

OWNER'S MANUAL



51015010

TEAC[®]

A-6600

Stereo Tape Deck



Thanks for buying a TEAC.

We hope this deck will bring you years of pleasure and enjoyment.

This deck, like all TEAC products, is the result of years of experience in designing and manufacturing of magnetic tape recording equipment together with an earnest desire to produce the most satisfying tape decks possible. We invite you to read over this manual to familiarize yourself with the capabilities of your deck. If you have any questions, please feel free to contact your TEAC Dealer or TEAC CORPORATION directly.

TEAC CORPORATION wishes you success and contentment with your new A-6600 Open Reel Stereo Tape Deck.

WARNING:
TO PREVENT FIRE OR SHOCK
HAZARD, DO NOT EXPOSE THIS AP-
PLIANCE TO RAIN OR MOISTURE.

This tape deck has a Serial Number located on the rear panel. Please record the Model Number and Serial Number and retain them for your records.

Model Number _____
Serial Number _____

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Environmental Considerations

Your TEAC deck is very well constructed and is adaptable to a wide range of conditions, but a few cautions should be observed to insure proper operation and prolong unit's useful life.

Temperature Extremes

Do not operate the deck at temperatures above 100°F (38°C) or lower than 40°F (5°C). Direct sunlight, stoves, or heating devices nearby will also raise the internal temperature of the deck which may cause damage to some components. Low Temperatures may cause sluggish operation and place an overload on the drive mechanism.

Dusty Environments

As with any precision machine having moving parts, your deck should be covered when not in use. Excessive dust may result in bearing or tape head wear. Also protect your tapes from dust.

High Humidity and Ocean Salt Air

High humidity conditions will shorten equipment life due to corrosion and possible fungus growth on the printed circuit boards. If near the ocean, extra care should be taken to cover your deck after use. Covering will prevent salt air from corroding metal surfaces, especially the bearings and internal connections.

Extreme Line Voltage Fluctuation

If you are in an area where line voltage fluctuation is severe, the use of a voltage controller (VARIAC) may be advisable.

Recording Tape

The selection of magnetic recording tape is usually done while considering the following factors: Brand name, base material, oxide coating, thickness of the tape and length of the tape (or diameter of the reel on which the tape is sold). Some of these points are discussed in the paragraphs below.

Base Material

Generally, polyester and acetate are used as the base materials. Normally, either material gives good results. However, polyester base tape is recommended for use in areas with high humidity.

Recording Tape Thickness

Three different thicknesses of tapes are shown in the chart. For 2 track recorders the 1.0 or 1.5 mil tape is recommended and the tape winding tension is factory set to accommodate the thicker tapes. For 4 track recorders, the 1.0 mil tape is recommended

and the tape tension is set to accommodate the thinner tapes.

Also 1/2 and 1/3 mil tapes are sold in some places. We do not recommend these very thin tapes for high fidelity recording use.

Recording Tape Length

The thickness of the tape and the diameter of the reel on which it is sold determine the

length of the tape. The recording or playback time, of course, is determined by the length of the tape and the playing speed.

The recording time indicated in the charts below is for a single pass through the tape, therefore the total recording time will be either two or four times that indicated depending on whether the tape is recorded 2 track stereo or monophonic.

7" reel				10-1/2" reel				
Base	Tape length	Recording time		Base	Tape length	Recording time		
		7-1/2 ips	3-3/4 ips			15 ips	7-1/2 ips	3-3/4 ips
1-1/2 mil	1200 ft.	30 min.	60 min.	1-1/2 mil	2400 ft.	30 min.	60 min.	120 min.
1 mil	1800 ft.	45 min.	90 min.	1 mil	3600 ft.	45 min.	90 min.	180 min.
1/2 mil	2400 ft.	60 min.	120 min.	1/2 mil	4800 ft.	60 min.	120 min.	240 min.

Tape Handling and Storage

- If good quality tape is used, it can be recorded over and over and still produce high quality recordings. During recording the previously recorded sounds are erased automatically to prepare the tape for the new material. The TEAC E-2 Bulk Eraser (or equivalent) can be used to completely erase the entire tape in a very short time.
- When using a brand new tape, right out of the sealed box, we recommend that the tape be run forward at high speed to the end and then rewound back to the beginning. This will free the tape layers from any sticking, remove any loose oxide and sort of "air out" the tape.
- The last few feet of tape at both ends of the reel may be wrinkled or irregular; the inside few feet due to contact with the reel hub and the outside few feet due to handling or contaminants in the air, etc.

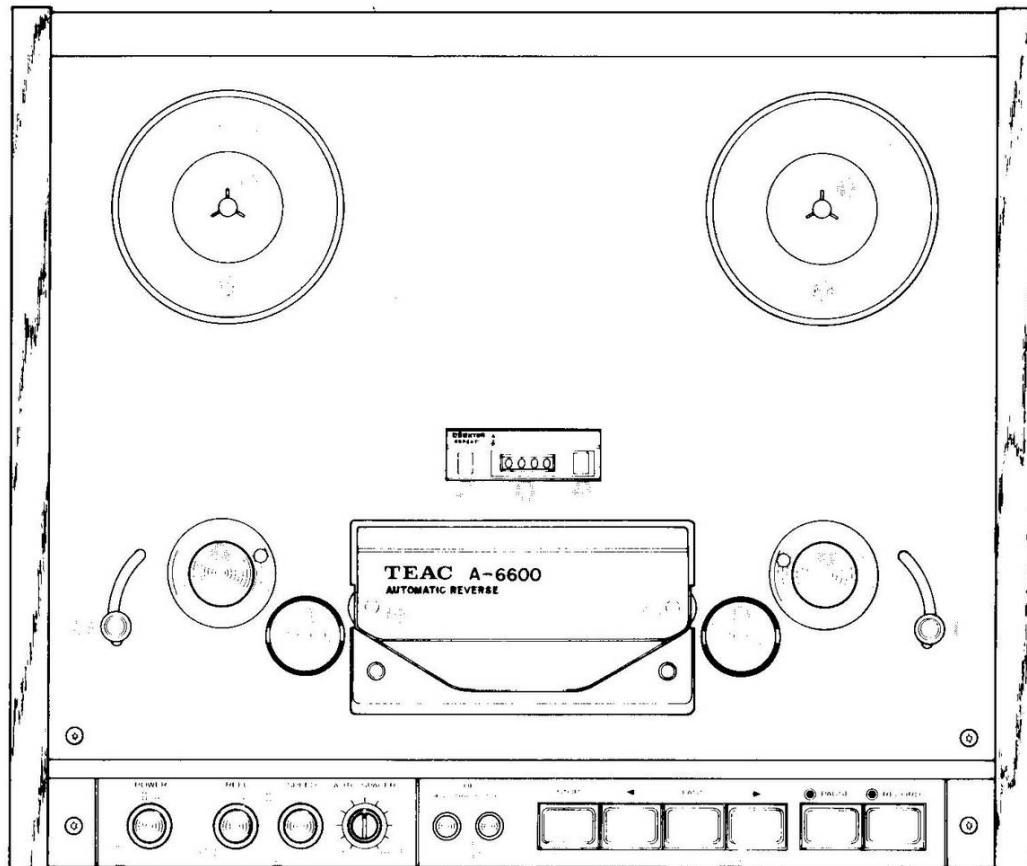
If these areas of the tape are used for recording or playback, drop outs may occur. Therefore, avoid these areas of the tape by running the tape forward several revolutions from the beginning before starting to record and terminate recording a few feet from the end of the tape.

- Prior to removing a tape for storage, it is a good idea to run the tape from the beginning to the end at normal playback speed keeping the tape end on the outside of the reel (so called "tails out" condition). This technique winds the tape more smoothly and evenly with less tension on the layers than is done when using rewind or fast forward winding speeds. Later, when the tape is removed from storage, load the full reel of tape on the right reel table and rewind the tape prior to starting forward playback.

Or on the A-6600, the tape can be played in reverse playback rather than rewinding it first.

- Protect your tapes from dirt, humidity and damage by storing them in a dry plastic bag and in the tape box. Avoid piling up the tapes as this may cause damage to the reels.
- Keep the tapes away from speakers, television sets, amplifiers or any other devices which may generate strong magnetic fields.
- Avoid storing the tapes where there are extreme high or low temperatures or large changes in humidity. If the storage area environment is quite different from the recording or playback area environment, allow the tape a period of time to adjust to the recording area temperature and humidity before using the tape.

Features and Controls-1



QUIK LOK Reel Clampers

These are an original TEAC reel fastening method. The rubber clampers which were used previously often got lost or became loose with age, but these fasteners are permanent and reliable. 7" diameter reels can be mounted directly to the reel tables. To mount the 10-1/2" diameter reels, use the 10-1/2" reel adapters (TZ-612) which are included accessories. Mount the adapters and then install the reels on the adapters. (See page 7.).

Reel Tables

10-1/2" or 7" reels can be mounted on the reel tables. However, use reels of the same outer diameter, hub diameter and material on both reel tables. Make sure the reel has completely stopped before installing or removing a reel.

COUNTER REPEAT Button

When this button is pressed to ON position, during reverse playback when the Index Counter reaches 9999, the deck will automatically go to forward play operation. When this function is used in combination with a piece of sensing foil which activates the AUTO REVERSE Playback function, roundtrip playback can be repeated over and over automatically.

Index Counter

When the tape is moving in forward direction in any mode, the Index Counter counts up. When the tape is moving in the reverse direction (AUTO REVERSE or Rewind) the Index Counter counts down. The relative position of the recorded contents on the tape is indicated by this four-digit counter.

