

The REWIND operation is accomplished by turning the REWIND SWITCH to the left. The FAST FORWARD operation is used by turning the SWITCH to the right.

CAUTION:

Be sure to switch the speed change switch to "LOW" position before starting the FAST-FORWARD on the rewind operation.

NOTE:

When playing, turning the TONE CONTROL clockwise from position 5 will increase TREBLE RESPONSE. Turning the CONTROL counter-clockwise increases BASS response.

In case you desire to reproduce through your external Stereo Amplifier, connect both HEAD OUTPUT JACKS with the MAGNETIC PICK-UP or TAPE HEAD INPUT JACKS of such amplifier to feed the audio signal to the amplifier. The POWER SWITCH should be turned on "AMP OFF" position whenever the Model M-7 is used as a Tape Deck.

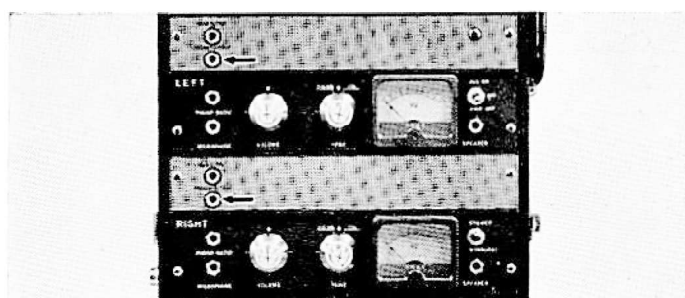


2. DUAL PRE-AMPLIFIER OUTPUT

The PRE-AMPLIFIER OUTPUT can be used to feed signal from the pre-amplifier (in the M-7) to the CRYSTAL PICK-UP INPUT JACK of an external power amplifier or the AUXILIARY INPUT JACK of an external pre-amplifier.

The maximum output voltage at the PRE-AMPLIFIER is 0.7 volt.

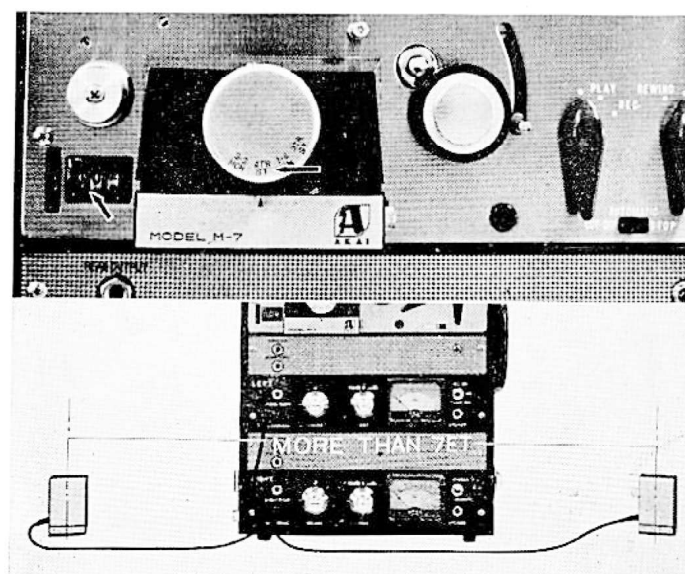
NOTE: Be sure not to leave the plugs from the external power amplifier or the pre-amplifier connected when RECORDING.

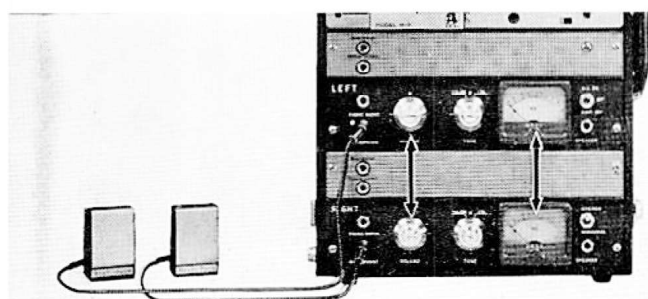
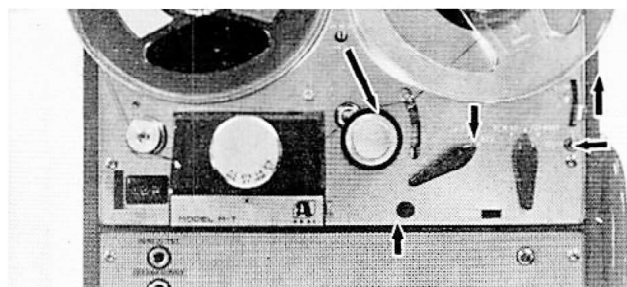
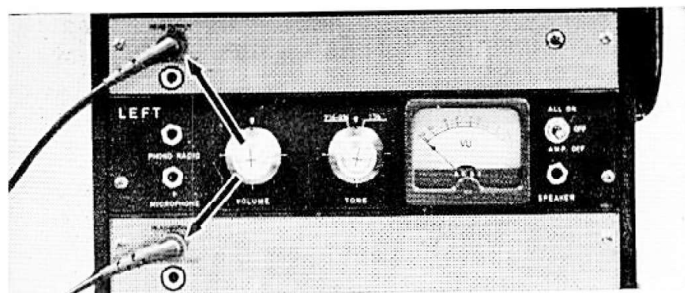


3. STEREO (4 TRACK) RECORDING

To make a Four Track Stereo recording, turn the POWER SWITCH to "ALL ON" and set the POINTER of track selector control to "STEREO" position. Before starting to record, set the INDEX COUNTER to "0". This INDEX COUNTER is used to provide reference numbers for locating a selection on a given tape.

Insert the MICROPHONE PLUGS into both MICROPHONE IN-PUT JACKS maintaining a distance of more than 7 feet between both microphones.





CAUTION Before recording with a microphone, be certain that no external speaker is connected to the Model M-7 because it will cause feedback.

