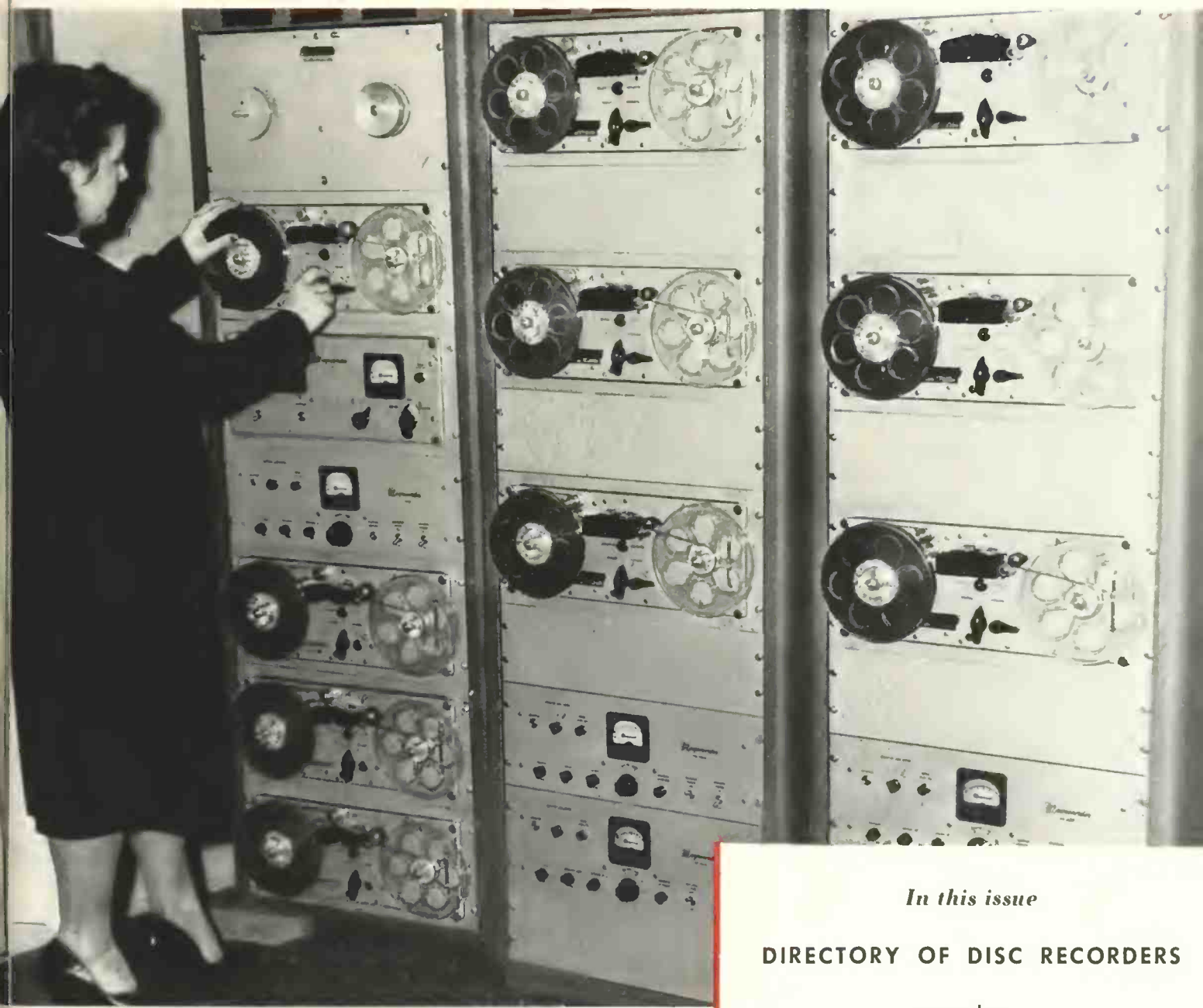
October, 1952. Vol. 8. No. 7

audio record

Published by
AUDIO DEVICES, INC.
444 MADISON AVENUE, N. Y. 22, N. Y.

audiodiscs
audiotape
audiofilm
audiopoints



Ten rack-mounted Magnecord tape recorders arranged for full range duplication of pre-recorded "Magnecordings by Vox", now being offered commercially by MaVoTape, Inc. All recordings are made on plastic base Audiotape. Story on Page 3.