In addition to its basic function of indicating the relative location of material recorded on the tape, it operates in conjunction with the COUNTER REPEAT button to initiate the COUNTER REPEAT playback operation.

Counter Reset Button

Used to reset the Index Counter to 0000. Press this button at the start of a recording for a reference point or at a selected location on the tape for a starting point for automatic COUNTER REPEAT playback.

Tension/Shut-off Arms

These arms work in conjunction with the guide rollers to remove the tape slack during starting and stopping of the tape, to smooth out tape acceleration and they act as a mechanical filter to help prevent drop-outs. Also these arms help to maintain the specified tape tension even though the winding diameter of the tape on the reels changes. If either the left or the right arm is held in the up (ON) position, when the POWER Button on the tape transport is pressed to ON, the capstan shafts begin turning to allow tape movement.

During tape movement, if the tape breaks or runs off one of the reels, both arms will drop down and tape movement will stop and the capstan shafts will stop rotating also.

Features and Controls-2

Guide Rollers

These work in conjunction with the Tension Arms (6) to absorb uneven tape movement to help obtain smooth tape operation.

Also the left Guide Roller works together with the pin located just to its right to provide sensing of the foil affixed to the tape for AUTO REVERSE playback sensing. During forward playback, the foil strip (which must be affixed beforehand to the base side of the tape) will be detected and the deck will automatically change to reverse playback operation.

The right guide roller contains a motion sensing device which will detect when the tape is completely stopped. This feature will allow you to enter play mode after either fast wind mode (Fast Forward or Rewind) as soon as the tape is completely stopped.

Pinch Rollers

For recording and forward playback the right side pinch roller presses the tape against the right side capstan shaft to drive the tape at the specified speed in the forward direction and for reverse playback, the left side pinch roller presses the tape against the left side capstan shaft to drive the tape at the specified speed in the reverse direction.

Capstan Shaft

If the POWER Button is pressed to ON position, tape is loaded and either the left or the right tension arm is raised slightly, the left and right side capstan shafts begin turning at the selected speed. The left side capstan shaft turns clockwise to drive the tape for reverse playback. The right side capstan shaft turns counterclockwise to drive the tape forward for recording and forward playback operation. The pinch roller on the appropriate side presses the tape against the capstan shaft to drive the tape.

POWER Button

When the POWER Button is pressed to ON () position, the lamps in the VU Meters light and if the tape is loaded and either tension arm is raised slightly, the Capstan Shafts begin turning to allow tape movement operation. Power is also applied to the

electronics circuits of the deck.

Press the POWER Button once more to release it to OFF () to remove power.

REEL Size Selector Button

The REEL Size Selector Button allows selection of the optimum reel motor torque to match the size of the reels being used.

- **SMALL:** Press the REEL Button to SMALL position () for 7" diameter reels.
- **LARGE:** Press and release the REEL Button to LARGE () position for 10-1/2" size reels.

SPEED Selector Button

- **LOW:** 3-3/4 ips (9.5 cm/sec)
- **HIGH:** 7-1/2 ips (19 cm/sec)

AUTO SPACER Switch

This switch combines the switch OFF/ON function and AUTO SPACER time adjustment knob. During recording, this switch works in conjunction with the PAUSE Button to allow insertion of "no-signal" (blank or erased) spaces at desired spots on the tape and for the selected time intervals. Pull out the knob to activate the AUTO SPACER and set the knob for the desired spacing time by turning it toward MAX position to increase the AUTO SPACER time or toward the MIN position to decrease the AUTO SPACER time. The range limits of the knob are from 3 to 10 seconds (approx.). The actual "no-signal" recording is achieved by pressing the PAUSE Button when the deck is in normal recording operation.

The AUTO SPACER function is deactivated when the AUTO SPACER Switch is pushed in.

CUE Buttons

During fast forward or rewind operation, if either one of these buttons are pressed, the tape is allowed to contact the heads to provide monitoring of the tape signal. If TRACK 1-3 CUE button is pressed, tracks number 1 and 3 can be heard (at PHONES jack and OUTPUT jacks) and if TRACK 4-2 CUE Button is pressed, tracks number 4 and 2 can be heard.

Remember, during high speed cueing that the OUTPUT signal may be large due to the high speed of the tape. Therefore, to protect your speakers and stereo system, be sure to reduce the volume level at your stereo amplifier before pressing either CUE Button.

Tape Transport Control Section

● **Forward Playback Button**

Selects forward playback operation to playback tracks 1 and 3 at the speed selected by the SPEED Button. This button is also used together with the RECORD Button to initiate record operation and is used together with the FAST Button to initiate fast forward operation.

● **Reverse Playback Button**

Selects reverse playback operation to playback tracks 2 and 4. Also is used together with the FAST button to select rewind operation.

● **Fast Forward**

Use these two buttons to select Fast Forward operation to move the tape quickly from the left side reel to the right side reel. Whenever the  button is pressed (i.e., even during recording or forward playback operation) and then the FAST button is pressed, this Fast Forward operation is selected.

● **Rewind**

Use these two buttons to select Rewind operation to move the tape quickly from the right side reel to the left side reel. If the  button is pressed (i.e., during reverse playback) and then this FAST button is pressed, this same Rewind operation will be initiated.

● **Record**

Use these two buttons to initiate Record operation when one or both RECORD MODE buttons are depressed.

● **Record Pause**

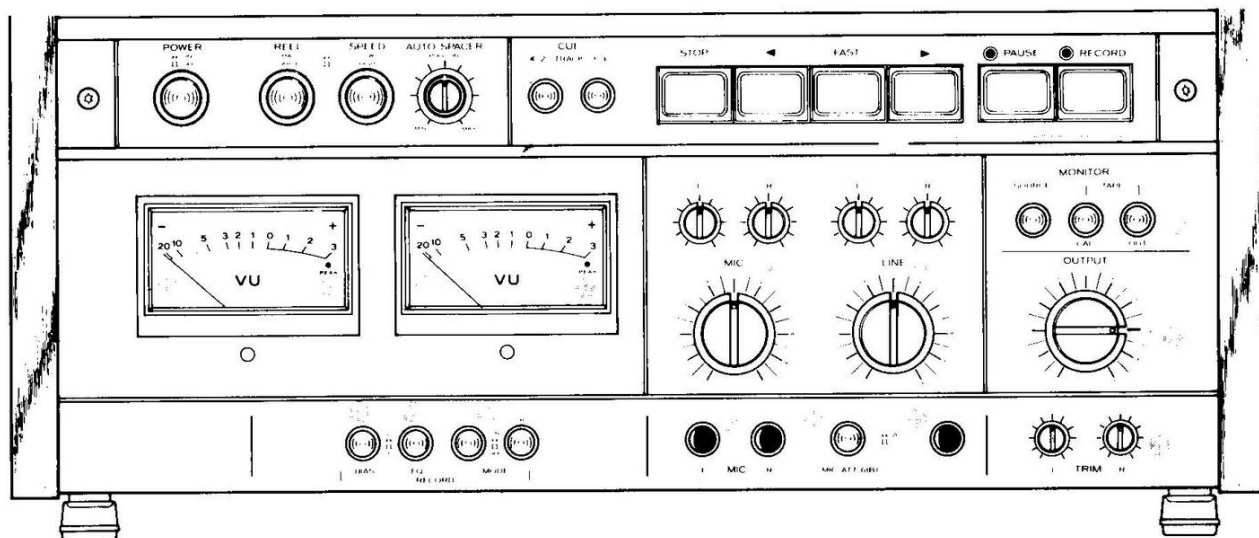
Press these two buttons together to place the amplifier section in record condition without driving tape. To begin driving tape and actual recording, press  button.

● **PAUSE**

If this button is pressed during record operation, the deck will go into Record Pause mode.

If the deck is in record operation and the

Features and Controls-3



AUTO SPACER Switch is pulled out (ON), when this PAUSE button is pressed a "no-signal" recording will be made for the interval selected by the AUTO SPACER knob and then the deck will go into Record Pause mode.

●RECORD Lamp

If one or both RECORD MODE Buttons are pressed, this lamp will flash ON and OFF to remind the user that the deck can be put into record mode.

This lamp will light steadily when the deck is in the actual record mode.

●PAUSE Lamp

This lamp lights steadily when the deck is in Record Pause mode. The lamp will flash ON and OFF during AUTO SPACER operation.

● VU Meters

These are expanded scale VU meters for a wide range of level readings.

Changing the MONITOR switch will give the following indications:

SOURCE: Meters will indicate the record input level.

TAPE-CAL: Meters will indicate the playback level that is adjusted by the METER CAL controls on the rear panel. This level is not controlled by the OUTPUT knobs. Therefore, since these levels are set at the factory for the standard output level, do not re-adjust these levels unless you have a test tape for a standard reference level.

TAPE OUT: The meters will indicate the playback output level. This level is controlled by the OUTPUT knobs.

● PEAK Level Indicators

When recording live performances which have many high transient (peak) signals, it is necessary to have an indication of these signals in order to set the proper recording level to avoid distortion and to obtain the best possible signal-to-noise ratio. The needle of the VU meter has a slow attack time and indicates an average level rather than the peaks which makes it difficult to

use only the VU meter indication for setting the optimum recording level.

The independent PEAK indicators for each channel allow you to detect these peaks which are not indicated on the VU meters so that you make a more knowledgeable decision on where to set the recording levels for the best possible recording. At 7-1/2 ips tape speed the PEAK indicators with ignite when signal level reaches approx +10 dB over 0 VU and at 3-3/4 ips speed the PEAK indicators will ignite when the signal level reaches approx +8 dB over 0 VU level.