Care must be taken not to leave the plugs from the external amplifier connected to the HEAD OUTPUT JACKS on the Tape Recorder Model M-7 when recording, because no recording can be made in this condition.

Thread the tape as illustrated at the left. Set the INSTANT STOP LEVER at STOP. After depressing the RECORD SAFETY BUTTON, turn the RECORD, PLAYBACK SWITCH to RECORD position, then push the START BUTTON.

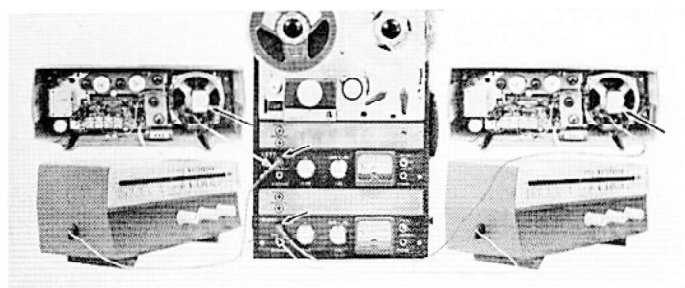
The LOUDNESS of sound passing through both microphones can be balanced by the VOLUME CONTROLS on the left and right amplifiers by watching both VU METERS. Place two microphones as illustrated and the INSTANT STOP LEVER to "STOP" so that it will disengage the tape movement and watch the VU meter's INDICATORS.

Care must be taken that the indicators of both VU meters do not exceed "0" VU except in very rare cases.

The tape movement will be started by pushing the START BUTTON.

Note that the TONE CONTROL has no effect during recording, however, set the Pointer of Equalizer Switch to $7\frac{1}{2}$ - $3\frac{3}{4}$ or $1\frac{7}{8}$ (it is required both on recording or playing.)

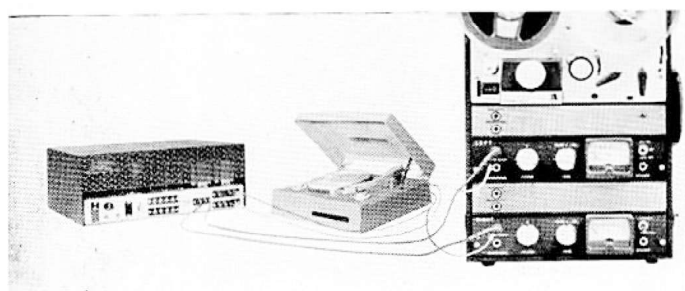
4. RECORDING FROM STEREO BROADCASTS



Recording from Stereophonic Broadcast can be done by connecting the LEFT PHONO RADIO Jack of the M-7 to the left speaker's voice coil terminals and the RIGHT PHONO RADIO Jack to the right speaker terminals of the radio sets as shown.

The "RADIO CABLE", see page 23 "ACCESSORIES SUPPLIED", may be used for this purpose.

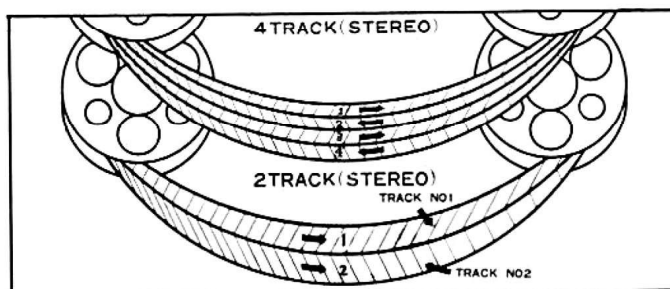
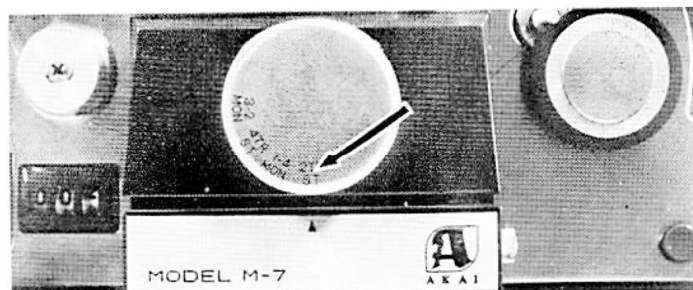
5. RECORDING FROM A STEREO DISC



To record from a Stereo Disc, a "CRYSTAL PICK UP" (0.5-1 volt) or a "CERAMIC PICK UP" can be directly connected to the PHONO RADIO Jack. A "MAGNETIC CARTRIDGE" should be connected to a separate Pre-Amplifier and never directly to the PHONO RADIO Jack. NOTE: Turn the Power Switch "OFF" before turning the RECORD, PLAYBACK SWITCH to "STOP" position. This will prevent Head Magnetization.

6. STEREO (2 TRACK) PLAYBACK

To play old type 2-track stereo pre-recorded tapes, set the **POINTER** of the track selector control to "STEREO". The **FUNCTION SELECTOR** must also be set to "STEREO". Then follow instructions for "STEREO" (FOUR TRACK STEREO) PLAY-BACK. **TWO TRACK STEREO TAPE** has material recorded on both "UPPER & LOWER TRACKS" and this tape can only be used in one direction. **FOUR TRACK STEREO TAPE** has compatible material recorded on Tracks No. 1 and 3 and unrelated material recorded on Tracks No. 4 and 2. This tape can be played in both directions by turning the reels over. Therefore tracks 1 and 3 are reproduced together in Stereo playback, and when you turn the tape over, tracks 4 and 2 are reproduced together. Because there is twice as much recording on a tape you thereby get twice the playing time.



7. MONAURAL RECORDING ON TRACKS NO 1-4

Turn the Power Switch to "ALL ON" and set the **FUNCTION SELECTOR** to "MONAURAL". Set the **POINTER** of the Track Selector control to Tracks No. 1-4. In Monaural Recording, only the **LEFT AMPLIFIER** is used. The **RIGHT AMPLIFIER** is not required for this operation.