In this issue

DIRECTORY OF DISC RECORDERS

. . . also

- Magnetic Sound, Inc.
- Magnecordings by Vox
- Fall Maintenance Drive

MAGNETIC SOUND Perfects Taped Program Service

During the second week of September, the voices of Hollywood star performers on the world-famous "Hour of St. Francis" were broadcast from magnetic sound tape in the studios of some 500 radio stations.

It was a historic week for the tape recording and duplication industries. It was a dream come true for a young Des Moines company which pioneered the mass duplication and distribution of quality tape transcriptions at competitive low prices.

For six years, ever since the program was started, the "Hour of St. Francis" had been recorded and duplicated by older methods. Now, converting to tape, the 15-minute weekly religious drama on 500 stations became America's largest customer for sound tape duplication.

Magnetic Sound, Inc., Des Moines, founded two years ago by three men who had an idea and the experience to back it up, was given the duplication business. They got it because their system met the requirements of low cost, high quality and efficient distribution. The problem of tape cost has been solved by repeated usage, made possible by an easy, low-cost system for stations to return the tapes. The problem of duplicating cost has been solved by a 40-unit machine, said to have the largest capacity in the industry. The problem of distribution has been solved by a streamlined system of shipping reels to stations and having them returned.

By reducing duplication cost on 15-minute shows to as low as 23 cents a copy on orders of sufficient volume, Magnetic Sound has made it possible for the "Hour of St. Francis" and other large users to reduce their transcription budgets, escape the burdensome details of distribution, and gain the much-sought advantages of tape quality.

Magnetic Sound, Inc. was founded by Don Wrigley, whose background included 24 years in sales and business management and precision manufacturing; John T. Beeston, Jr., with 25 years' experience in radio and electronic engineering; and Stuart Steelman, with 15 years in the radio and entertainment fields, specializing in musical production and direction.

Steelman was elected president. Beeston became vice-president and technical director. Wrigley was named executive vice-president, placed in charge of active management, and assigned to explore the market for mass-duplicated tapes.

For two months, Wrigley traveled over the nation — talking to radio stations, program producers, and such prospective customers as insurance companies, manufacturers, sales organizations, religious and educational institutions, and government information departments. The more people he talked to, the more he became aware of the great need for low-cost bulk duplication of magnetic tape. But he learned, too, why sponsors and program producers had been reluctant to make a change.

Technical Director John T. Beeston, Jr., of Magnetic Sound, Inc., Des Moines, checks the tapes on the company's 40-unit Dupli-Recorder.

"At that time," Wrigley recalls, "everyone felt that the cost of tape duplication was almost prohibitive. Duplication cost almost half as much per copy as the price of the actual tape. Of course, tape could be re-used hundreds of times, but duplicating costs offset the saving on tape."

From radio engineers, Wrigley learned another thing. "They told me the quality of transcriptions on tape was still not as close to perfection as it could and should be."

Back home in Des Moines, Wrigley reported his findings to his associates, Beeston and Steelman. On the solid concrete floor of his basement, Beeston already was designing and building an electronic duplicating machine with 12-reel capacity. To meet the need for a truly low-cost duplicating system, he started over again and built a machine with 40-reel capacity. This, he found, was the maximum for efficient re-recording. Through days and nights of painstaking designing and redesigning, he refined the mechanical operation of the Dupli-Recorder.

Now, almost every day's mail brings letters of praise. Radio station executives write that the quality of sound reproduction is "the best we've ever heard". Engineers report "excellent quality" and send penciled notes back to Magnetic Sound with the used tapes.

A streamlined system for packaging, distribution and return of tapes has played an equally important part in the growth of Magnetic Sound, Inc., and its service to sponsors and stations.

Recently, the company produced a 13-week series of 15-minute quiz shows for 23 West Virginia stations. Each week, the sponsor's master tape was received airmail by Magnetic Sound between 6 and 10 p.m. Friday. By 1 a.m. Saturday, the 23 duplicate tapes were on their way back to West Virginia. Stations received them Monday

(*Continued on Page 8, Col. 2*)

audio record
VOL. 8, NO. 7 OCTOBER, 1952

Published monthly by Audio Devices, Inc., 444 Madison Avenue, New York City, in the interests of better sound recording. Mailed without cost to radio stations, recording studios, motion picture studios, colleges, vocational schools and recording enthusiasts throughout the United States and Canada.

audio pointers for the Recordist

By C. J. LeBel, Vice President, Audio Devices, Inc.