● RECORD BIAS

The amount of bias current added to the signal current during recording greatly affects the sensitivity, amount of distortion, signal-to-noise ratio and frequency response of the tape deck and tape. This tape deck has a two level bias selection button to allow selection of the most appropriate bias level. This bias selection only affects the recorded signal and has no effect during playback.

Features and Controls-4

RECORD EQ

To get flat frequency response, wide dynamic range and a high signal-to-noise ratio, it is very important to match the EQ (equalization) to the type of recording tape being used.

The A-6600 has a two level EQ button to allow selection of the proper equalization. This EQ button setting has no effect during playback and can be set to either position. Even within the class of "low noise" tapes, there is a difference in the sensitivity, signal-to-noise ratio, output level and frequency response of the various tapes. For this reason, use the chart on page 10 as a guide to the proper setting of this button.

RECORD MODE

These buttons allow selection of the channels to be recorded. When the button is depressed to ON, the channel can be recorded. For stereo recording both buttons must be ON; for monophonic recording either button can be ON. If one or both RECORD MODE buttons is ON, the RECORD lamp will flash on and off to indicate that recording can be done.

When playing back a tape, set both RECORD MODE buttons to OFF. This will prevent recording even if the record mode is selected by mistake at the transport control section. This is the best way to protect your pre-recorded tapes from accidental erasure.

LINE Input Level Control

This control consists of three knobs: two small knobs that allow independent adjustment of the L and R channels and a large Master knob which controls both channels at the same time. Together these three knobs are used to adjust the recording level of the input signal connected to the LINE IN terminals at the rear of the deck. The two small knobs can be used to obtain the desired channel balance and the large knob can be used for a Master fade in or fade out of the overall signal.

MIC Input Level Controls

These three knobs are similar to the three LINE input level controls except that they control the record level of the microphone inputs connected to the MIC jacks on the

front panel.

MIC Input Jacks

These jacks are intended for insertion of MIC plugs from microphones with output impedance of 600 ohms to 10 k ohms. L jack is for the left microphone and the R jack is for the right microphone. Mics with output impedance of 150 to 600 ohms may also be used.

MIC ATT

When microphone inputs are ON and, for example, the MIC Master (large knob) is set at position 10, if it is necessary to reduce the MIC L and R controls below the 8 o'clock position to obtain the proper input reading on the VU meters, the input to the MIC AMPLIFIER may be excessive and cause distortion. In this case, the MIC ATT button may be pressed to the 20 (dB) position to attenuate the input to the MIC AMPLIFIER by 20 dB. Then reset the L and R controls for the desired recording level.

PHONES

This jack is used for plugging in 8 ohm stereo headphones. The volume level is controlled by the OUTPUT knobs.

MONITOR

Only one of these buttons should be pressed at one time. If two are pressed together this function will not work properly.

SOURCE: Press this button for source monitoring. The VU meters will indicate the record input level. The OUTPUT level controls will only affect the source monitor output. The VU meter reading will not be affected by the OUTPUT or TRIM knobs. Select SOURCE only during recording.

TAPE CAL: Press this button for tape monitor. The VU meters will indicate the playback level as set by the METER CAL controls on the rear panel of the deck. The OUTPUT controls will control only the playback output level and will not affect the VU meter reading. Press this button for normal playback monitoring or simultaneous playback monitoring.

TAPE OUT: If this button is pressed during tape monitoring the level on the VU meters will be controlled by the OUTPUT

controls. This position is for tape monitoring or simultaneous playback monitoring.

OUTPUT Level Controls

The OUTPUT level controls are used to adjust the level at the OUTPUT jacks and PHONES jack. Their operation is determined by the MONITOR buttons as explained below.

SOURCE: The OUTPUT controls are used to adjust the output level of the RECORD AMPLIFIER which is being listened to during monitoring of the input signal as it passes through the RECORD AMPLIFIER (SOURCE MONITOR). The VU meter reading is not affected.

TAPE CAL: The OUTPUT controls are used to adjust the output level of the PLAYBACK AMPLIFIER for tape monitoring (listening to the sound recorded on the tape as it is played back and passes through the PLAYBACK AMPLIFIER). The VU meter indication is adjusted by the METER CAL controls on the rear panel. The playback output can be adjusted without changing the VU meter indication.

TAPE OUT: The OUTPUT controls will adjust the tape monitor output and the VU meter indication. The OUTPUT knob has two pots on its shaft and will adjust both channels at the same time. The TRIM knobs located just below the OUTPUT knob can be used to fine adjust either channel independently to compensate for slight variations in output levels. The deck is factory adjusted so that when the OUTPUT knob is set to 0 VU position and the TRIM knobs are set to the 12 o'clock positions (note the slight detent at this position), when the VU meters indicate 0 VU the output level will be 0.45 V (-5 dB)* which is the specified output level of this deck.

* 0 dB = 0.775 V

TRIM (OUTPUT Level Controls)

The TRIM knobs are used as a fine adjustment of the L and R channel output to compensate for differences in channels. Normally, these two knobs are set to their 12 o'clock positions (which has a slight detent) and the OUTPUT knob is set to the 0 VU position. In this condition, the TRIM knob can be used to adjust the OUTPUT level by ± 3 dB. (approx.)

Tape Threading

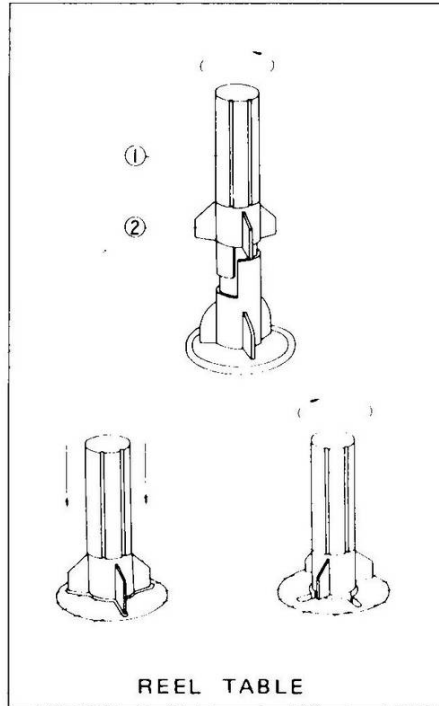
Reel Installation

"QUIK-LOK" Reel Holders

Always secure these reel holders before operating the deck to assure adequate, solid support for the tape reels. Install the (supplied) adapters to the reel table (see below) before mounting 10-1/2" reels on the reel tables. Follow the procedures below for mounting 7" reels or the adapters onto the deck. Numbers given refer to the illustration.

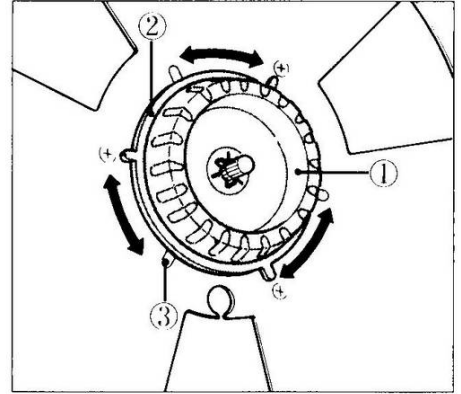
Procedure:

- Rotate sections 2 and 1 of the reel shaft fully counterclockwise (CCW).
- Place the reel onto the reel shaft while slowly rotating the reel CCW to keep both tab sets in line.
- When the reel is firmly seated on the reel table, turn sections 1 and 2 fully clockwise to secure the reel firmly in place. The tabs on section 2 of the shaft should be centered between the slots on the reel.



10-1/2" Reel Adapters

When using large diameter tape reels use the supplied reel adapters (TZ-612):

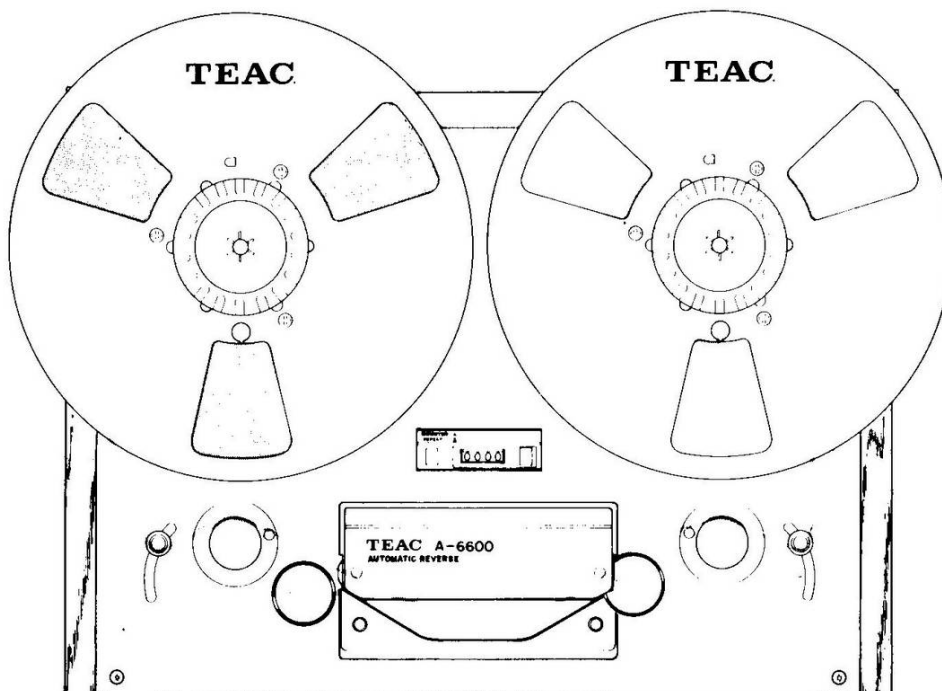


- Secure the reel adapters to the reel tables using the same procedures as above.
 - Turn the locking knob of the adapter fully CCW.
 - Align the 3 notches in the 10" reel hub with the 3 pairs of detents on the adapter and push the reel all the way onto the adapter.
 - Turn the locking knob of the adapter tightly clockwise about 90 degrees until the reel is firmly secured to the adapter.
- When removing the reel from the adapter, turn the locking knob CCW and use both hands to carefully pull the reel off the adapter.