A microphone plug should be inserted into the **MICROPHONE JACK** on the **LEFT AMPLIFIER** as illustrated. Thread the tape as shown at the right, set the **INSTANT STOP LEVER** at **STOP**. After depressing the **RECORD SAFETY BUTTON**, turn the **RECORD, PLAYBACK SWITCH** to **RECORD** position and push the **START BUTTON**.

Adjust **VOLUME CONTROL** to normal recording level, while watching the **VU Meter INDICATOR** on the left amplifier. Care must be taken that the indicator of the VU meter does not exceed "0" VU except in very rare cases. The **Tone Control** has no effect when recording.

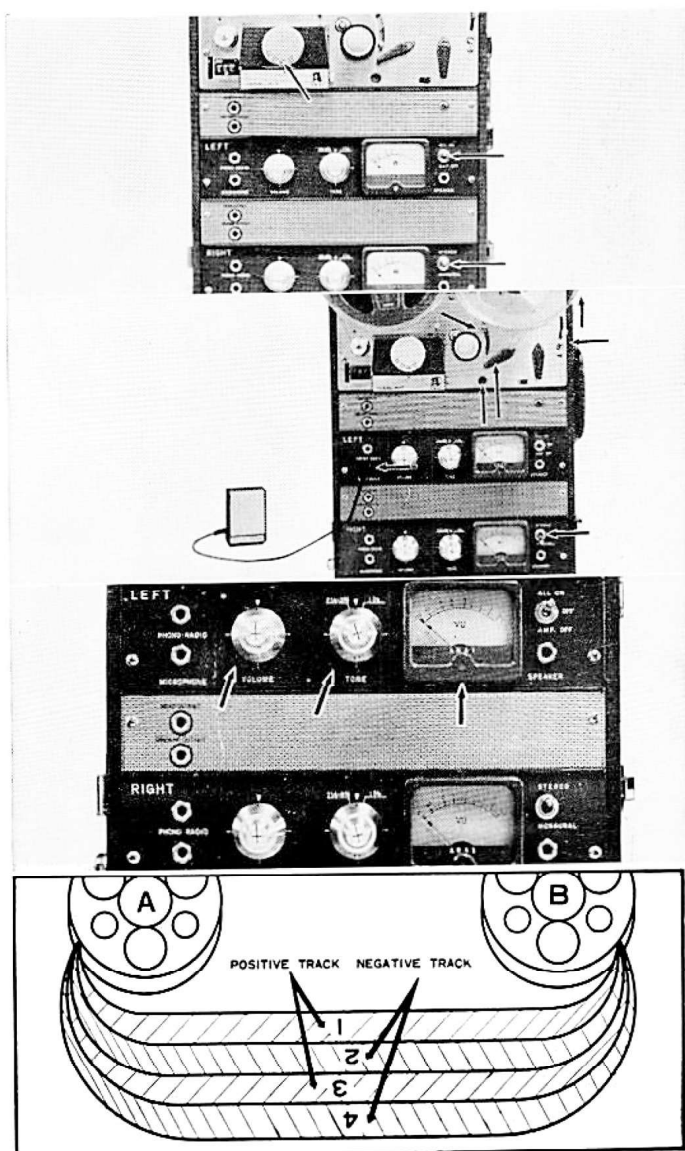
Monaural Recording can be made on four individual tracks as illustrated in both Positive and Negative directions.

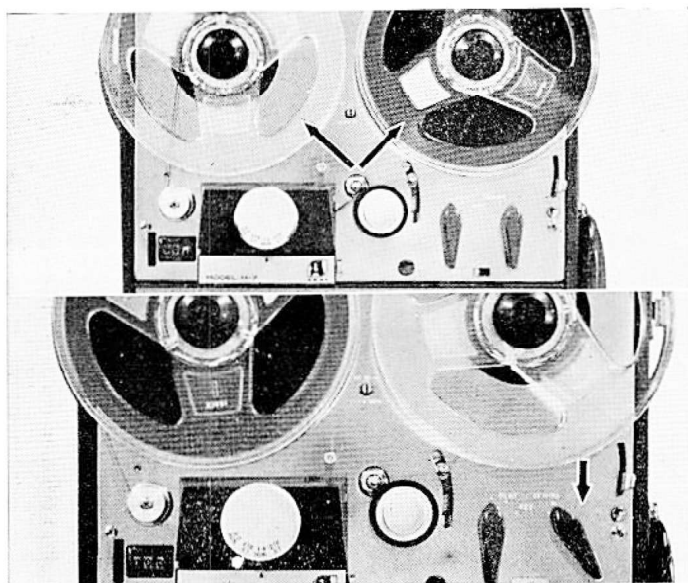
POSITIVE TRACK

POSITIVE TRACK means that Tracks No. 1 and 3 will be used.

NEGATIVE TRACK

NEGATIVE TRACK means that the Tracks No. 4 and 2 will be used.