FALL MAINTENANCE DRIVE

C. J. LeBel

A cool wind blows across the writer's desk as he reflects on the summer just past. In many parts of the country it was the hottest on record; the growing vigor of the political campaign presages an even "hotter" fall in the recording room.

The fact that many recording rooms are not air-conditioned allowed the weather to work its will, and the idiosyncrasies of daylight saving introduced an additional load factor. Finally, and worst of all, the extensive use of tape has transferred most of the worry from operating personnel to the unfortunate maintenance supervisor. So now looks like a very opportune time for a fall maintenance drive.

Head Wear & Tape Tension

Magnetic heads do wear with use, but this produces no harmful effect up to the point where the air gap begins to increase (disregarding the grooving effect discussed in the Audio Record of February 1952). After the gap begins to increase in width the frequency response deteriorates rapidly. While the gap could be checked with a microscope, we are really interested in performance and so a direct measurement of frequency response is the best answer. On second thought, it might be wise to examine the head and guide surfaces for grooving too.

If you have had to apply excessive tape tension to maintain output stability and high-frequency response, reduce the tension to the value recommended by the machine manufacturer, and check for head or guide misalignment. Increasing tape tension in an attempt to compensate for machine

(Continued on Page 8, Col. 1)

"Magnecordings by Vox"

MaVoTape, Inc. Introduces New Line of Full-Range Musical Recordings Magnecorded on Audiotape

With more and more tape recorders finding their way into America's home every day, the demand for a commercial source of high quality tape recorded music has grown to a point which appears to justify a production and distribution setup devoted specifically and solely to this purpose.

After carefully weighing the potentialities of this market, a separate corporation, MaVoTape, Incorporated, has been formed to produce full-range, pre-recorded tapes which will be available at reasonable cost to tape recorder owners throughout the country. Mr. A. Lionel Whyte has been named sales manager of MaVoTape, Inc., 225 West Ohio Street, Chicago, owned jointly by Magnecord and Vox Productions. The tape recordings, under the trade name "Magnecordings by Vox," are being introduced to the public for the first time at the Audio Fair, held in New York City on October 29 - November 1. A limited test distribution of the recordings will be made immediately following their New York introduction.

With the wide range of standard tape recording speeds available, on single or dual track, the pre-recorded tape business faces a situation somewhat similar to that of the phonograph record industry. In order to produce recordings which can be played back on the majority of tape machines now in home use, MaVoTape, Inc. is currently planning to offer all recordings on both single and dual track at 7½ inches per second tape speed.

The "Magnecordings" will be made by Magnecord, for MaVoTape, Inc., from the "master" tapes of the Vox Productions, Inc. and will be distributed initially through Magnecord distributors. All recordings are duplicated with professional Magnecord machines on plastic base Audiotape, assuring the utmost fidelity of the recorded material, with full frequency reproduction from 50 to 15,000 cycles per second.

Plans call for six releases per month. Initial releases will include the following:

Shostakovich—5th Symphony
Jascha Horenstein—Vienna Symphony

Dvorak—5th Symphony
Jascha Horenstein—Vienna Symphony

Mahler—2nd Symphony
Otto Klemperer—Vienna Symphony

Berlioz—Harold in Italy
Rudolf Moralt—Vienna Symphony

Tchaikovsky—Piano Concerto No. 1 in B Flat
Monique de la Bruchollerie—Piano
Rudolf Moralt—Conductor

Chabrier—Espana, Bouree Fantasque, Habanera, Overture to Gwendolyn
Orchestra de la Concerto du Cologne

Mussorgsky—Night on Bald Mountain
Paris Conservatory Orchestra
A. Cluytens

J. S. Bach—Tocata and Fuge in D minor Prelude and Fuge in D
Anton Heiler—Organ
(First of a series in the complete organ works of Bach)

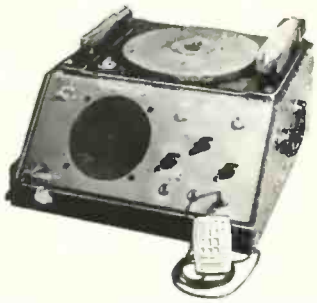
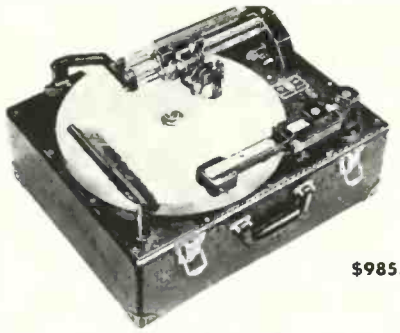
W. A. Mozart—Jupiter Symphony No. 41—Vienna Philharmonic

Vivaldi—Concerto Grossi 1 and 2
Pre-Musica String Orchestra
(First of the series in the complete "L'estro harmonicum")

The high-fidelity enthusiast and music collector will welcome this opportunity of building up an ever increasing tape library of truly fine recorded music performed by Europe's leading artists.