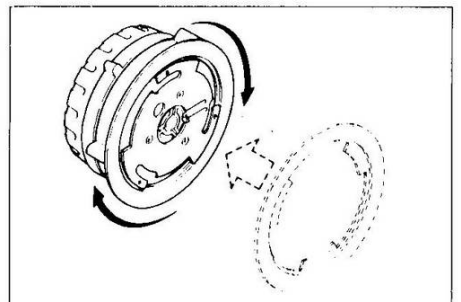
Tape Threading

Load the full reel of tape on the left reel table and the empty reel on the right reel table as explained above. Unwind about 30" of tape from the left reel and thread the tape as illustrated. Wind the tape counter clockwise several turns around the right reel. While doing this, turn both reels, L and R,

by hand to avoid putting too much tension on the tape which may stretch the tape. Finally, turn the right hand reel gently to raise the tension/shut-off arms slightly. If the tape is too loose to raise the tension/shut-off arms, the transport section will not operate.



- This adapter includes a special spacer (shown in diagram) which must be used when adapter is used with NAB Standard 10-1/2" Metal reels. To use the adapter with Standard Plastic reels, this spacer must be removed. Removal of the spacer is quite easy: (1) turn the adapter while holding the spacer until the ears of the spacer match the cut-outs at the back surface of the adapter (2) lift spacer off of the adapter (3) keep the spacer for future use with metal reels.



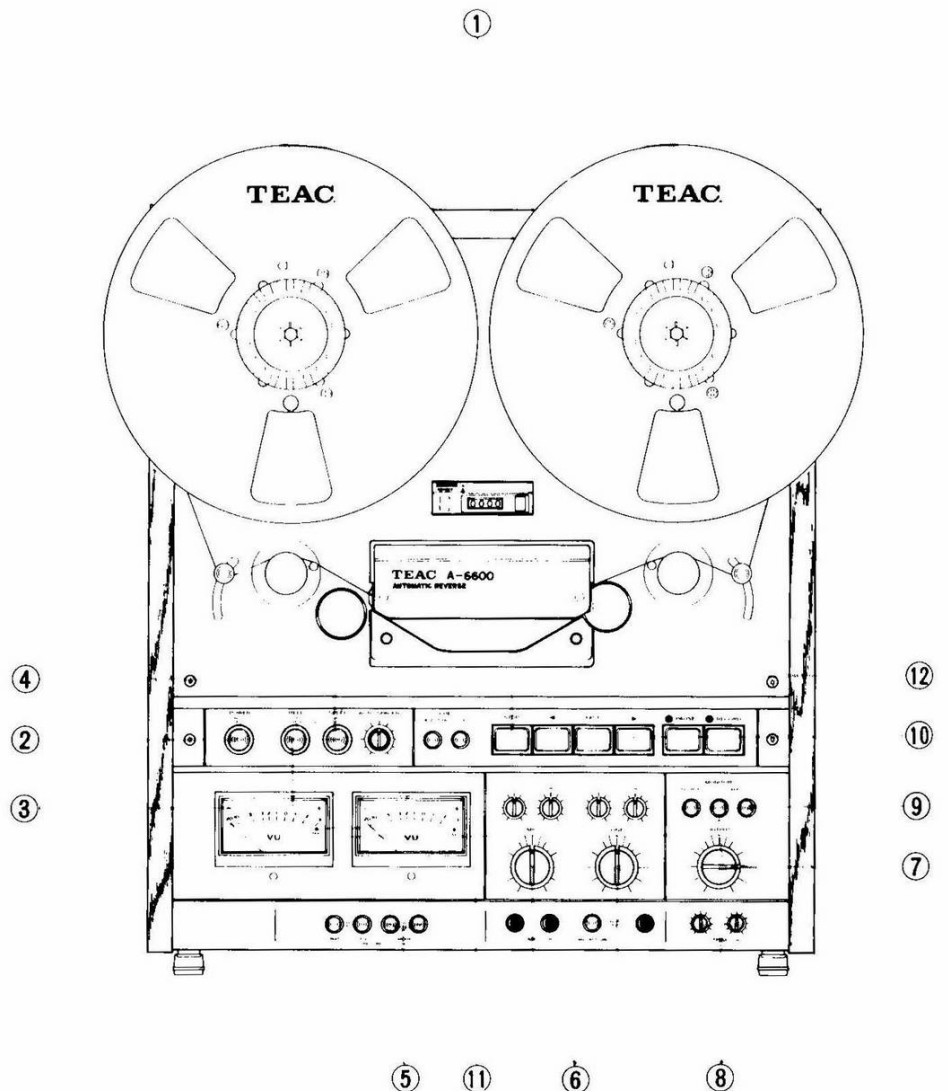
Playback

Stereo Playback Procedure

- ① Load the prerecorded tape for playback.
- ② Depress the POWER button to ON.
- ③ Set the REEL button to match the size reels being used. SMALL for 7" diameter reels, LARGE for 10-1/2" diameter reels.
- ④ Set the SPEED button to match the speed at which the tape was recorded.
- ⑤ Set both RECORD MODE button, L and R, to OFF.
- ⑥ Set all MIC and LINE knobs fully counter clockwise.
- ⑦ Set the OUTPUT knob fully counter clockwise for an initial setting.
- ⑧ Set the TRIM knobs to the 12 o'clock position (detent).
- ⑨ Set MONITOR buttons to TAPE OUT. Preliminary settings are now completed. Set the stereo amplifier for tape monitor operation. Plug in the stereo headphones to the PHONES jack to listen to the output.
- ⑩ Press ► button to begin forward playback.
- ⑪ Turn the OUTPUT knob clockwise until the VU meters indicate 0 VU for the loudest output sounds.

Set the controls on the stereo amplifier for the desired loudness and sound quality.

- ⑫ When playback is finished, press the STOP button.



Reverse Playback

The forward tape playback explained above will play tracks 1 and 3 and the tape will move from the left reel to the right reel. When all or most of the tape is on the right reel, press the ◀ (reverse play) button to listen to tracks 4 and 2. There is no need to interchange the reels to play tracks 4 and 2. By using a foil strip affixed to the tape, reverse playback can be initiated automatically. See AUTO REVERSE Playback on page 11.

4 Track Monophonic Playback

Track 1, 4, 3 and 2 can be played back, in that order, by using the operation procedure given in the chart below. The operation is similar to the stereo playback procedure

but, since the output level control cannot be used independently for each channel, the selection of the output channel will have to be done at the stereo amplifier controls.

Playback order	Track being played	VU meter to be read	Operation button to be used
1st pass	1	left	►
2nd pass	4	left	◀
3rd pass	3	right	►
4th pass	2	right	◀

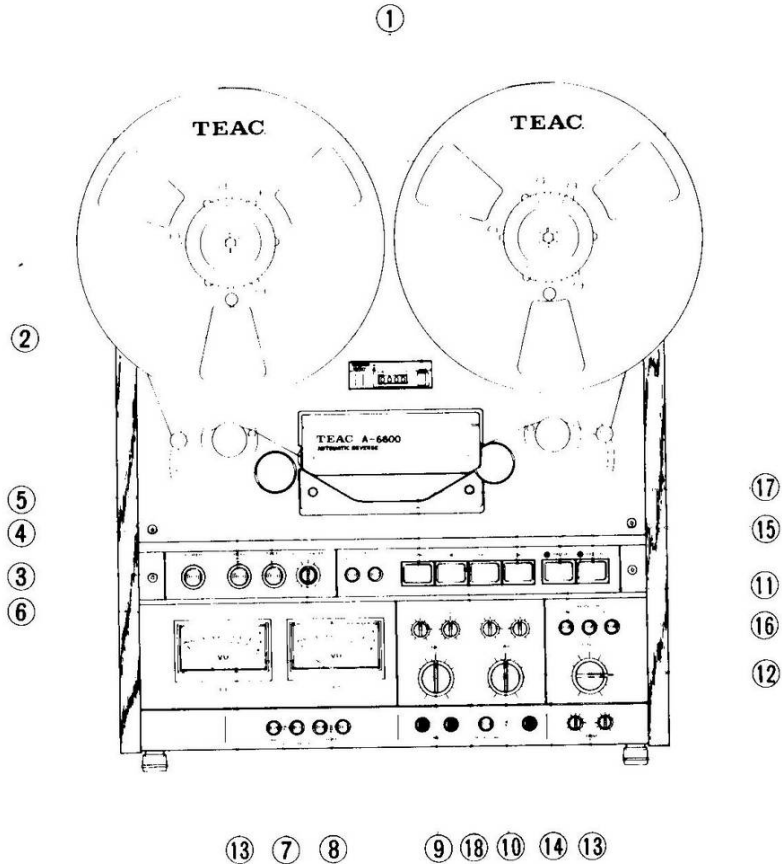
Recording - 1

Stereo Recording

- ① Load the tape to be recorded.
- ② Depress the Index Counter reset button to reset the Index Counter to 0000.
- ③ Depress POWER button to apply power.
- ④ Set REEL button to match the size of reels being used.
- ⑤ Set SPEED button to desired recording speed. LOW for 9.5 cm/sec (3-3/4 ips), HIGH for 19 cm/sec (7-1/2 ips).
- ⑥ Depress AUTO SPACER switch knob.
- ⑦ Set RECORD BIAS and RECORD EQ buttons to match the type of tape being used. See chart on page 10.
- ⑧ Depress both RECORD MODE buttons to ON position.
- ⑨ Set MIC knobs (L and R and Master) fully counter clockwise.
- ⑩ Set LINE L and R knobs both to approximate 2 o'clock (↗) position and set LINE Master (large) knob fully counter clockwise.
- ⑪ Depress SOURCE MONITOR button.
- ⑫ Set OUTPUT knob to 0 VU (3 o'clock) position.
- ⑬ Set both TRIM knobs to 12 o'clock (detent) position.