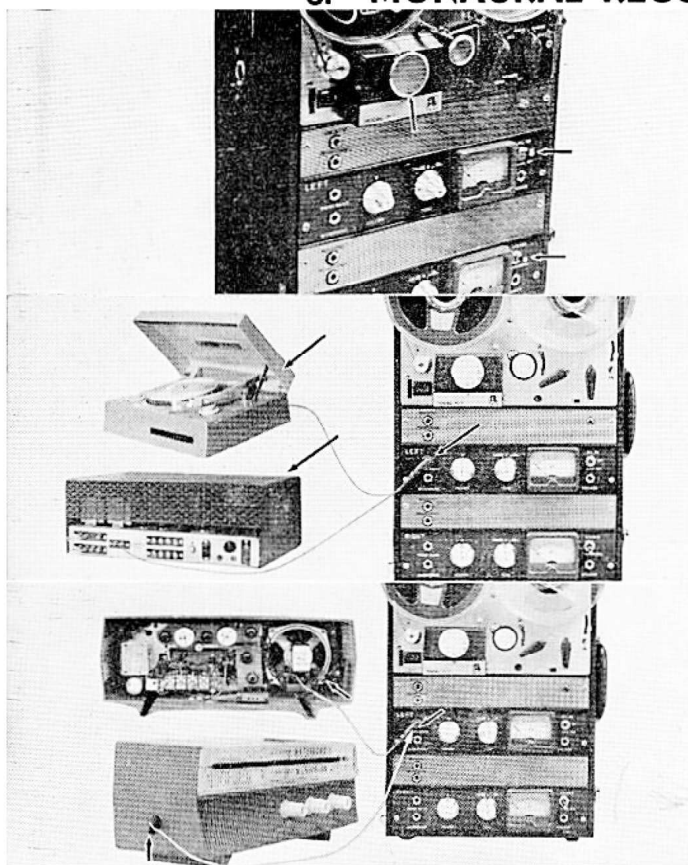




After completing a monaural recording on Track No. 1, decrease the Volume on left amplifier gradually to "0" and return the Record/Play Switch to "STOP". Reverse the right reel and place it on the left reel spindle, then start recording on Track No. 4.

To REWIND, set volume control to "0" and turn the REWIND SWITCH to the right.

8. MONAURAL RECORDING ON TRACKS NO 3-2



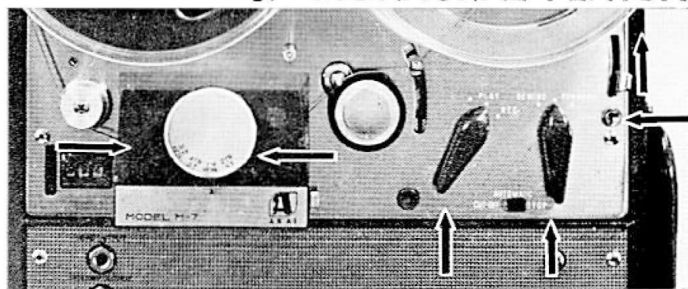
Set the POINTER of the Track Selector control to Tracks No. 3-2.

Follow the same procedure shown above for recording on Tracks No. 1-4.

To record from a DISC PLAYER or an EXTERNAL AMPLIFIER monaurally, use the PHONO RADIO INPUT JACK of the LEFT AMPLIFIER. Set Monaural-Stereo switch of the Right Amplifier at the position of Monaural and the Right Amplifier will be switched off. A CRYSTAL PICK UP or a CERAMIC PICK UP can be directly connected to the Jack. A MAGNETIC CARTRIDGE should be connected to the Jack through a separate Pre-Amplifier. In the case of recording from an External Amplifier, connect to the PHONO RADIO JACK from the TAPE OUTPUT of the external amplifier.

To record from a RADIO, use the accessory RADIO CABLE and connect the CLIP to the radio speaker or to the earphone jack. The cable plug will go into the PHONO RADIO Jack of the Model M-7.

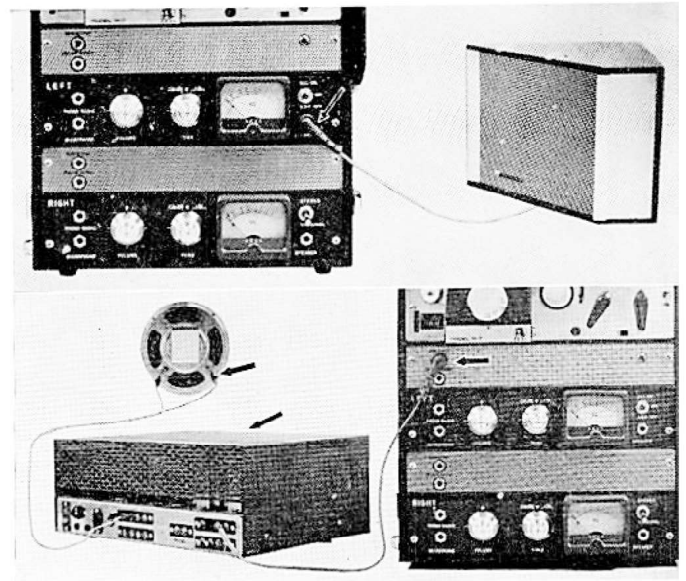
9. MONAURAL PLAYBACK ON TRACKS NO 1-4



Turn the CHANNEL SELECTOR to "MONAURAL" and set the POINTER of the track selector control for Tracks No. 1-4, then push the START BUTTON. The internal speaker embodied in the Model M-7 will always operate if there is no external speaker connected to the Speaker Jack of the Tape Recorder.

For superb reproduction, connect a larger external speaker to the SPEAKER JACK on the LEFT AMPLIFIER. If the Plug from an external speaker is inserted into the SPEAKER JACK all the way, the internal speaker will automatically be disconnected. By leaving the plug from an external speaker in half way, both internal and external speaker are operative.

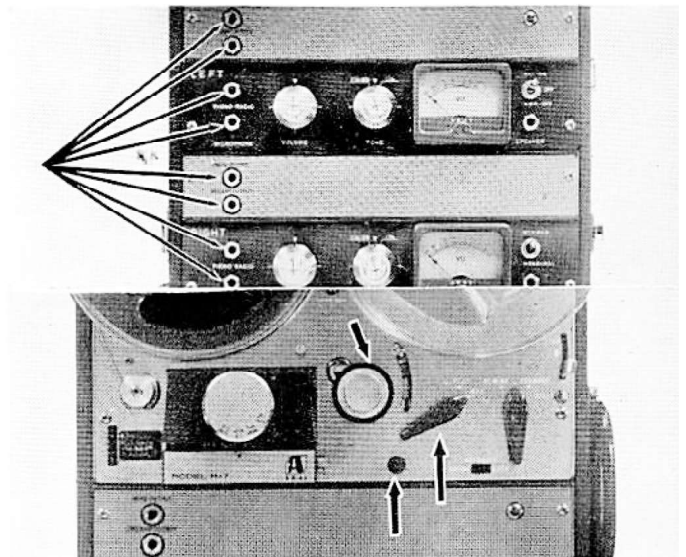
If reproduction through an external Hi-Fi System is desired, the Head Output Jack may be used to feed an audio signal to the Tape Head Input or Magnetic Pick-Up input Jack (low) of the external Hi-Fi amplifier. In this manner you may enjoy excellent reproduction of sound through your Hi-Fi System.



