

the **Voice**  of **Music**®

**VM-710Q TAPE-O-MATIC® 4 TRACK  
TAPE RECORDER WITH  
STEREOPHONIC TAPE PLAYBACK**



*Model*

**V-M**  
**710Q**

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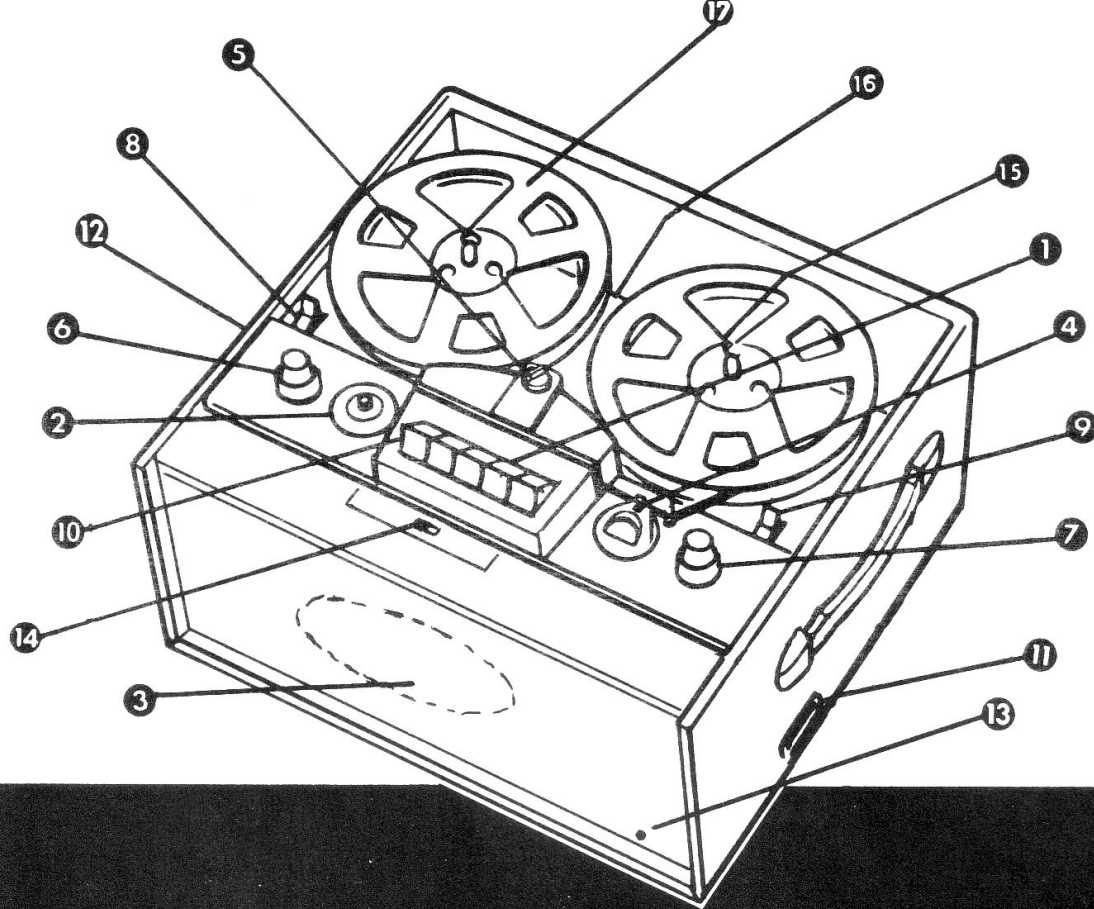
Model **710Q**

**tape-o-matic® Tape Recorder**

## INTRODUCTION

One of the remarkable features of this model that you will enjoy is the stereophonic tape playback. This means that you enjoy the dimensional realism of any stereophonic tape on the market today. In addition, of course, you can make and enjoy professional quality high fidelity recordings with push-button simplicity. Seabreeze-VM combines the finest engineering with modern manufacturing techniques to give you numerous advanced features heretofore unobtainable. For your convenience, and pleasure, Seabreeze-VM tape-o-matic offers you push-button controls, fingertip "pause" feature, automatic shut-off, precision tape index timer, 40 to 15,000 cps frequency range plus a host of other great features.