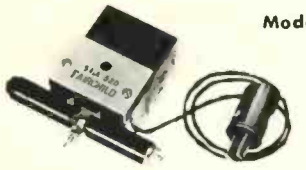
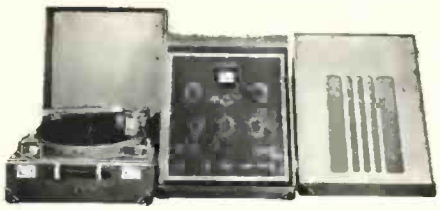
QUICK FACTS ON DISC RECORDERS

(Additional Information can be obtained by writing to the manufacturer)

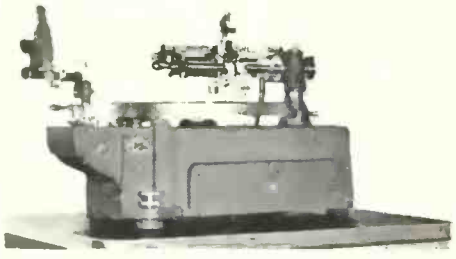
Manufacturer	Model and Price	Data
BELL SOUND SYSTEMS, INC. 555 Marion Rd., Columbus 7, Ohio	 $175.00 Model RC-47A Portable	Portable, dual-speed disc recording and playback unit for general home recording service. Records and plays back discs up to 10" in diameter, at 78 and 33⅓ rpm, or 78 and 45 rpm. Conversion spring supplied for obtaining 45 rpm on 33⅓ rpm position. Cuts 160 lines per inch. Magnetic cutting head and twin tilt crystal phono pickup with dual styli. Inputs for microphone, radio-phone and direct external recording. Sound effects or vocal selections can be dubbed in while recording from radio or re-recording from another disc. Includes visual recording-level indicator, 6" PM speaker and Hi-Z crystal microphone, headphone monitoring jack and output for external speaker. Weight—approximately 40 lbs.
	 $985.00 Model 539-G Portable	Portable, professional-type disc recorder and reproducer with turntable speeds of 78 and 33⅓ rpm. 16" turntable accommodates discs up to 17¼" diameter. Direct synchronous motor drive thru gear and worm for 33⅓ rpm. Ball race step-up for 78 rpm. Speed accuracy, 0.15%. Model 541 Magnetic Cutterhead and Model 542 Lateral Dynamic Pickup provide overall response essentially flat from 30 to 10,000 cycles. Noise level, 44 db below standard recording level of 2.5 in. per second stylus velocity at 1000 cps. Stationary overhead lathe type feed mechanism with adjustable pitch of 96, 112, 120 and 136 lines per inch, cutting in-out and out-in. Full weight of recorder mechanism supported independently of trunk by integrally cast legs of top panel casting. Weight 80 lbs.
FAIRCHILD RECORDING EQUIPMENT CORP. 154th St. and 7th Ave., Whitestone, N. Y.	 $1,395.00 Model 539K Console	Professional, console-type disc recorder and reproducer with turntable speeds of 78 and 33⅓ rpm. 16" turntable accommodates discs up to 17¼" diameter. Direct synchronous motor drive thru gear and worm for 33⅓ rpm. Ball race step-up for 78 rpm. Speed accuracy, 0.15%. Model 541 Magnetic Cutterhead and Model 542 Lateral Dynamic Pickup provide overall response essentially flat from 30 to 10,000 cycles. Noise level, 44 db below standard recording level at 2.5 in. per second stylus velocity at 1000 cps. Stationary overhead lathe type feed mechanism with adjustable pitch of 96, 112, 120 and 136 lines per inch, cutting in-out and out-in. Microscope and light mounted on lathe mechanism for close observation of depth of cut and condition of groove. Manually operated spiralling device is standard equipment.
	 $2,985.00 Model 523 Studio Recorder	Professional console-type disc recorder with provision for microgroove and lip synchronous recording. Planetary driven lead screw provides instant, infinite variation of pitch from 80 to 160 lines per inch, in-out or out-in feed. 16" turntable accommodates discs up to 18" in diameter. Synchronous motor drive direct through worm and gear for 33⅓ rpm. 78 rpm step-up through precision ball race. Driver unit mounted at bottom of cabinet. Absolute timing at 33⅓ speed within limits of power line frequency. Noise level better than 55 db below reference. Model 541 Magnetic Cutterhead holds flat tolerance close to 1 db to 9,000 cycles. Depth and angle of cut adjustable while recording. Feed mechanism includes time scales for all standard NAB pitches. Includes swivel mounted microscope with light, manually operated spiralling device, and attachment for suction device. Weight—approx. 275 lbs.