The preliminary tape deck preparations are now completed. Next begin the recording source, such as tune in the desired station on the tuner or start the record player, etc. Set the controls on the stereo amplifier to match the source.

- ⑭ Turn the LINE Master knob clockwise to get a level reading on the VU meters. Set the control for 0 VU reading for the loudest portions of the musical selection. Adjust the LINE (L), (R) controls for the desired balance between channels.



- ⑮ If desired, restart the source from the beginning and then depress the RECORD button and ► button together. The RECORD lamp will light and recording on the tape will begin.
- ⑯ During recording, if the MONITOR TAPE CAL or TAPE OUT button is depressed, the output from the playback head can be monitored while the recording is in progress. This allows you to check the quality of the recording as it is being done.
- ⑰ When the recording is finished, depress the STOP Button. If the PAUSE button is depressed instead of the STOP

button, the PAUSE lamp will light and the RECORD lamp will remain lit and the deck will be in the RECORD PAUSE mode. To restart recording from this state, depress the ► button.

⑱ If you want to listen to the recorded material again, depress the ◀ button and then the FAST button to rewind the tape. When the Index Counter reads 0000, depress the STOP button. Then proceed to step 10 of the stereo playback procedure. But, first set the OUTPUT knob to the fully counter clockwise position.

4 Track Monophonic Recording

Monophonic recording of tracks 1, 4, 3 and 2, in that order, can also be done using the steps given in the chart below in conjunction with the basic stereo recording procedure.

Recording order	Track recorded	Reel surface to be placed outside	RECORD MODE button setting		LINE or MIC knobs	VU meter
			L	R		
1st	1	1 (A)	ON	OFF	L and Master	L
2nd	4	2 (B)	ON	OFF	L and Master	L
3rd	3	1 (A)	OFF	ON	R and Master	R
4th	2	2 (B)	OFF	ON	R and Master	R

Recording-2

MIC Recording

- Connect the microphones as illustrated on page 13.
For stereo recording two microphones must be connected, one to the L jack and one to the R jack. For monophonic recording only one microphone is necessary. It should be plugged into the L or R jack depending on which channel is being recorded according to the chart on page 10.
- To monitor the recording connect a pair of headphones to the PHONES jack as illustrated on page 13. When recording with the deck connected to a stereo amplifier, to prevent howling (noise caused by feedback between the speakers and the microphones), reduce the volume control on the stereo amplifier or turn OFF power to it!
- To monitor the sound while recording, be sure to set the MONITOR buttons for SOURCE.

Mixing Recording

This deck can be used for mixing of the MIC and LINE inputs during recording. This allows you to add your beautiful singing voice to an instrumental background song or record, or to enjoy producing your own personalized DJ tapes.

Use the MIC and LINE knobs to control the balance between the input and to set the desired recording level.

- Use a headphone for record (SOURCE) monitoring.
- Set the MONITOR buttons to SOURCE.

Over Dubbing (Punch in Recording)

During playback, if one or both RECORD MODE buttons are depressed ON, you can go directly from playback mode to record mode by holding in the RECORD button and pressing the ► button at the same time. The deck will begin recording from that location while the tape continues to move along. This operation is called "punch in" recording. It allows you to record over or correct a recorded section of the tape without stopping the tape first and then selecting record mode.

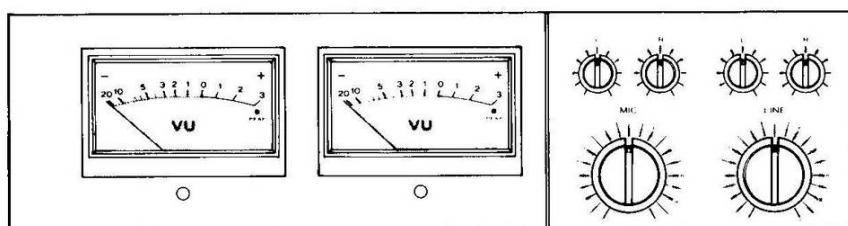
Record Level Setting

The record input level must be properly set for the optimum recording level in order to draw out the full capability and efficiency of the tape and tape deck. It is an important point to consider for keeping tape noise and distortion to a minimum. It is said that the success or failure of a tape recording begins and ends with setting of the recording level. If the recording level is set too low, during playback the tape will sound very noisy and of course the signal-to-noise ratio will suffer. If the level is set too high, the recorded signal on the tape will be distorted and playback will also sound bad.

To set the record level, select SOURCE MONITOR and watch the VU meters and the PEAK indicators while you adjust the LINE or MIC knobs. The general standard is to raise the input level as close to 0 VU as

possible for the loudest portions of the song without letting the PEAK indicators light. However, when recording live music which may have a lot of sudden peak signals, the VU meters may barely move when the PEAK indicators light up. When recording FM broadcasts which are using peak limiters at the station, the VU meters may indicate a very high level and the PEAK indicator may not light at all. Therefore, the best suggestion is to try recording various sources at different levels to gain experience in judging the optimum recording level for these sources.

The PEAK indicators light when the signal reaches +10 VU when the deck is running at HIGH speed (19 cm/sec, 7-1/2 ips) and light at +8 VU when the deck is running at LOW speed (9.5 cm/sec, 3-3/4 ips).



Erasing

Since a tape which is being recorded is also erased by the erase head prior to having the new information recorded by the record head, it is not necessary to use special erasing techniques prior to re-recording a tape. To erase a tape without recording new information, turn all the MIC and LINE knobs (L, R and Master) fully counter clockwise, set both RECORD MODE buttons to ON and then place the deck in record mode (press RECORD and ► buttons together). Tracks 1 and 3 will be erased as the tape moves along in the forward direction. After the tape reaches the end, interchange and turn over the reels placing the full reel of tape on the left reel table and then repeat this record process. This time tracks 4 and 2 will be erased.

To completely erase a tape in a very short time, a "bulk eraser" such as the TEAC E-2 may be used also. The E-2 is sold as an optional accessory and contains operation instructions for its use.

BIAS, EQ Switch Setting Chart

1 mil Tapes for 2, 4 Track Models		Switch Positions	
		BIAS	EQ
FUJI MAXELL	FG-150 UD-35 UD-XL-35	1	1
SONY TDK	SLH, Duad AUDUA		
AGFA SCOTCH	PE-36 207		
BASF	LP-35LH LPR-35LH	2	1
FUJI MAXELL	FB-151 LN 35 New		
MEMOREX SCOTCH	1800 212, 218		

Special Features-1

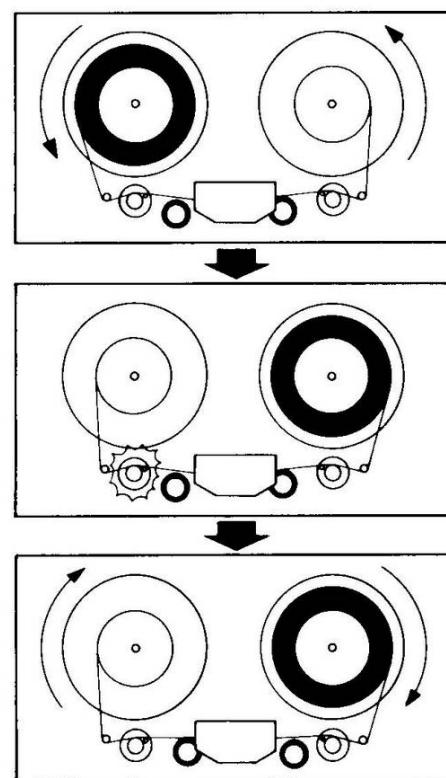
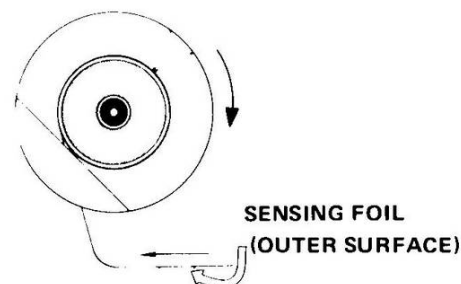
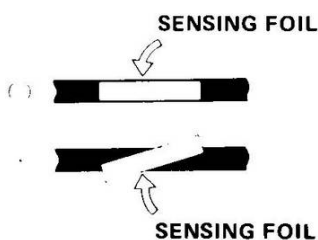
AUTO REVERSE Playback

During forward playback operation, reverse playback can be automatically initiated. This can be done by affixing (beforehand) a strip of adhesive aluminum foil to the outer surface of the tape (the tape surface which does not contact the heads). When this conductive aluminum strip touches both the left guide roller and the guide pin, the AUTO REVERSE operation is automatically started.