Your versatile tap-o-matic can do so much for you. The voices of your children, parents and friends . . . favorite music and important events may be preserved, easily and permanently on inexpensive, high fidelity magnetic tape. Your Seabreeze-VM tape-o-matic can be a sound business investment and it presents boundless educational values to you and your children.



## OUTSTANDING **tape-o-matic**® FEATURES:

### 1. Push Button Controls

Convenient, positive, smooth operating buttons afford quick, perfect control. Included are (l to r): Rewind, Record, Stop, Play and Forward.

### 2. Precision Tape Index Timer

Helps you locate any recording on the magnetic tape quickly and easily.

### 3. High Fidelity Speaker

Enjoy AUTHENTIC high fidelity reproduction! 6" x 9" wide range speaker will provide 40 to 10,000 cps range at close proximity.

### 4. Cathoptic Tuning Eye and Automatic Shutoff

When images in eye tube just come together, you are recording at the proper level. When the images overlap, at the loudest sound, you are overloading and your playback will be distorted. "Automatic Shutoff" stops the mechanism and the amplifier at the end of the reel or if the tape breaks.

### 5. Tape Speed Button

Button indicates 7½ or 3¾ inches per second tape speed. The faster speed affords the higher recording fidelity.

### 6. "OFF-BRILLIANCE" "TONE" CONTROLS

Convenient concentric arrangement. These controls are individually adjustable. Turn "BRILLIANCE" knob clockwise for maximum treble boost. Outer ring is "TONE" control; turn counter-clockwise if more bass tone is desired.

### 7. Volume Level Control

Continuously variable control permits recording or playback to desired volume level.

### 8. Monitor Switch

Push "Monitor" to "On" to hear the recording while it is being made from radio, TV, etc. Also used when operating tape-o-matic as a phonograph amplifier or P-A system.

### 9. Pause Button

Stops tape travel NOISELESSLY while recording or playing. May be locked in position if desired. Allows adjustment of recording volume BEFORE recording and silent momentary stops to eliminate commercials, lulls in conversation, etc.

### 10. Safety Switch

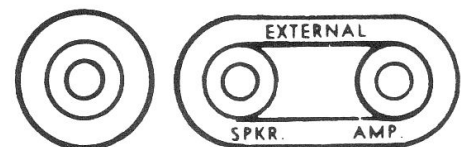
Locks "Record" button to prevent accidental erasing. Push "Safety," "S" to right and hold while depressing "Record" button.

### 11. Input Receptacle

You can record with crystal or dynamic microphone; from radio, TV set or from any phonograph. See Page 8 for details.

### 12. Output Receptacle

This is where you plug in external speakers and amplifiers.



STEREO-O-MATIC  
OUTPUT JACK.

### 13. Pilot Light

Handsome, high-style V-M pilot light indicates your tape-o-matic is on.

### 14. Selector Switch

Enables you to select any one of the many functions of this recorder.

### 15. Stere-o-matic Output Jack is used to set up your stereo music system. Stereo jacks located on back of chassis.

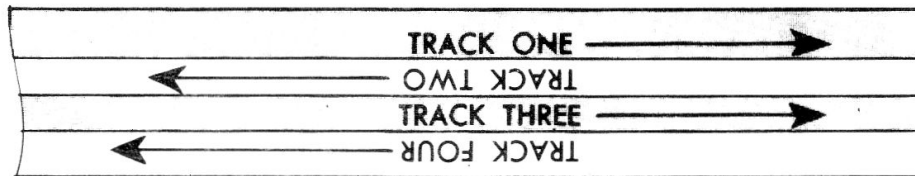
### 16. A.C. Receptacle can be used as power source for external amplifier. 150 watts.

### 17. Supply Reel

# INSTRUCTIONS FOR OPERATING YOUR MODEL VM-710Q 4-TRACK RECORDER

This four-track recorder provides twice the recording and play-back time as tape recorders having provisions for two-track recording. Four-track tapes save you time and money and you have fewer reels to store. Four-track tapes are more compact, more versatile and easy to use.