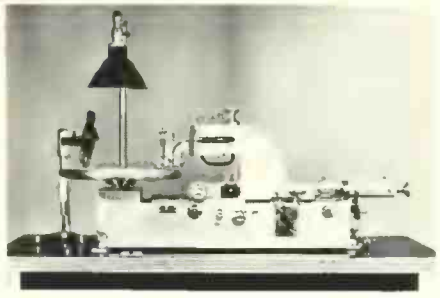
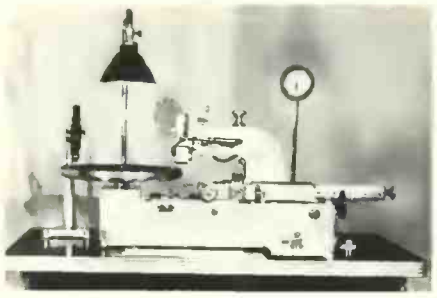
(Continued on next page)

NOTE: All prices listed are subject to change without notice. Consult manufacturer or local dealer for exact price, as some prices are list and others net.

Manufacturer	Model and Price	Data
FAIRCHILD RECORDING EQUIPMENT CORP. 154th St. and 7th Ave., Whitestone, N. Y.	 **Model 541 Magnetic Cutterhead** **$160.00**	Standard equipment on current Fairchild disc recorders. Also adaptable for installation on earlier Fairchild models, or on other makes of professional machines. Frequency response, + 2 db, 30 to 10,000 cycles. Distortion, less than 1% at 400 cycles. Impedence, 500 ohms. Audio power required, 0.6 watt (+ 20 db).
	THERMO-STYLUS KITS **Model 300 (for Fairchild 541 head) $100.00** **Model 301 (for RCA M1-11850-C) 115.00** **Model 302 (for Presto 1-C and 1-D) 115.00**	Adapts Fairchild, RCA or Presto cutterheads for hot stylus recording. Kit includes an adapter receptable, two special styli with built-in miniature heating elements (one fine pitch and one std. pitch) and a thermo control box containing all necessary current and temperature indicating and control facilities.
THE GENERAL INDUSTRIES COMPANY Elyria, Ohio	 **Home Disc Recording Chassis** **Model G1-R58L-LP $53.50** **Model G1-R90L-Std. 49.50**	Home disc recording and reproducing chassis with dual speed turntable for cutting discs up to 10" diameter and playing records up to 12" diameter. Rim drive, 4-pole motor. Compensating switch operated by speed change dial. Model G1-R90L operates at 78 and 33⅓ rpm—cuts 120 lines per inch. Model G1-R85L operates at 78 and 33⅓ rpm, with conversion spring for changing 33⅓ speed to 45 rpm. It cuts 160 lines per inch and includes dual purpose pickup for playing either standard or microgroove records. Weight approx. 15 lbs.
	 **Tape-Disc Recording Chassis** **Model 250 $79.50**	Combined disc and tape recording and reproducing chassis with 78 rpm rim-drive turntable for recording and playback of discs up to 10" diameter. Dual track tape recorder operates at 3¾ inches per second. Records from disc to tape or vice versa—and from microphone or radio to disc or tape. Cutting stylus and playback needle easy to interchange. Weight 10½ lbs.
PRESTO RECORDING CORPORATION P.O. Box 500, Hackensack, N. J.	 **Model K Portable Recorder** **$348.00**	Portable, semi-professional disc recorder and reproducer, including amplifier and loudspeaker. Provides dual speed operation at 33⅓ and 78 rpm (45 rpm optional at extra cost). Takes discs up to 13¼" diameter—records both standard and microgroove. Feed mechanism cuts 112 and 224 lines per inch, inside-out or outside-in. Overall response within 2 db from 50 to 8000 cycles. Total noise level, 25-30 db below maximum useful reproduced sound level. Speed accuracy within 0.5%. Includes magnetic cutting head, two pickups, and five-stage recording amplifier. Controls include volume indicator meter, combined equalizer and tone control, dual volume control and selector switch for recording, playback and PA operation. Weight—46 lbs.
	 **Model Y Portable Recorder** **$771.00**	Portable, professional type 16" disc recording and reproducing equipment, with 10 watt amplifier and detachable 10" speaker. Records all sizes of discs by either standard or microgroove method. Turntable speeds, 33⅓ and 78 rpm (45 rpm optional at extra cost). Cutting pitch, 112 and 224 lines per inch, inside-out and outside-in. Presto 1 D cutting head supplied. Overall response flat within 2 db from 50 to 10,000 cycles. Can be modified with equalizer control. Total noise level, over 35 db below maximum useful reproduced sound level. Speed accuracy, within 0.5% at 33⅓, 45 and 78 rpm. Amplifier panel includes VU meter, 2 mike input gain controls, playback gain control, treble and bass equalizer controls, and selector switch for recording, playback and PA operation. Weight—57 lbs.