10. TAPE ERASING

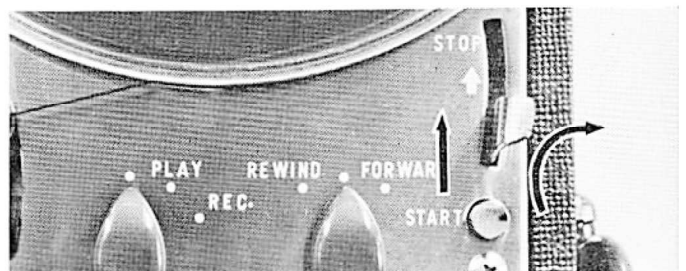
To erase pre-recorded material, first determine that there is no connection to any PHONO RADIO Jacks and MICROPHONE Jacks and turn down the Volume Control to "0". Place the tape to be erased on the LEFT SPINDLE and thread in normal manner. Then set the POINTER of the Track Selector as desired.

Turn the RECORD, PLAYSWITCH to "REC" after depressing the RECORD SAFETY BUTTON. If the Track Selector is set at "STEREO" position, all material on Tracks No. 1-3 will be erased. To erase Tracks No. 2-4, turn reel over and repeat. It is suggested that you use a BULK TAPE ERASER for quick and complete erasing.



11. INSTANT STOP LEVER

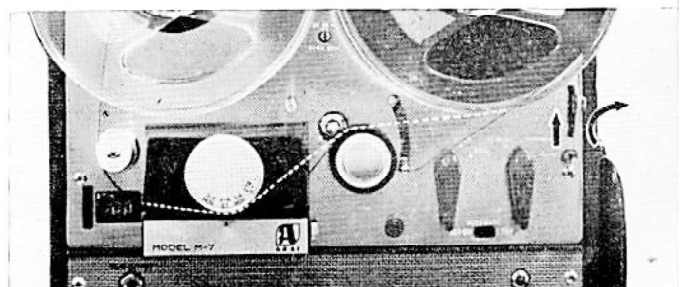
To stop the tape momentarily while either recording or playing back, push the INSTANT STOP LEVER until it locks. To release it, push the START BUTTON. Use of this lever allows you to obtain precise recording or playback levels while the RECORD, PLAYBACK SWITCH is in the RECORD or PLAY position.

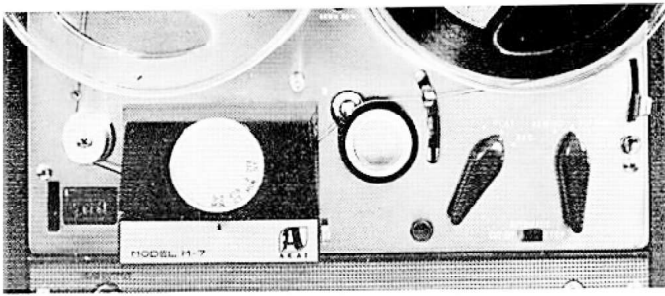


12. AUTOMATIC STOP & SHUT-OFF SWITCH

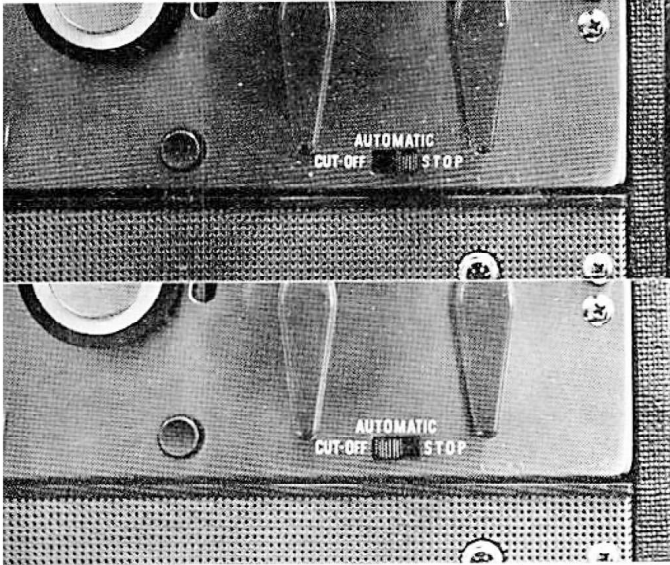
HOW TO THREAD THE TAPE THROUGH THE AUTOMATIC SHUT-OFF LEVER

When you desire to use the Automatic Shut-off Switch, thread the tape through the Automatic Shut-off Lever as illustrated by plain line. When the Automatic Shut-off operation is not required, thread the tape without through the lever as illustrated by dotted lines.