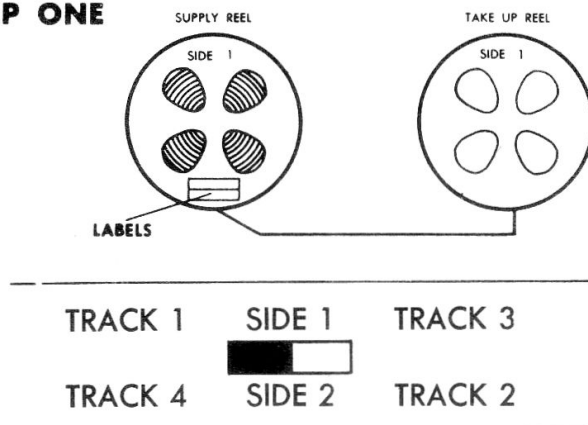
To operate your recorder as a four-track recorder follow these simple steps:



TRACKS AND DIRECTION OF TRAVEL ON TAPE

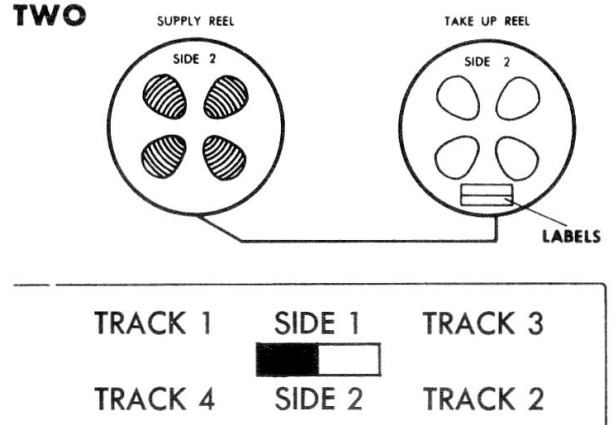
## CONTINUOUS PROGRAMMING (RECORD AND /OR PLAYBACK)

### STEP ONE



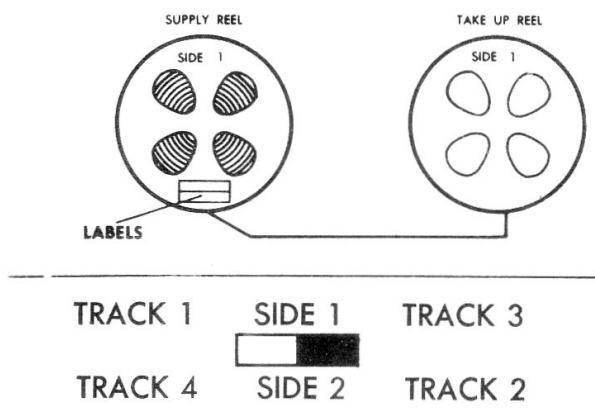
TRACK ONE—SET UP

### STEP TWO



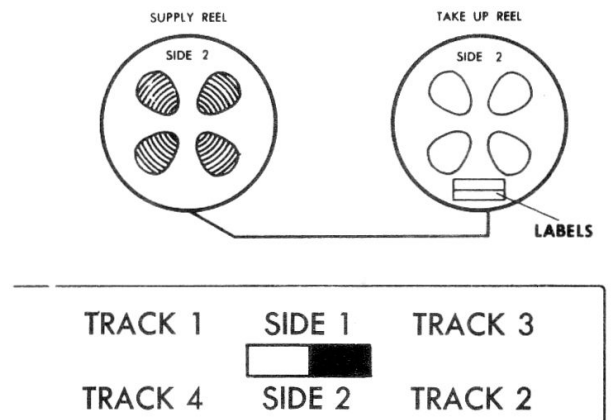
TRACK FOUR—SET UP

### STEP THREE



TRACK THREE—SET UP

### STEP FOUR



TRACK TWO—SET UP

# MONAURAL RECORDING

## STEP ONE:

Paste 2 labels (included with your recorder) on each side of the reel of tape to be recorded. Place the full reel of tape on the left-hand spindle, and the empty reel on the right-hand spindle.

Thread tape into slot between covers and wrap two or three turns around the hub of the empty right-hand reel. The wrap should be in a counterclockwise direction. Both the full reel and the empty reel should have Side One up.

Move the selector switch to the 1 — 4 position. Follow standard recording instructions, and record through the entire length of tape. The identification of each track of recording should be made on the label at this time. Example: Track No. 1 — John Doe Program.

## STEP TWO:

Remove the full reel of tape from the right-hand spindle, turn reel over and place on left-hand spindle, place empty reel on right-hand spindle. Both reels should have Side Two up.

Record entire length of tape, mark label "track No. 4" and identify.

## STEP THREE:

Remove the recorded tape from the right-hand spindle, turn over tape and place on left-hand spindle. Place empty reel on right-hand spindle. Both reels should have Side One up.