(Continued on next page)

Manufacturer	Model and Price	Data
PRESTO RECORDING CORPORATION P.O. Box 500, Hackensock, N. J.	 Chassis $690.00 In Case (as shown) $735.00 **Model 6-N Portable Recorder**	Portable, professional type disc recorder and reproducer with 78 and 33⅓ rpm turntable and standard cutting pitch of 112 lines per inch inside out. Feedscrews for 96, 104, 120 or 136 lines per inch, inside-out or outside-in can be substituted if desired. Can also be supplied equipped for microgroove recording (244, 256 or 288 lines per inch) at additional cost. 116-N overhead cutting mechanism includes 1-D cutting head, 15-B spiraling feedscrew, 170-A vertical damper and 20-A time scale. Frequency response, 50-10,000 cycles. Noise level, 40 db below maximum useful reproduced sound level. Speed accuracy, within 0.5% at 78 and 33⅓ rpm. Available as chassis, in carrying case (as illustrated) or in a cabinet. Weight of portable unit—82 lbs. Amplifiers not included.
	 **Model 8-D Studio Recorder** **$1,992.00 (less cabinet)**	Professional type disc recorder with 33⅓ and 78.26 rpm rim drive. Available for table mounting (as illustrated) or with console type cabinet shown below at extra cost. Accommodates all instantaneous and master disc sizes. Equipped with 1-D cutter, 160-A or 161-A automatic equalizer and 125-A microscope. Frequency response, 50-10,000 cycles. Noise level, better than 40 db below program level. Speed accuracy, within 0.5% at both 33⅓ and 78.26 rpm. Pitch adjustable for 88, 96, 104, 112, 120, 128 and 136 lines per inch, inside-out or outside-in. Microgroove optional at extra cost. Cantilever type overhead feed mechanism does not contact disc or turntable. Motor and driving idlers mounted in cast iron base with built in leveling screws.
	 **Model 8-DG Studio Recorder** **$2,644.00 (with cabinet)**	Professional type disc recorder with 33⅓ and 78.26 rpm direct gear drive. Includes console type cabinet containing twin motor drive equipment. Accommodates all instantaneous and master disc sizes. Equipped with 1-D cutter, 160-A or 161-A automatic equalizer and 125-A microscope. Frequency response, 50-10,000 cycles. Noise level, better than 50 db below program level. Speed accuracy, no deviation from 33⅓ and 78.26 rpm. Pitch adjustable for 88, 96, 104, 112, 120, 128 and 136 lines per inch, inside-out or outside-in. Microgroove optional at extra cost. Cantilever type overhead feed mechanism does not contact disc or turntable. Recorder unit mounted on top of cabinet with built-in leveling screws.
REK-O-KUT COMPANY 38-01 Queens Boulevard, Long Island City 1, N. Y. (Continued on next page)	 **Challenger Deluxe** **13¼" Disc Recorder** **$439.95**	Portable, semi-professional disc recording and reproducing equipment with built-in amplifier and speaker. Synchronous motor rim drive. Finger-tip speed control for selection of 78 or 33⅓ rpm. Idler and adapter for 45 rpm interchangeable with 33⅓ rpm idler. Overhead recording mechanism with "Liftomatic" safety cam and provision for manual spiralling. Records from 6" to 13¼" masters. Dual stylus pickup plays up to 16" transcriptions, standard or microgroove. Frequency response, 40-7,000 cycles. Leadscrews available for 108, 120, 144 or 192 lines per inch, inside-out or outside-in. R-8A 13.5 watt amplifier includes VU meter, bass and treble equalizers, four input channels, output selector and three-position monitor switch. Weight 65 lbs.