To affix this foil strip (a roll of which is an included accessory with this deck), first play the tape in the forward direction until the tape runs past the last recorded section by a few seconds and then stop the tape by depressing the STOP button. Affix a 1" long strip of aluminum foil (also called sensing foil or sensing tape) to the outer surface of the tape. Center the foil strip on the tape parallel to the edges of the tape so that the foil strip does not extend past the edges of the tape. See illustration.

Check the AUTO REVERSE operation by again selecting forward playback mode (press ► button). When the foil strip shorts across the left tape guide roller and the guide pin the forward (right) pinch roller will retract, tape movement will stop and then the reverse (left) pinch roller will energize to press the tape against the left capstan shaft and the tape will begin moving in the reverse direction for AUTO REVERSE playback.

- When recording on the side of the tape that will be used for reverse playback, (remember recording can be done in the forward direction only) begin recording about 2 seconds after the foil has passed to the right (forward) of the head assembly.
- Affix the foil strip at least 1 meter or more from the end of the tape during forward movement. If the foil is placed too near the end of tape the tape may pull off the left reel causing the power to drop off before reverse sensing foil contacts the left guide roller and pin to initiate reverse playback.
- Remove sensing foil strips when AUTO REVERSE playback operation is not desired.
- If the sensing foil contacts the left guide roller and pin even during recording, AUTO REVERSE playback will be started.



Timer Recording and Playback

If the optional RC-350 TIMER CONTROL ADAPTER and a commercially available clock timer are connected to this deck, recording or playback can be started automatically at a pre-determined time. This feature will allow you to record an FM broadcast while you're away from home or even while you are sleeping. Or you can use this feature to begin playback of a recorded tape at a pre-set time to wake you to music in place of your noisy alarm clock.

Read the instructions supplied with your TIMER CONTROL ADAPTER for informa-

tion about connections to your tuner, stereo amplifier, etc., and for operating instructions. Set the tape deck for record or playback operation as desired, including record level setting and OUTPUT control setting, etc. Then set the clock timer for the desired starting time and finally, set the TIMER CONTROL ADAPTER for record or playback operation.

When the pre-set time arrives, the clock timer will switch on power and record or playback operation will begin.

Remote Control

If an optional RC-80 REMOTE CONTROL Unit is connected to this deck as shown on page 13, all of the transport section control functions can be selected from up to about 5 meters away from the deck.

Even when the REMOTE CONTROL Unit is connected to the deck, the transport controls on the deck can still be used.

Special Features-2

AUTO SPACER

During recording of music from an FM broadcast, if you wanted to eliminate commercials or chatter from the announcer to record uninterrupted music, in the past you had to use a procedure similar to the following:

1. After a song is finished, quickly turn down the record level control.
2. Continue recording for a few seconds with no input signal, effectively erasing.
3. Select PAUSE mode to stop recording.
4. Reset the record level control to the prior setting to prepare for the next song.

This or similar techniques were rather inconvenient and often the no-signal spaces were irregular and the level between songs varied. The announcer's voice may have slipped in and the first notes of a song may have been missed. Very frustrating to say the least.

The AUTO SPACER function on the A-6600 allows you to accomplish this same objective more efficiently and smoothly

using only one finger at the deck control panel or using the PAUSE button on the RC-80 REMOTE CONTROL Unit.

By pulling out and setting the AUTO SPACER knob "no-signal" spaces of approximately 3 to 10 seconds continuously can be selected for insertion between songs.

1. Pull out the AUTO SPACER knob and set it for the desired spacing interval. Set the deck to RECORD PAUSE mode. If you want to use a remote control unit, connect the RC-80 REMOTE CONTROL Unit to the connector on the rear panel of the deck.
2. Just before the song to be recorded starts, press the ► button to begin recording.
3. At the instant that the song is finished, press the PAUSE button. The tape will continue to move at the selected speed but "no-signal" recording (erasing) is now in progress. The PAUSE lamp will

begin to flash on and off to indicate that AUTO SPACER operation is in progress.

4. After the set AUTO SPACER time expires (the end of the "no-signal" recording interval) the pinch roller will be released, the PAUSE lamp will light continuously and the deck will go to the RECORD PAUSE mode. This indicates the end of the AUTO SPACER operation.
5. To restart recording just press the ► button.

By repeating steps 2 to 5, no-signal spaces can be inserted between all of the songs.

If you begin AUTO SPACER operation by accident and want to stop it before the set time interval expires, depress the AUTO SPACER knob and the deck will immediately go to RECORD PAUSE mode.

COUNTER REPEAT Playback

If the COUNTER REPEAT operation is used in conjunction with the AUTO REVERSE operation explained above, a designated portion of the tape can be repeatedly played back and forth (forward and reverse playback).

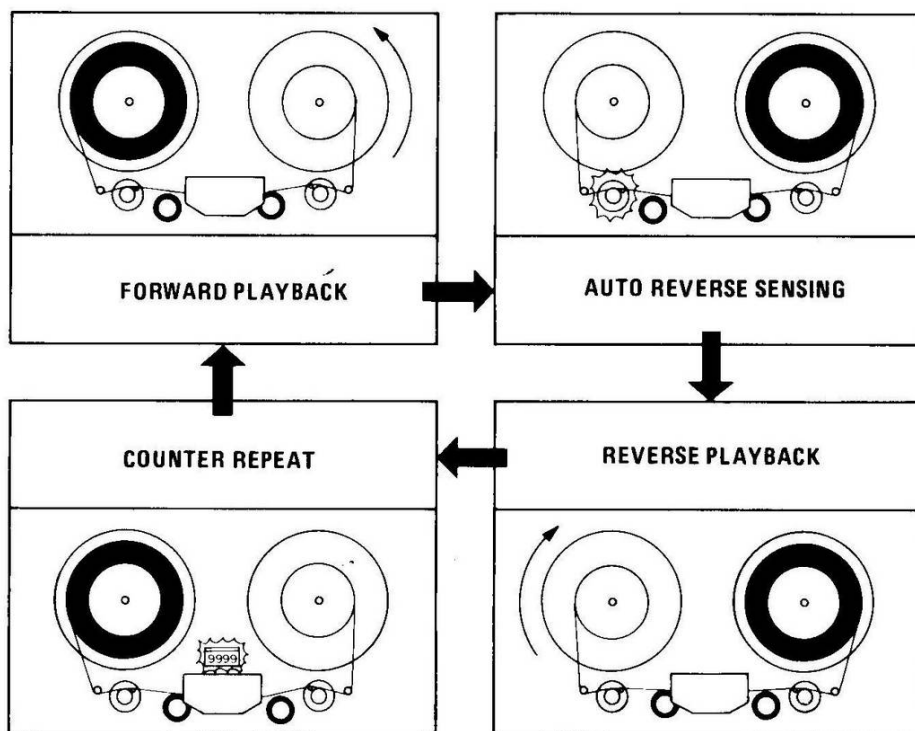
This operation is controlled by the location of the sensing foil for AUTO REVERSE playback and the index counter together with the COUNTER REPEAT button which "remembers" where to automatically begin forward playback.

1. About two seconds after the end of the song you want to repeat, stop the tape movement and affix a strip of sensing foil as explained above.
2. Rewind the tape back to the beginning of the song you want to repeat and stop the tape.
3. Depress the COUNTER REPEAT button and reset the index counter to 0000.

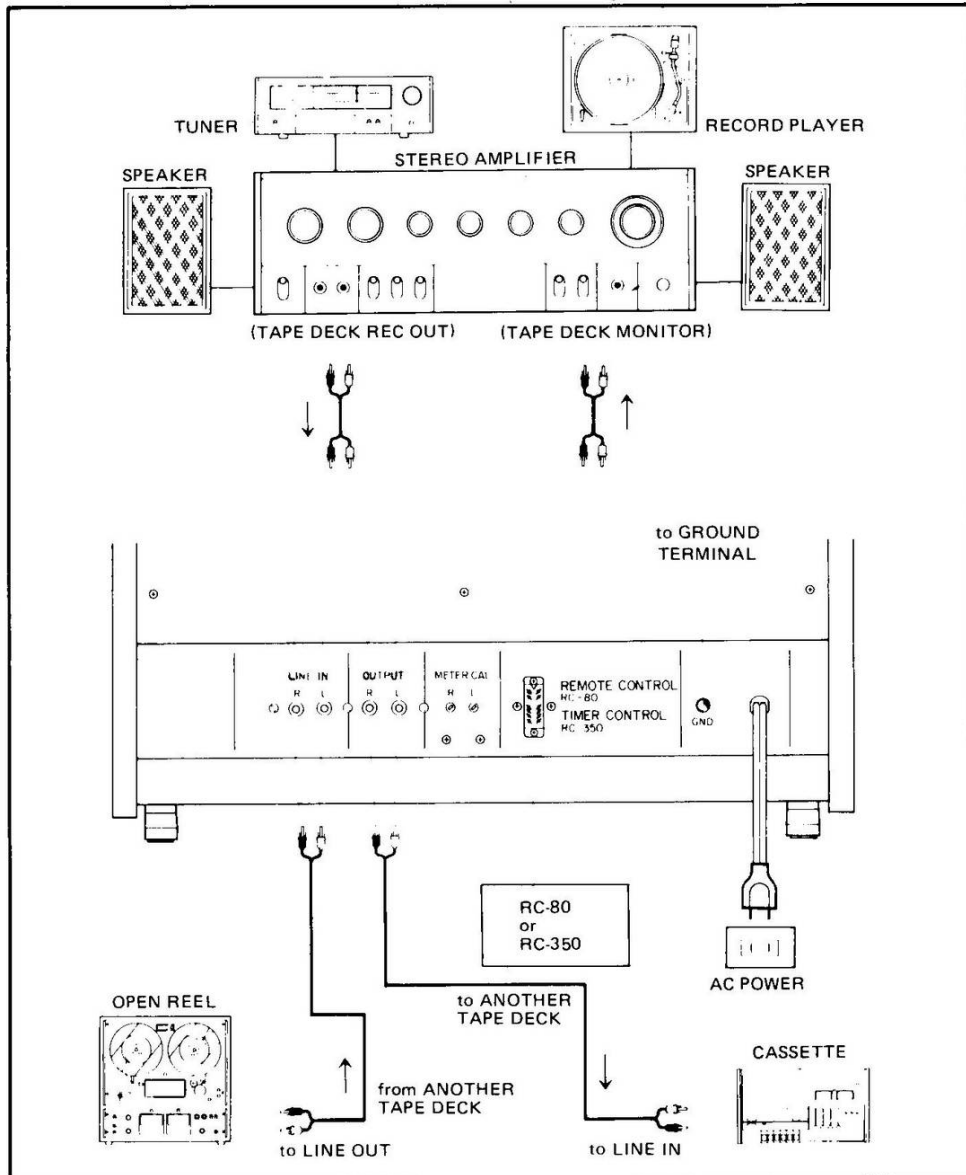
Press the ► button to begin forward playback. When the tape moves forward to the place where the foil strip contacts the AUTO REVERSE sensing mechanism reverse playback will begin.

