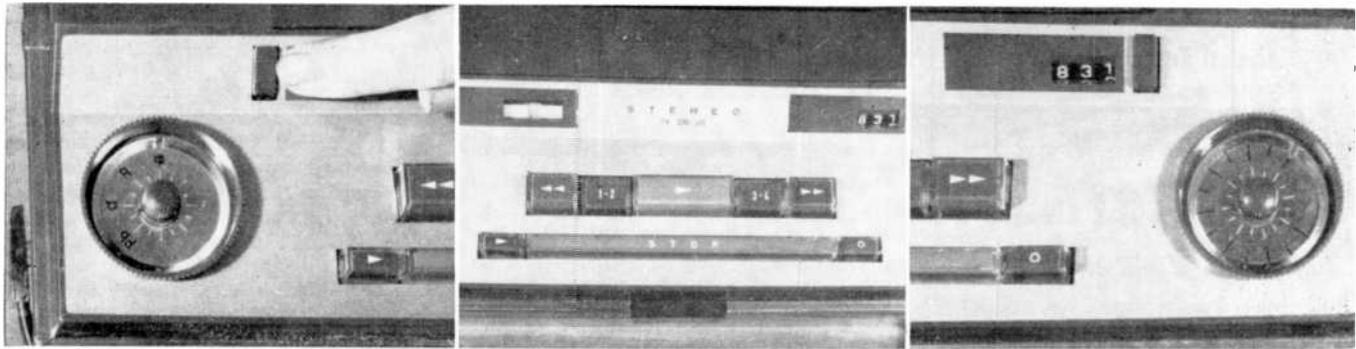
Volume indication is by means of an EM 84 tube which is very responsive and easily seen in bright light.

The tone control is rather unusual, being a key rather than a potentiometer type. It will raise or lower the treble when thrown in or out.

Mixing of two inputs is easily done. This is accomplished by using the Mixing multi-playback control and the recording level control to bring



Left: the heads are readily accessible for cleaning when the head cover is snapped off. Right: All inputs and outputs are on rear panel and include: two mikes, radio, phono, two speakers and a remote control receptacle.



All controls are grouped on front panel. Left: mixing multi-playback control and record/playback switch with positions for radio recording, microphone recording, playback-recording and playback. Finger indicates tone selector key. Center: the recording level indicator (left) and odometer type counter (right) are at top of panel. Functions are controlled by bars which include fast rewind, 1-2 track selector, start, 3-4 track selector, fast forward (top row) and record lock, stop and instant stop (bottom row). Right photo shows volume control (outer ring) and recording volume (center). On/off switch is combined with speed control lever between reels at the top of the case.

up the sound through the mike while cutting it down from the phono. Smooth transitions can be made with very little practice.

The recorder is a very attractive instrument and should fit in with any home decor. Also, by removing the handle it can be mounted in a console and used as a deck. The case has a large grilled panel on the bottom which provides adequate ventilation. While the lid of the case may be placed on the machine with the two 7" reels in position it should not be operated with the lid on place as this would lead to overheating.

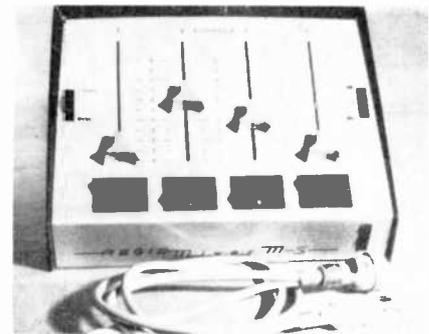
A socket is provided on the back panel for a remote control and for use with a slide synchronizer and the Reggi mixer, which further extends

the capabilities of the machine. The mixer will also work with other recorders. The line cord is stowed in a compartment in the rear.

The frequency response of the Saba is generous and more than adequate for any use.

The machine will also handle the double play tape, which some machines will not do. Of course, care with volume levels, because of print through, must be taken if the ultra-thin tape is used.

We found in testing the recorder that it was easy to use and convenient to operate. The craftsmanship is excellent and the machine runs very quietly. The case was styled by U. S. designer Albert Goertz and, as was mentioned, should fit with any decor.



The Reggi Mixer, an accessory unit, may be used with other recorders. It has controls for individual mikes for stereo recording, combination of another sound source with mike or with two mikes. Four sound sources can be mixed for monophonic recording. It is transistorized.

We believe this machine is worthy of your consideration

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