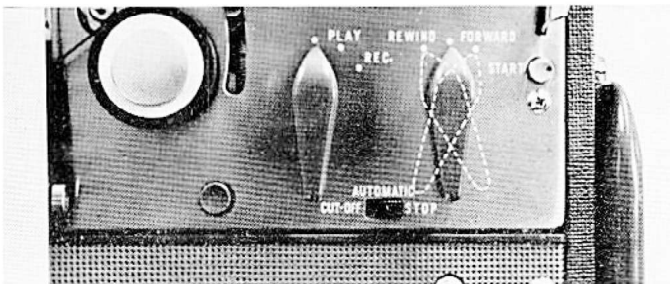




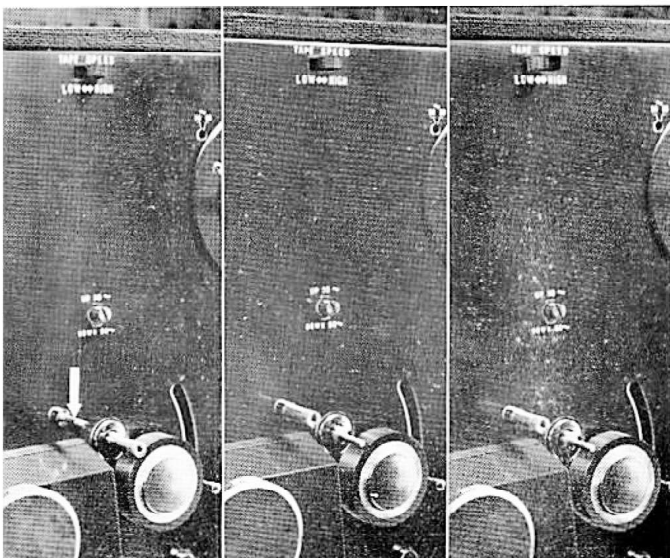
13. COMPLETE SHUT-OFF



14. FAST-FORWARD AND REWIND



15. TAPE SPEED CHANGE



HOW TO OPERATE

On recording and playback. Put the Record/Playback Switch in either record or playback position first and depress the START BUTTON.

One of the exclusive features of the Model M-7 is the special automatic shut-off function of the unit. Whenever the tape comes to its end or is broken by an accident, the pinch wheel will automatically be released from the capstan to prevent a permanent deformation of its soft rubber surface.

Setting the AUTO STOP, SHUT-OFF SELECTOR SWITCH to its position marked "STOP" will halt the tape movement only while the internal amplifiers are still operative. In this case, no "warming-up" time is required and, the unit is always ready to start for the next operation. See the picture left above.

Should the automatic shut-off of the entire unit be required, simply set the SELECTOR SWITCH to the position marked "CUT-OFF" as shown in the picture at the left. This will automatically cut off all functions and current upon conclusion of tape play.

To fast-forward or rewind the tape, turn the Fast-forward/Rewind Switch to the fast-forward or rewind position.

CAUTION: Do not operate the fast-forward and rewind switch before turning on the power switch. If this is done, it might cause damage to the mechanism and it may not function.

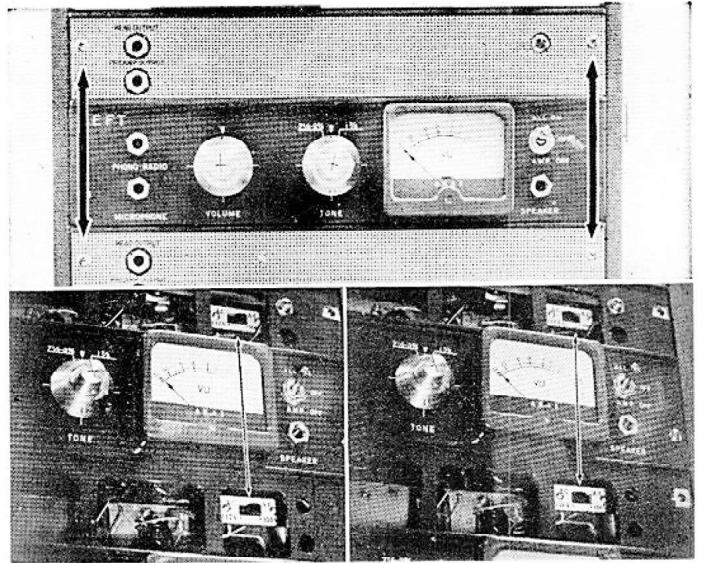
The Model M-7 operates at 3 tape speeds, 7-1/2 ips, 3-3/4 ips and 1-7/8 ips. Tape speed is determined by the motor speed and by the use of a speed change bushing on the tape drive capstan.

1-7/8 ips. tape speed is obtained with the capstan drive motor in LOW speed. The capstan bushing is not used, and a storage post is provided for it. (See picture at immediate left, arrow mark) 3-3/4 ips. tape speed is obtained with the capstan drive motor in HIGH speed. The capstan bushing is not used for 3-3/4 ips tape speed. (See picture at center left.)

7-1/2 ips tape speed is obtained with the capstan drive motor in HIGH speed. The capstan bushing is installed on the capstan shaft, and is held in position by the knurled nut provided. (See picture at far left.)

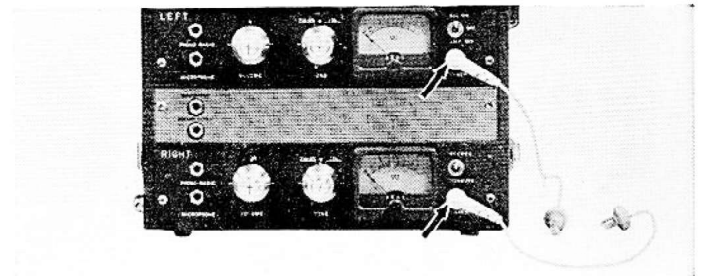
16. POWER SOURCE SELECTOR SWITCH

With the standard voltage unit, the selection of 100 or 117 volts input (depending on the Power Source available in your area) can be done by using the POWER SELECTOR SWITCH. Remove four Panel Mounting Screws, as illustrated. The Power Selector Switch will be found above the amplifier section on both left and right amplifiers in the RIGHTHAND CORNER of each. With a special voltage unit, check rear side of the M-7 to convert voltages.