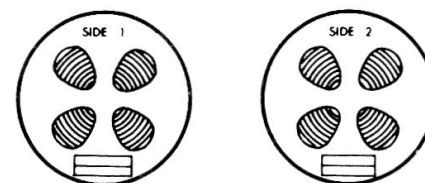
Move track selector to 3 — 2 position and record entire length of tape, mark remaining label on side one "track No. 3" and identify.

## STEP FOUR:

Remove the recorded tape from the right-hand spindle, turn reel over and place on left-hand spindle. Place empty reel on right-hand spindle. Both reels should have Side Two up.

Record entire length of tape, mark remaining label "track No. 2" and identify. This concludes four tracks of recording on your reel of tape.

## TO PLAYBACK

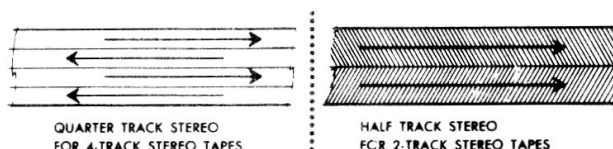


Tracks 1 and 3 are played with side one of the supply reel up. Either track to be played may be selected by the selector switch.

To play tracks 2 or 4 before playing tracks 1 or 3, thread tape as instructed and depress "Forward" button. This rapidly winds tape on Take-up reel. Reverse reels, Side 2 up, and turn Selector Switch to desired track.

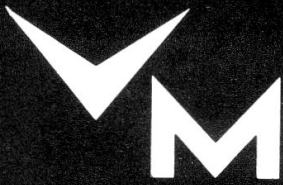
## FOR STEREO REPRODUCTION

This unit will play ALL "stacked" or "in line" tapes, as well as the new 4-track tapes.



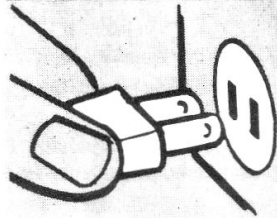
Connect the Stere-o-matic Jack on the rear apron of the tape recorder to the input of any amplifier which has a pre-amplifier stage suitable for a tape recorder or magnetic phono pick-up by using a Seabreeze No. 6068 Stereo Cord or suitable equivalent. Move Track Selector Switch to the left to the "Track 1-4" position. Place reels on tape recorder with Side One up. With the new 4-track tapes, after playing Side One reverse reels and play Side Two.



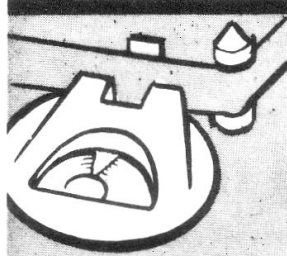


# HOW TO RECORD AND

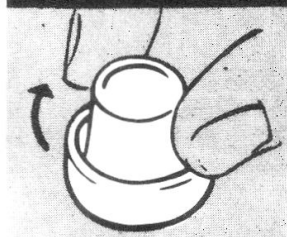
## FIRST STEPS



- A. Plug line cord into power supply (see CSA Label), securing cord in slot provided at back of case.

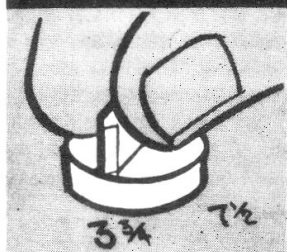


- B. With "Stop" button depressed, place empty reel on right hand ((take-up) spindle. Place full reel of tape on left hand (supply) spindle, so that it unwinds counter-clockwise. Thread tape, (shiny side out) following threading line (embossed in plastic), straight through the slot in the covers and "Automatic Shut-Off." Guide tape as shown into the right hand reel. Insert free end of tape into the hub slot of the take-up reel, then wind reel one or two turns counter-clockwise.



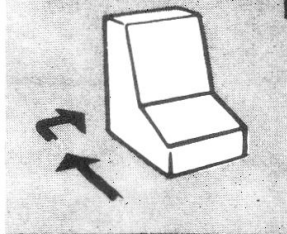
- C. Switch the machine on by turning the "BRILLIANCE" Control clockwise until click is heard and pilot light goes on. Turn up approximately half way for best response at  $7\frac{1}{2}$  ips and turn  $\frac{2}{3}$  to  $\frac{3}{4}$  clockwise for best response at  $3\frac{3}{4}$  ips.

Outer is tone. Inner is brilliance.