Manufacturer	Model and Price	Data
REK-O-KUT COMPANY 38-01 Queens Boulevord, Long Island City 1, N. Y.	 12" Recarding Chassis **TR-12H Turntable $129.95** **M-12 Cutting Mechanism 99.95**	TR-12H dual-speed 12" recording turntable provides instant speed shift for 78 or 33⅓ rpm. 45 rpm idler available for interchange with 33⅓ rpm. Synchronous motor rim drive. Weight, 17 lbs. M-12 overhead recording mechanism records up to 13¼" master discs, at 108 lines per inch. Extra leadscrews available for 120, 144 or 192 lines per inch, inside-out or outside-in. Includes manual spiralling control and "Liftomatic" safety cam which automatically lifts cutter at end of leadscrew. Magnetic cutter, response flat from 40 to 7,000 cycles.
	 16" Recarding Chassis **V-Deluxe Turntable $215.00** **M-55 Cutting Mechanism 215.00**	V-Deluxe 16" recording turntable provides instant self-locking speed shift for 78 or 33⅓ rpm. 45 rpm idler available for interchange with 33⅓ rpm. Synchronous motor rim drive. Weight—28 lbs. M-55 Master-Pro 16" overhead recording mechanism includes tilt and level adjustment, dual clutch spiralling control, micrometer depth and angle adjustments, and leadscrew for 120 lines per inch outside-in. Extra leadscrews available for 105, 135 or 210 lines per inch, inside-out or outside-in. Weight—11 lbs.
SCULLY MACHINE COMPANY 62 Walter St., Bridgeport 8, Conn.	 **Scully Standard Disc Recorder** **$4,620.00**	Professional disc lathe designed to meet the most exacting requirements for cutting broadcast transcriptions and phonograph record masters. Accommodates all standard disc sizes. Three speeds available—78, 45 and 33⅓ rpm. Fourteen changes of feed—88 to 350 lines per inch. Machine driven coarse lead-in, spacing and tail-out grooves. Signal to noise ratio, 50 db below mean program level. Includes microscope, overhead illuminating lamp, provision for pneumatic chip removal and flat top cabinet containing precision, constant-speed drive equipment. Lathe provided with micrometer adjustments for depth and angle of cut and leveling of table. Cutterhead not supplied.
	 **Scully Automatic Disc Recorder** **$5,895.00**	Fully automatic, push-button operated professional disc lathe designed to meet the most exacting requirements for cutting broadcast transcriptions and phonograph record masters. Accommodates all standard disc sizes. Three speeds available—78, 45 and 33⅓ rpm. Pitch continuously variable from 70 to 350 lines per inch. Automatic lead-in spacing and tail-cut grooves. Completely automatic ending line for 45 rpm records. Signal to noise ratio, 50 db below mean program level. Includes microscope, overhead illuminating lamp, timing clock with sweep second hand, provision for pneumatic chip removal and flat top cabinet containing precision, constant-speed drive and automatic control equipment. Lathe provided with micrometer adjustments for depth and angle of cut and leveling of table. Cutterhead not supplied.
WILCOX-GAY CORP. 385 4th Ave., New York 10, N. Y.	 "Tape-Disc Recordio" **Model 3C10** **$199.95**	Portable home-type combination disc and tape recording and reproducing unit with built-in amplifier and speaker. 78 rpm rim-drive turntable records and plays back discs up to 10" diameter. Cutting stylus and reproducing needle easily interchanged. Dual-track tape recorder operates at 3¾ inches per second. Fast forward and rewind speeds. Frequency response, 80-6,000 cycles ± 3 db. Records from tape to disc or vice versa and from microphone or radio to disc or tape. Two neon recording level indicators. External speaker jack. Includes microphone and 6" x 9" PM speaker. Weight—30 lbs.