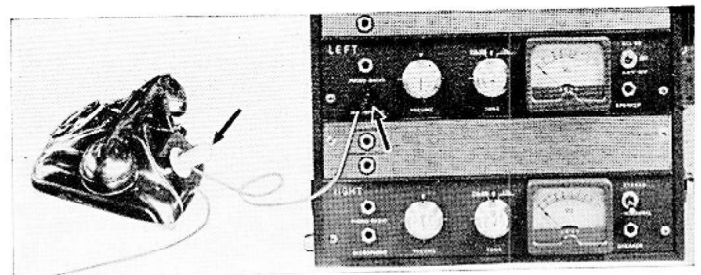
17. MONITORING

To make a precise monaural recording, it is suggested that you use a MONITORING EARPHONE inserted into the SPEAKER JACK on left amplifier. Use another EARPHONE connecting to the SPEAKER'S JACK on the right amplifier for stereo.



18. RECORDING THE TELEPHONE CONVERSATION

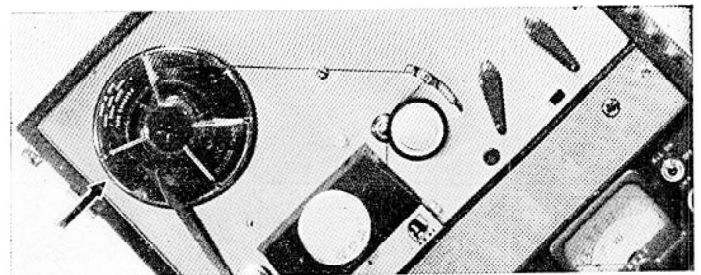
Whenever you receive a long distance telephone call, or important business call, they may be recorded using Akai's simple operate Telephone Pick up as illustrated. Pick up as illustrated.



19. RECORDING WITH THE ENDLESS TAPE

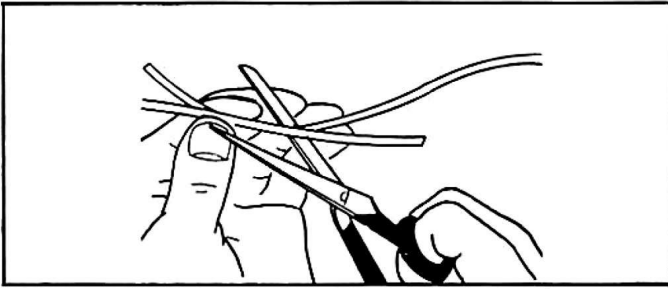
To record unexpected events, commercial propaganda, educational exercises etc, use the Endless Tape.

To place the tape on the Tape Recorder, pull the tape from the left "OUTLET" so that the loop is large enough to be threaded around the head and capstan as illustrated. After using, the tape probably wound in the tape magazine by pulling the tape out slowly from the left "OUTLET" and allowing the tape to automatically wind on the magazine from the right "INLET".

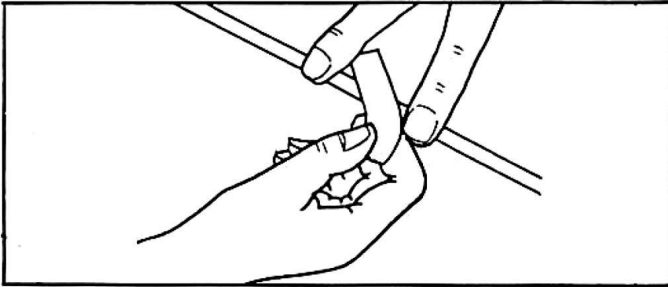


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20. TAPE SPLICING AND EDITING



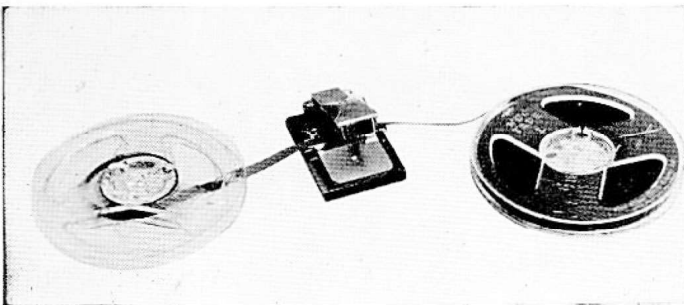
Cut tape diagonally with an overlap so ends will line up. (Cutting tape on a diagonal will eliminate detection of splice on recording.)



Cover aligned ends with SPLICING TAPE. Press firmly, exerting pressure to secure ends evenly and securely.

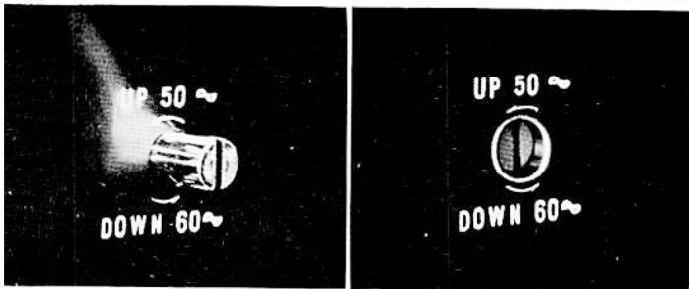


Trim off excess SPLICING TAPE. (Cut into the recording tape backing very slightly as illustrated by dotted lines. This eliminates possibility of a sticky splice.)



Splicing of tape requires special skill, however, our specially designed Portable Splicer will do exactly what you want with maximum speed and minimum effort.

21. SUPPLEMENTAL INFORMATION: POWER CYCLE CHANGE



(1)

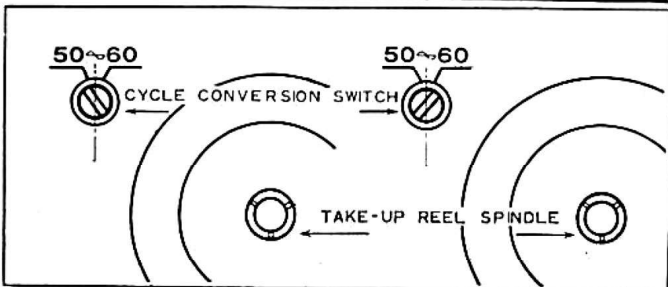
The cycle conversion switch (1) is located at the center of the recorder top panel.