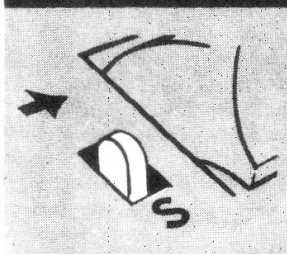


- D. Turn "Tape Speed" button to speed at which you wish to record, or for playback, to speed at which the tape was recorded.

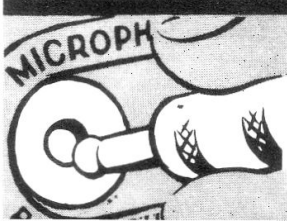
## HOW TO RECORD



- E. Push "Pause" button forward and lock to the right.



- F. Hold red "Safety" button to the right and depress "RECORD" button firmly until click is heard.

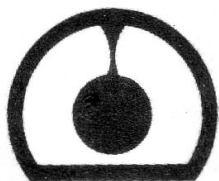


- G. Insert microphone plug into microphone receptacle. If you wish to record from your radio, TV or phonograph see page 8 of this book. (Be sure to plug microphone all the way in and phonograph part-way in.)

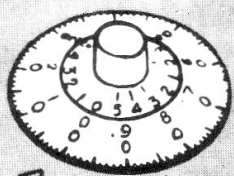
# PLAY MAGNETIC TAPES

## IMPORTANT!

ALWAYS DEPRESS THE "STOP" BUTTON to prevent flat spots on the precision drive and idler. 2-3 MINUTE WARM-UP time is desirable after exposure to freezing or cold weather.



- H. Adjust volume so that "Magic Eye Tube" images just meet at the loudest or peak sounds. If images overlap, distortion may result. If images do not meet, volume is too low. NOTE: When recording speech, some distortion overlapping can be tolerated.



TIMER

- I. Set Tape Index Timer dials to zero, noting on tape carton the reading at the beginning and end of your recording.  
J. Push "Pause" button to left to begin recording.

The recorder has automatic built-in erase which operates only when in "Record" position and assures a clean tape for new recordings.



- K. When you have finished recording depress "Stop" button. To rewind tape depress "Rewind" button. Your tape recorder shuts off automatically when rewinding is completed.

## HOW TO PLAY



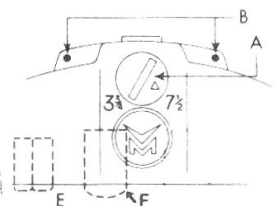
- L. (Complete Steps A through D). Depress "Play" button firmly until click is heard.



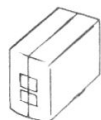
- M. Adjust "Volume" control for suitable sound level. Adjust "Tone" and "Brilliance" control for desired tonal quality.  
NOTE: Be sure that selector switch is in proper position before playing stereo tapes.

- N. When finished, depress "Stop" button firmly.

## HOW TO CLEAN HEADS



ERASE HEAD (E)



RECORD HEAD (F)



In time oxide from recording tape may accumulate on record and erase heads causing poor performance. Clean as follows: 1. Depress "Stop" button. 2. Remove speed button (A) by pulling it straight up. 3. Remove two screws (B) and lift cover, exposing erase head (E) and record heads (F). 4. Use cotton swab moistened with alcohol to clean surface of heads. Wipe Dry.

**MICROPHONE INPUT RECEPTACLE**—Any high impedance crystal, ceramic or dynamic microphone may be plugged into this receptacle for recording or for using recorder as a P-A System.

An excellent way to copy tape recordings is to connect the external amplifier of tape player part way into this input.

**RADIO—PHONO INPUT RECEPTACLE**—Insert phono-plug part-way into receptacle using phono-adaptor plug #8931. For recording directly from the radio, a "patch cord" #6067 may be purchased. (Please see "Patch Cord" feature.)

When *playing* a phono with crystal cartridge through the recorder amplifier at low power levels, more bass boost may be desired. This may be obtained by inserting a "Dummy" plug into the magnetic phono jack. This is not recommended for recording.

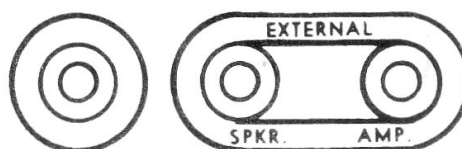
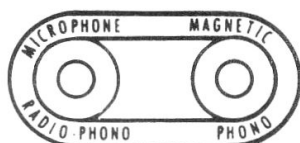
**MAGNETIC PHONO INPUT RECEPTACLE**—This high-gain input has a built-in pre-amplifier providing special equalization for recording or playing from phonographs equipped with magnetic cartridges such as GE or Pickering. This input is equalized for the RIAA curve using a GE cartridge. Remove plug when recording with Microphone — Radio — Phono Input.