FALL MAINTENANCE DRIVE

(Continued from Page 3, Col. 1)

faults is a very unwise thing. Modern tapes are rugged and can stand abuse, but it is possible to misadjust a machine so that the strength of even the best tape is exceeded. At the same time the tape is abused, head and guide wear become excessively rapid. It is much better to find out what is really wrong and to cure it.

Adjustable friction clutches may change their adjustment with use, so that machine tensions may be greater or lesser than the proper value. The latter condition will lead to fluctuating output, particularly at the higher frequencies. Usually, the manufacturer's recommendation should be followed when readjusting tension.

Electrical Components

By now the equipment has probably been in use for at least a year or two, and design errors have begun to show up. Are any of the resistors too heavily loaded? How about the "½ watt" resistor that is actually dissipating .500 watts? In the confined spaces of a typical amplifier this is really an overload, and noise and breakdown are likely to follow eventually. How about the "2 watt" resistor that is equivalently loaded—perhaps replacing it by a wire-wound power-resistor would be desirable. Any of the low-level resistors may have become noisy, and replacing them by deposited-film or wire-wound units might be appropriate.

Commercial condensers do not always last forever. Coupling condensers may have become leaky, raising the noise level. When machines are rack-mounted close together, condensers may run at high temperature. Low capacity or high leakage will result, causing an increase in amplifier noise level.

Some recorders have used switches that would not stand up under the steady use of a radio station. At times a change in contact material is sufficient; in other cases, a completely new switch assembly will be needed to effect a permanent cure. If you have suffered from erratic operation, now is the time to do something about it.

Finally, some machines were shipped with electromagnets which were loaded too heavily, or which had barely adequate force for the application. By this time, the manufacturer has developed a more conservatively designed replacement.

Conclusion

Preventive maintenance has always been necessary in the recording room, so we are on very sound ground when we suggest anticipating problems before they cause the loss of a program.

MAGNETIC SOUND, Inc.

(Continued from Page 2, Col. 3)

or early Tuesday. Within the same week, used tapes were coming back to Magnetic Sound for erasing and re-recording.

This kind of service, now being performed for the "Hour of St. Francis" on a 500-reel scale and other sponsors on a lesser scale, is made possible by a system that speeds up mailing to stations and saves the stations time and money in returning tapes.

The sponsor simply sends Magnetic Sound a master tape, mailing list and brief program notes. Magnetic Sound makes the necessary number of duplications—up to 40 at a time. Tape reels have a special identification so the stations can easily recognize them and keep them apart from their own tapes.

On Magnetic Sound's production line, each tape is marked with code numbers and placed in a reel box along with program notes. Then it is packed in a strong but lightweight shipping container, addressed to the station, stamped and mailed.

But the shipping container is no ordinary cardboard box. It's a self-addressed reversible carton. On the outside, a sticker addressed to the station is attached. On the inside, the name and address of Magnetic Sound, Inc., are printed. Enclosed inside are strips of sealing tape.

To return the sound tape, the radio station merely folds the carton "inside out" so the Magnetic Sound address is on the outside. Because of the light weight, the postage is only 8 cents. And because Des Moines is centrally located, transit time is reduced to the minimum.

The "Hour of St. Francis", produced by the Third Order of St. Francis under the direction of Father Kenneth Henriques, O.F.M., and starring motion picture talent in religious dramas, is the largest and latest of a steadily growing number of clients served by Magnetic Sound, Inc.

Besides duplicating radio shows for organizations, colleges, government departments and commercial sponsors, the company handles sales and service training programs for industrial firms and recordings of organization conferences.

In the early months, the physical plant of Magnetic Sound was a basement space in Beeston's home. A year ago, the company opened a downtown office. Volume continued to increase, and three months ago the offices, production and shipping facilities were combined at a new location with 2,400 square feet of floor space—occupying the entire second floor of a business building at 4805 Grand Avenue, Des Moines.

Although the company's 40-reel Dupli-Recorder can turn out as many as 5,000 duplications of 15-minute programs in a 40-hour week, Wrigley reports that increasing commitments and requests will require more machines. Plans for two more units are already on the drawing board.

"And," he adds, "as production increases, we plan to make a further reduction in charges for our services."

In a corner of the shipping department of Magnetic Sound, Inc., sound tapes are boxed and labeled for mailing to radio stations throughout the nation.