When the tape moves in the reverse direction to the spot where the index counter reaches 9999, the deck will automatically change over to forward playback operation.

This back and forth operation will continue until power is shut off to the deck or until another operation is selected. See the illustration.



System Connections

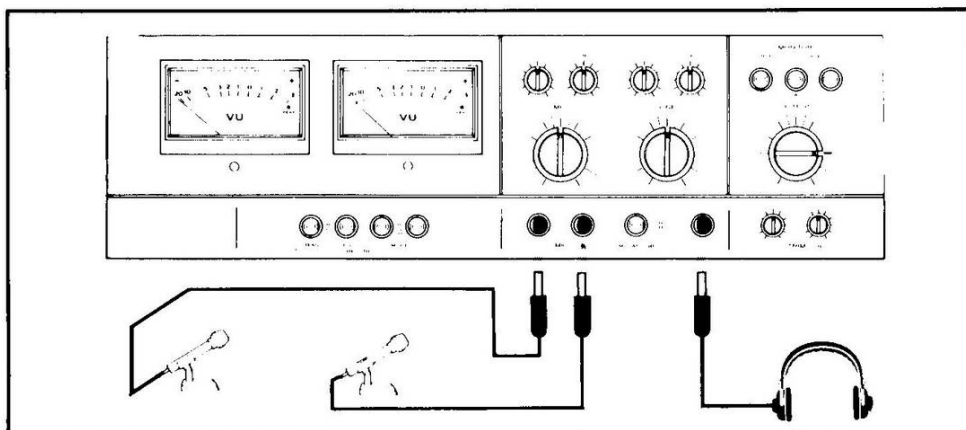


Microphones, Headphones Connections

- Microphones with impedance of 600 to 10 k ohms are recommended for connection to the MIC input jacks. Microphones with impedance of 150 to 600

ohms may also be used.

- Stereo headphones with 8 ohms input impedance can be connected to the PHONES jack on the front panel.



Stereo Amplifier Connections

- Please carefully read over the instruction manual for the stereo amplifier to be connected, and also turn off power to stereo amplifier before making connections to it.
- Use the color code on the deck jacks and on the pin plug cords (Input/Output connection cords) – White for L channel and Red for R channel – to help you to make the right connections.
- Even though the tuner output can be connected directly to the LINE IN jacks of the deck, the pickup output of an MM or MC type cartridge of a record player cannot be directly connected. This type output must be connected to the deck through a stereo amplifier.

Power Connections

- Be sure that the power source voltage and frequency matches the power requirements printed on the label affixed to the rear panel of the deck.
- Many stereo amplifiers have power outlets for connections to other equipment that are controlled by the stereo amplifier power switch. Use of this provision may simplify power connections for you.

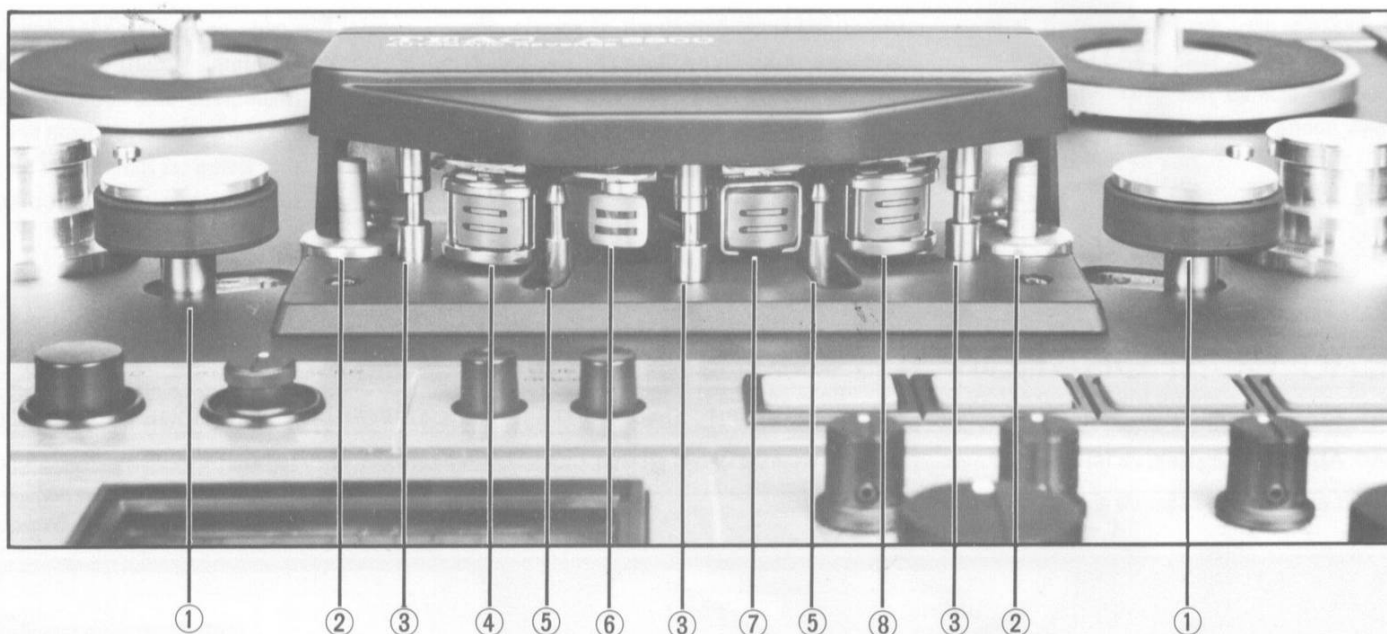
Connections to Another Deck

- Other tape decks may be connected directly to this deck for dubbing (copying) of tapes. See illustration.
- Some stereo amplifiers have terminals for connecting two or more tape decks and special switching functions for tape dubbing. Carefully read the Instruction Manual for your stereo amplifier to learn of the correct operation of these facilities.

Connections of REMOTE CONTROL and TIMER ADAPTER

- A Remote Control (RC-80) or a Timer Control Adapter (RC-350), (both are optional accessories) can be connected to the REMOTE CONTROL RC-80/TIMER CONTROL RC-350 connector on the rear panel of the deck.

Maintenance-Simple Care



① PINCH ROLLER
⑤ TAPE LIFTER

② CAPSTAN SHAFT
⑥ ERASE HEAD

③ TAPE GUIDE
⑦ RECORD HEAD

④ PLAYBACK HEAD (REVERSE)
⑧ PLAYBACK HEAD (FORWARD)

Cleaning

Heads

When the tape deck is used for a long time magnetic oxide from the tape, dirt and dust tend to accumulate on the heads and along the tape movement path. If this happens, the sound quality will begin to worsen, high frequency response will suffer, there will be a loss of output level and drop-outs will occur. Eventually the heads may begin to wear unevenly and much quicker than normal. At an extreme condition, the heads may not be able to erase, record or playback at all.

To avoid this unnecessary problem the heads and tape path must be cleaned regularly, at least after about every 8 hours of record or playback operations and before every important recording session. Especially clean the heads and pinch roller and capstan shafts. TEAC produces a special kit called TZ-261 which contains rubber and head cleaning fluids. If this kit is not available, pure alcohol may be used or similar type recorder cleaning fluids which are made and recommended by reputable manufacturers may be used.

On the A-6600 which employs an AUTO REVERSE sensing mechanism in the left guide pin and guide roller, these parts should also be kept especially clean.

Pinch Rollers and Capstan Shafts

The pinch rollers and capstan shafts have been called the heart of the transport and well they might be. If they become dirty, wow and flutter will increase and tape movement may become more erratic. These parts should be cleaned whenever you clean the heads. Use the TZ-261B fluid for cleaning the pinch rollers.

Maintenance Accessories Tape Recorder Cleaner (sold separately) TZ-261

The sound quality is strongly influenced by the cleaning of the heads, capstan and other metal parts. Head cleaner fluid A and pinch roller and rubber cleaning fluid B are combined with cleaning sticks in this kit.