**EXTERNAL SPEAKER OUTPUT RECEPTACLE**—This is a two-way jack: To use both an external speaker and the recorder's own speakers also, just insert the speaker's plug PART WAY into this receptacle. To disconnect the recorder's speakers, insert speaker plug all the way into the receptacle.

This receptacle may also be used when you need a *low impedance* output to an external amplifier. No load resistor is needed.

**EXTERNAL AMPLIFIER OUTPUT RECEPTACLE**—This high impedance output supplies 1 volt (from normal tape level) for connecting to the phono input of an external amplifier, or for copying tapes. Output impedance: 10,000 ohms at 1 K.C. Up to 20 ft. of regular shielded cable or up to 50 ft. of low capacitance shielded cable may be used, without loss of highs.

**STERE-O-MATIC OUTPUT RECEPTACLE**— Plug Stereo Cable #6068 or equivalent into this socket and connect to input of an amplifier which has a pre-amplifier for a tape recorder or magnetic phono pick up. The volume control of the second unit will control the loudness of half of your Stere-o-matic playback system. External Amplifier may use A.C. outlet provided for automatic shut-off of complete stereo system. This output for channel B matches the "Ext. Amp." jack of Channel A.



STERE-O-MATIC  
OUTPUT JACK.  
(Back of Chassis)



# OM YOUR V-M TAPE RECORDER FEATURES

## YOUR STEREOPHONIC MUSIC SYSTEM—

Your Seabreeze-VM 710Q tape-o-matic coupled with your stereo amplifier comprise your stereo system. No hard and fast rules can be set for the placing of the units reproducing the sound, so much depends on the room. Generally the units are best placed not closer than 5 feet nor more than 10 feet apart. They should be placed where they sound best to you; your own ear is the best judge.

In volume level adjusting, try to keep the level balance such that sounds seem to come from between the speakers.

**PHONO-ADAPTOR PLUG**—This is for use with the standard phono-connector used on most phonographs. To use, connect phono or patch cord into adaptor, insert adaptor plug into right front jack part-way, to first position, of your V-M tape-o-matic recorder.



To use magnetic phono, connect cord through adaptor into the right rear jack of your V-M tape-o-matic recorder.

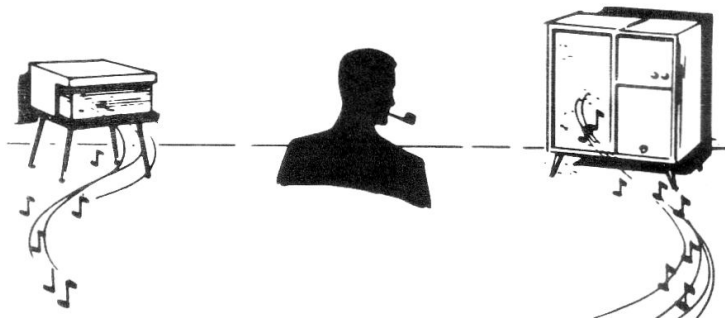
The adaptor plug may also be used to connect an external speaker by plugging into external speaker jack on left side of your V-M recorder.

For best results disconnect external speakers from any other amplifier.

Phono-Adaptor Plug #8931 is available from your dealer.



**PATCH CORD**—An 8 ft. patch cord is available to enable you to record from your radio, TV or phonograph. Connect the alligator clips to the speaker voice coil terminals of your radio or TV receiver or any external amplifier system. Insert the small tip on opposite end of cord into phono-adaptor plug. Plug adaptor into radio-phonograph jack on right side of recorder.



## USING THE tape-o-matic AS A P-A SYSTEM

After turning recorder on, depress stop button and move monitor switch to "On" position. Insert microphone into microphone receptacle and control volume through volume control. Adding external speaker provides better coverage of larger rooms. Adjust "Tone" and "Brilliance" controls for desired quality.

**MICROPHONE TECHNIQUE**—The microphone included with your tape-o-matic is of professional recording quality. However, to gain the best results you should use it properly.