The cycle conversion switch (2) is located at the left upper side.

CAUTION: Do not operate the cycle conversion when the motor is not running. The lever (1) must be rotated back to its original position after it has been moved either up or down.

Using a screw driver, rotate the cycle conversion switch (1) counter clockwise approximately one-eighth of a turn. The lever can then be moved either up or down.

50 cycle operation is obtained by moving the lever up, and 60 cycle operation, by moving lever down. It is also necessary to set the cycle conversion switch (2) to the correct position.

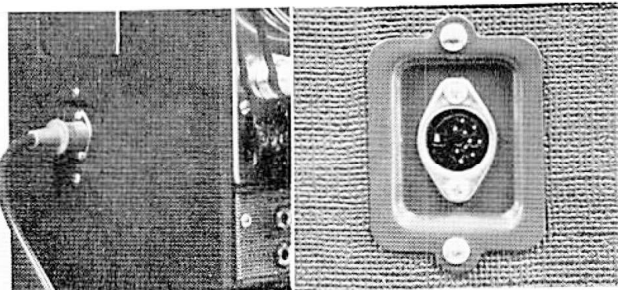
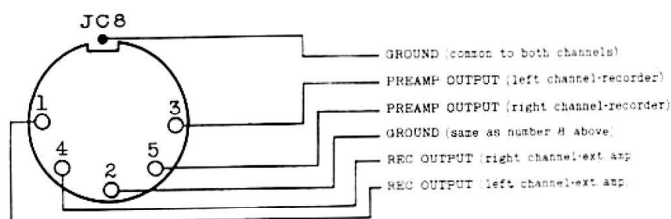


(2)

DIN (ONE CONNECTION) JACK

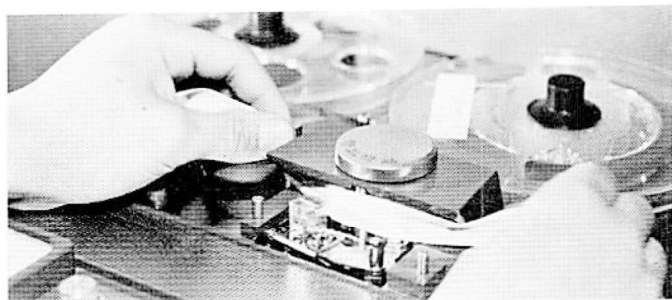
Front View of DIN Jack

DIN CONNECTION: The DIN Jack is located on the left side of the M-7 and is provided for interconnecting the recorder with an external stereo amplifier that has the same connection jack. This system will make easy record and playback of stereophonic program possible through an external stereo amplifier as the complexity of connecting or disconnecting more than 4 separate plugs from the recorder's panel side is not needed. When this jack is used, however, all the Input Jacks provided on the amplifier panels of the recorder are automatically disconnected. If your amplifier is not equipped with the DIN Jack and use of this one-connection system is required, consult a radio expert for necessary modification of your amplifier. A connection cable designed for this purpose is obtainable from the manufacturer of such amplifiers or from the Akai Company on request.



CLEANING HEADS: In time, the record and erase heads will accumulate small quantities of the brownish-red oxide with which recording tape is coated. The oxide build-up may become severe enough to hold the tape away from the minute recording head gap or may magnetically short-circuit the gap. The effect is reduced high frequency response and, in severe cases, reduced volume across the entire range of frequencies.

The heads must be cleaned periodically with a soft cotton swab soaked in rubbing alcohol.



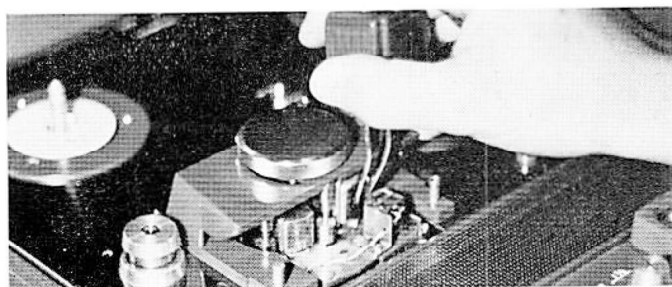
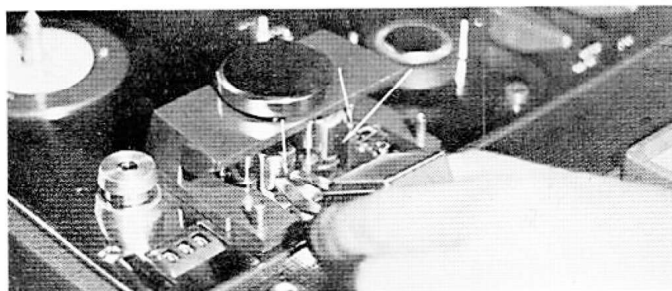
HEAD DEMAGNETIZATION: In the course of normal use, the steel pole pieces which form a part of the recording and play back heads become slightly magnetized.

The effect of the slight head magnetization is to partially erase the tape with high frequencies suffering most.

As a general rule, slightly magnetized heads can be detected by noticing loss of normal high frequency response which cannot be corrected through head alignment. Severe magnetization, which may result if magnetized tools are used in the vicinity of the heads, will result in noise or considerable distortion of the sound of tapes being played, in addition to loss of high frequency response.

Although the M-7 already has a built-in Head De-magnetizing circuit, it is recommended that a portable demagnetizer be used periodically.

Head de-magnetization can be accomplished by touching the head softly with the de-magnetizer and making several small circular motions over all head surface areas as well as the head housing, after removing the head cover.



VENTILATION: The model M-7 recorder has an unique ventilation system. It is so designed that air circulation inside of the recorder is properly maintained at all times and no excessive heat which would shorten the life of component parts will result. Although the M-7 is perfectly tropicalized in construction, it is recommended that the unit be always closed a little apart from a wall, screen or from any obstacle which might prevent good air circulation around the unit.