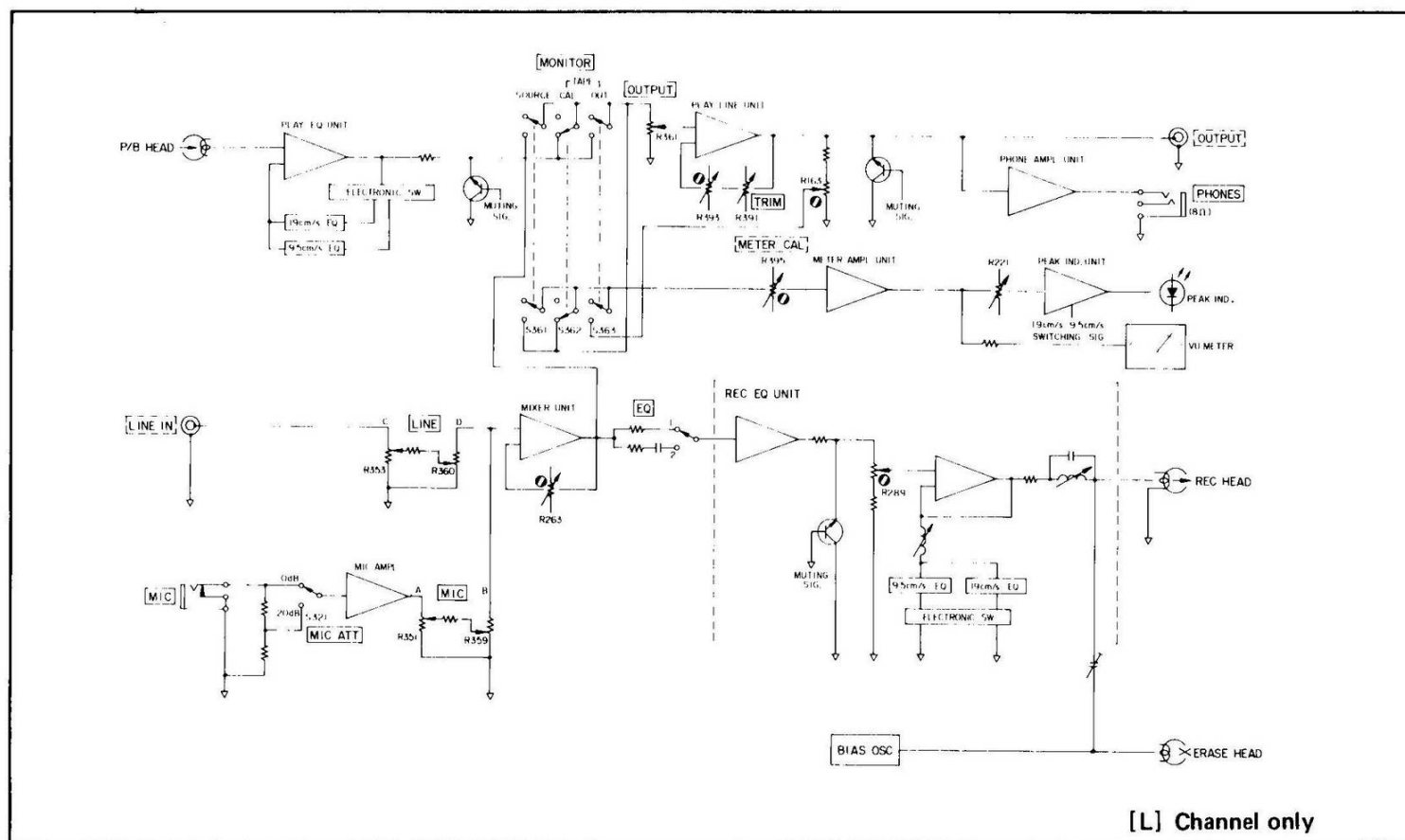


Demagnetizing (Degaussing)

If the heads are touched with magnetized tools, such as scissors or screwdrivers or if the tape deck is used in play or record mode for long periods of time, the heads and other parts in the tape path may become magnetized. This residual magnetism will introduce noise onto your pre-recorded tapes, cause a decrease in high frequency response and may begin to cause erasure of tapes even during playback operation. To avoid such problems, periodically (about once every two weeks) degauss the heads (especially) and the other parts in the tape path which normally contact the tape (tape guides, capstan shafts, tape lifters, etc.) The TEAC E-3 Head Eraser or similar eraser can be used to remove this harmful residual magnetism.

1. Switch off power to the tape deck.
2. Turn on power to the head eraser and move the tip of it very close to the head or part to be degaussed. Move the tip back and forth slowly across the head or part about 4 or 5 times.
3. After slowly moving to each part and degaussing them as explained in step 2, slowly move the eraser at least 30 centimeters or more away from the deck and then turn off power to the eraser.

Block Diagram



Specifications

Track System	4-Track, 2-Channel Stereo/Mono	Inputs	2 Mic; 0.25 mV (−72 dB)/impedance: 600 ohms or more
3 Motors	1 DC Servo Controlled Capstan Motor, 2 Eddy Current Induction Reel Motors	Outputs	2 Line; 60 mV/impedance: 50 k ohms 2 Line; 0.45V/load impedance: 10 k ohms or more
4 Heads	Erase, Record, Forward Play and Reverse Play.	Power Requirement	1 Stereo Headphone Jack; 8 ohms 117V AC, 50/60 Hz, 154W (U.S.A., Canada Model) 100/117/220/240V AC, 50/60 Hz, 144W (GENERAL EXPORT Model)
Tape Speed	7-1/2 and 3-3/4 ips (±0.5%)	Dimensions (WHD)	476 x 549 x 258 mm [18-3/4" x 21-1/2" x 10-1/8"]
Reel Size	10-1/2" and 7"	Weight	30.5 kg (67.1 lbs) net
Wow and Flutter (NAB Weighted)	0.05% at 7-1/2 ips 0.08% at 3-3/4 ips	Supplied Accessories	Input-output connection cords NAB reel hub adapters RE-1002 empty reel Splicing tape Sensing tape
Frequency Response (overall)	30 – 28,000 Hz (±3 dB: 40 – 22,000 Hz) at 7-1/2 ips 30 – 20,000 Hz (±3 dB: 40 – 18,000 Hz) at 3-3/4 ips	* Specifications were determined using low-noise/high-output tape.	
Signal-to-Noise Ratio (overall)	58 dB (3% THD level, weighted)	* Improvements may result in features or specifications change without notice.	
Harmonic Distortion (overall)	Less than 0.8% at normal operating level		
Stereo Channel Separation	50 dB at 1 kHz		
Fast forward/Rewind Time	160 seconds for 1,800 feet		

Basic Trouble Shooting Chart

Basic trouble-shooting of an open reel tape deck is similar to trouble-shooting any other electrical or electronic equipment. Always check the most obvious possible causes first, including such things as: power cord, switch and control settings and positions, proper

connections to the desired input and output signals, etc. Consult your owner's manual for the proper operating instructions for other components in your system. Many of the common problems are listed in the chart below. If a problem still exists

after these points have been checked, contact your TEAC Dealer or local TEAC Service Facility. They may be able to help you solve your problem without undue delay or inconvenience to you.

Symptom	Cause	Solution
TRANSPORT		
VU meter lamps do not light when power is switched ON	Power cord not connected or not making good contact	Connect the power cord properly
VU meter lamps light but tape does not move when transport control buttons are pressed	Shut off arms not being held up by the tape Tape threaded incorrectly	Tighten tape slightly to raise shut off arms Confirm that tape is threaded according to the illustration on page 7.
PLAYBACK		
No output sound	MONITOR buttons set to SOURCE	Set MONITOR buttons to TAPE CAL or TAPE OUT position
	Bad or incorrect connection	Reconfirm all connections according to the illustration on page 13.
	OUTPUT level controls set too low	Increase OUTPUT Control setting
	Controls on system amplifier not set correctly	Recheck setting of all the controls on your system amplifier
Poor sound quality	Heads dirty	Clean heads with TZ-261A head cleaning fluid
	Recording on the tape is bad	Try a different tape
	Heads are magnetized	Degauss the heads with a head eraser
AUTO REVERSE function does not work	Sensing foil not properly affixed or positioned	Reapply sensing foil strip according to illustration on page 11.
	Sensing pin or guide roller dirty	Clean sensing pin and left guide roller
Sound is unsteady	Pinch rollers dirty	Clean pinch rollers with TZ-261B cleaning fluid
	Parts in tape path dirty	Clean parts in tape path
	Tape being used is old or of poor quality	Try using good, fresh tape
	Reel flanges rubbing on the tape	Straighten reels or replace bent or warped reels
RECORDING		
No recording (MONITOR buttons at SOURCE)	Input connection cords loose or not connected (properly)	Recheck and correct input connections
	Record input level too low	Increase the MIC or LINE input level controls
No recording (MONITOR buttons at TAPE CAL or TAPE OUT)	Heads are dirty	Clean the heads with TZ-261A fluid
Sound too weak or of poor quality	Heads are dirty	Clean the heads
	Tape is no good	Try using good, fresh tape
	Record input level is too low	Increase the MIC or LINE input level control setting
	Heads are magnetized	Degauss heads using head eraser
	RECORD EQ and/or BIAS buttons are not set correctly	Set the RECORD BIAS and EQ buttons to match the type of tape being used. See chart on page 10.

A-6600

Stereo Tape Deck

TEAC[®]

Where Art and Technology Meet.

TEAC CORPORATION

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