Microphone technique improves with practice. Experiment with the distance from the microphone to the mouth best suited to your manner of speaking. Explosive puffs on "P's" and "B's" and sharp sibilants in some voices are very noticeable on playback, particularly if spoken directly into the microphone and close in.

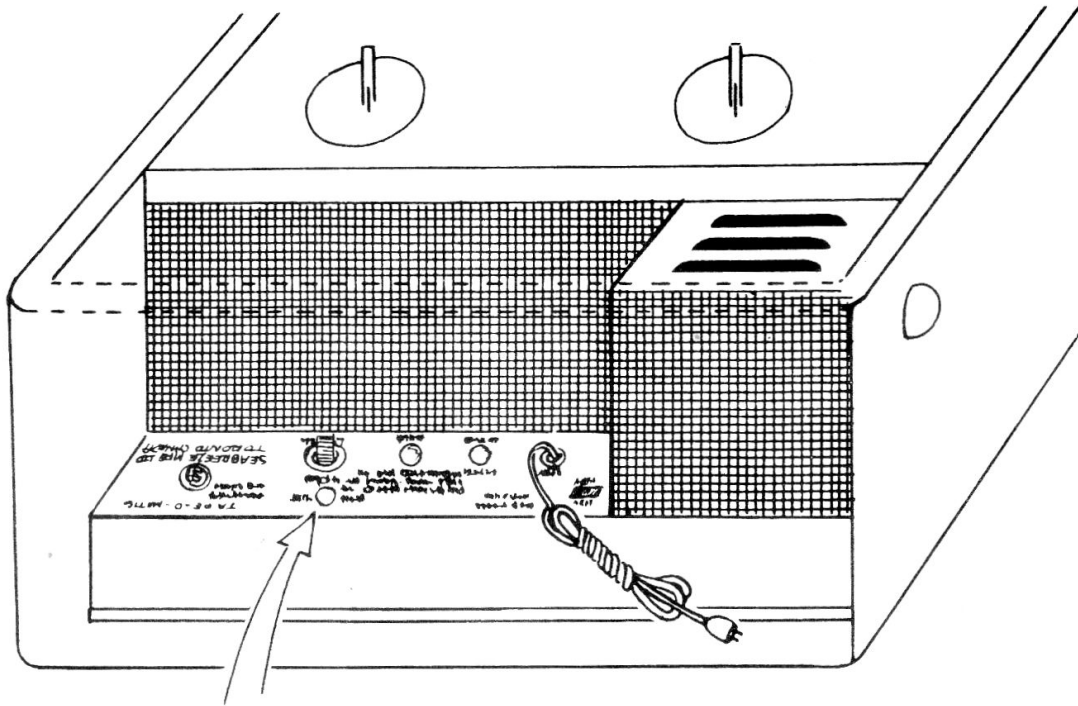
To avoid such defects and also in recording whistling or wind instruments hold or place the microphone sideways and further away from the source of sound for much improved effect.

Too great a distance between source of sound and microphone has, however, the disadvantage of picking up echoes and other background noises detrimental to good quality in recording. Echoes are absorbed and reduced by placing the microphone on a pillow or other soft sound-absorbing material.

## RECOMMENDATION FOR MAGNETIC AND SPLICING TAPE

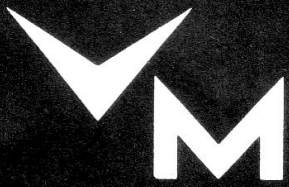
— One and two mil Mylar and standard acetate-base tape should be used with this recorder. One half mil tape is not recommended due to its tendency toward 'print-thru' in recording which results in pre-echo and post-echo effect when played back. Only use 'splicing tape' made especially for editing and splicing pieces of tape together. Regular transparent adhesive-type tapes should not be used.

## CUTAWAY VIEW OF REAR CHASSIS OF THE TAPE RECORDER



STERE-O-MATIC SOCKET — INSERT STEREO CORD HERE WHEN  
USING TAPE RECORDER FOR STEREO PLAY BACK.

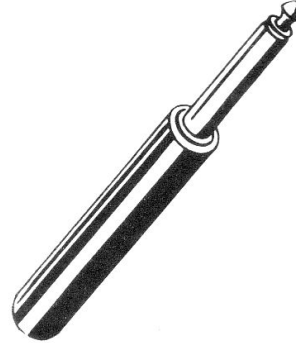
NOTE: MAKE SURE STEREO CORD IS DISCONNECTED WHEN  
RECORDING WITH TRACK SELECTOR SWITCH IN "TRACK 2-3"  
POSITION.



## tape-o-matic® ACCESSORIES



A



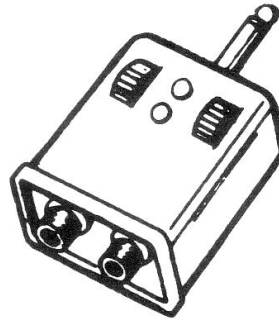
B



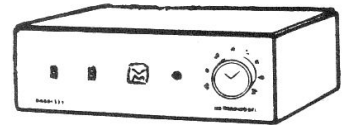
C



D



E



F

**A. Ceramic Microphone** has 8' cable with shielded phono plug. Unaffected by heat or moisture. Crystal microphone also available.

**B. Phono Adaptor Plug.** Adapts the standard phono connector used on most phonographs to the Input Jacks on the tape recorder.

**C. Stereo Cord (Part No. 6068)** 15 ft. shielded cord with standard phono connector on both ends to connect Stereo Output Jack to your Second Channel Amplifier.

**D. Patch Cord** has phono plug and clips in rubber sleeves. Used to record from phonograph, radio or T.V. set.

**E. Mikemixer.** Mixes output from two microphones. Separate gain controls.

**F. Remote Control Slide Projector — Tape Recorder Synchronizer (Model VM-1412).** With this convenient, easy-to-use Synchronizer you increase the pleasure you receive from both your tape recorder and your automatic remote-control slide or strip film projector. Permits you to add inaudible slide-change cues to your tape recorded commentary. On play-back these cues actuate your projector, automatically advancing slides at the times you selected.

# tape-o-matic TAPE RECORDER SPECIFICATIONS

<b>Weight</b> .....	32 lbs. approximately
<b>Size</b> .....	9½ x 14½ x 16
<b>Voltage and Power Required</b> .....	105-120V AC 60 cy. 100 Watts
<b>AC Receptacle</b> .....	for external amplifier
<b>Fused</b> .....	3 amps.
<b>Power cord</b> .....	8 feet long
<b>Playing time</b> .....	4 channels at 3¾" per sec; 4 hrs. At 7½" per sec; 2 hrs. with 7" reels
<b>Microphone</b> .....	Extended fidelity 60 to 10,000 cy. ± 5 db and 8 ft. cable with shielded phono plug.
<b>Tube Complement</b> .....	(2) 12AX7, 616GB, 5Y3, 12AU7 & 6E5
<b>Power Output</b> .....	8 watts at less than 3% distortion, 8-16 ohms. Damping factor 7-15.
<b>Freq. response</b> .....	Amp. 20-20,000 c.p.s. ± 1 db, record-play-back 40-15,000 c.p.s. ± 5 db.
<b>Tone balance</b> .....	+ 15 db at 50 c.p.s.; + 8 db at 10 k.c.; — 15 db at 10 k.c.
<b>Record bias and power erase</b> .....	75 k.c.
<b>Wow and flutter</b> .....	Less than .4% RMS
<b>Controls</b> .....	5 safety interlocked buttons for—Stop (and storage), Record, Play, Fast Forward and Fast Rewind. Separate Bass and Treble Controls (Tone and Brilliance.) Volume Control Track Selector Switch Instant Pause Control with Stand-by lock Monitor Switch Precision Tape Index Counter Automatic Shut-off Hum Balance Channel A (concealed); Hum Balance Channel B (concealed); Cathode Tuning Eye with sensitivity adjustments concealed.
<b>Speakers</b> .....	(1) 6" x 9" with 2.5 oz. Alnico V magnet.
<b>Signal to Noise Ratio</b> .....	Better than —45 db
<b>2 Input Jacks</b> .....	Microphone Magnetic Phono Radio-Phono-TV (Phono input plug furnished)
<b>Radio Tuner Input Socket</b> .....	For SB-1000A and SB-2000A Radio tuners.
<b>2 Output Jacks</b> .....	(1) for single or multiple speaker operation, 8-16 ohms (1) external amp output (may be used as input from low impedance source)
<b>Stere-o-matic Output Jack</b> .....	For playing Stere-o-matic tape through external amplifier with preamp.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



**seabreeze**

**MANUFACTURING LTD.**

**TORONTO • ONTARIO • CANADA**