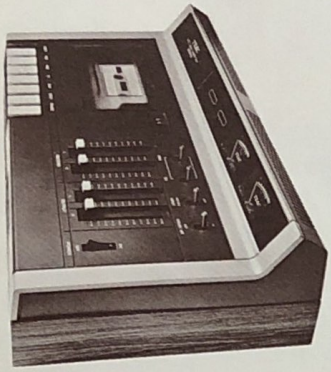
OWNER'S MANUAL



TEAC®
A-170

Stereo Cassette Deck with Dolby* System

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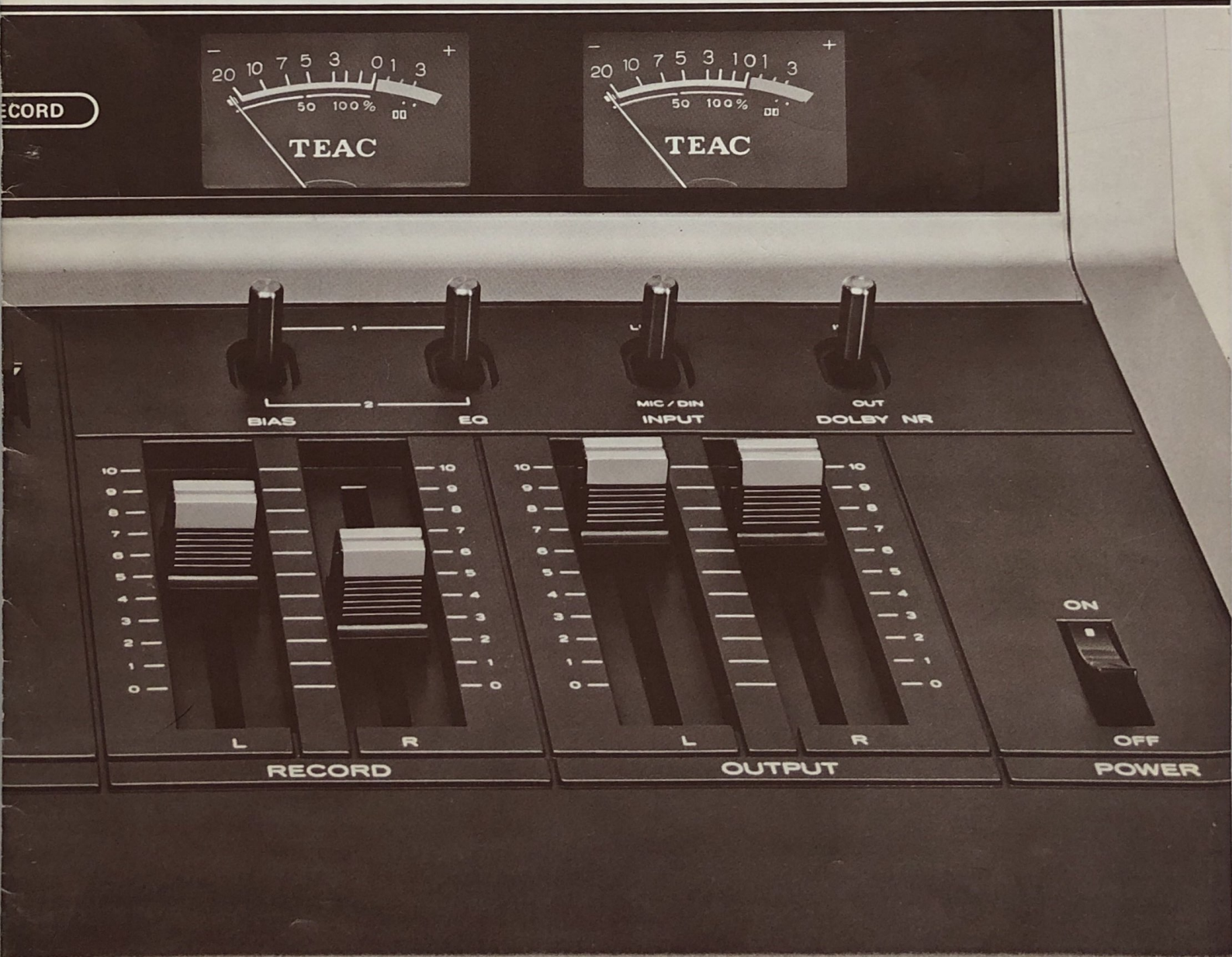


Connections and Procedures

Thanks for Buying a TEAC

Perhaps only you know exactly why you selected the TEAC A-170. Maybe one (or several) of your friends own TEAC decks and recommended us to you. Maybe the unique styling and design excellence attracted your attention. Perhaps the salesman played a music tape for you and you recognized that TEAC tape decks provide superior listening enjoyment. Maybe you heard about the warranty, or the good service. Whatever the reason you bought this fine deck, we know you will enjoy it.

Playback Procedure

1. Insert the recorded cassette in the cassette deck as shown, with the side of the tape you want to playback facing up. Close the cover.

2. Set the EQ switch to match the type of tape you are using according to the BIAS EQ chart on page 5. (The Bias switch has no affect on the tape during playback).
3. Set the Dolby*NR switch to IN position if the tape was Dolby encoded (recorded using Dolby noise reduction circuitry). Set the switch to OUT position if the tape was recorded without Dolby circuitry.
4. Set the OUTPUT level controls to about the 3 or 4 position on the scale on the sides of the control.
5. Depress the Play key ► to begin playback.
6. Adjust the OUTPUT level controls for the desired listening level if using headphones or for a 0 reading on the level meters if you are using a separate stereo amplifier and speaker system.
7. Set the controls on the stereo amplifier or receiver (if used) to obtain the sound loudness you desire.

Figure B

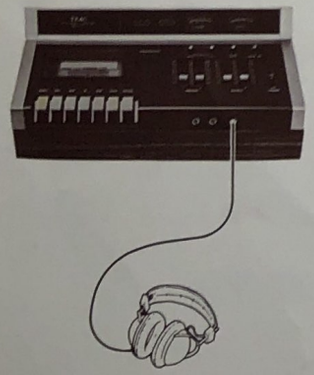
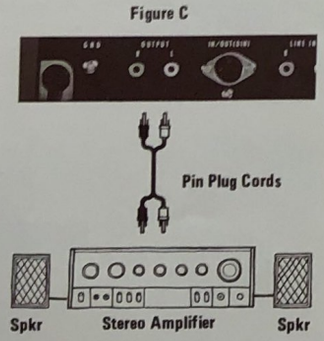


Figure C



System Connections and Preparation

The TEAC A-170 can be used as the heart of a complete stereo system as shown below in Figure A or it can be used as a system in itself requiring only 1 or 2 mics and a pair of headphones as shown in Figures B and D.

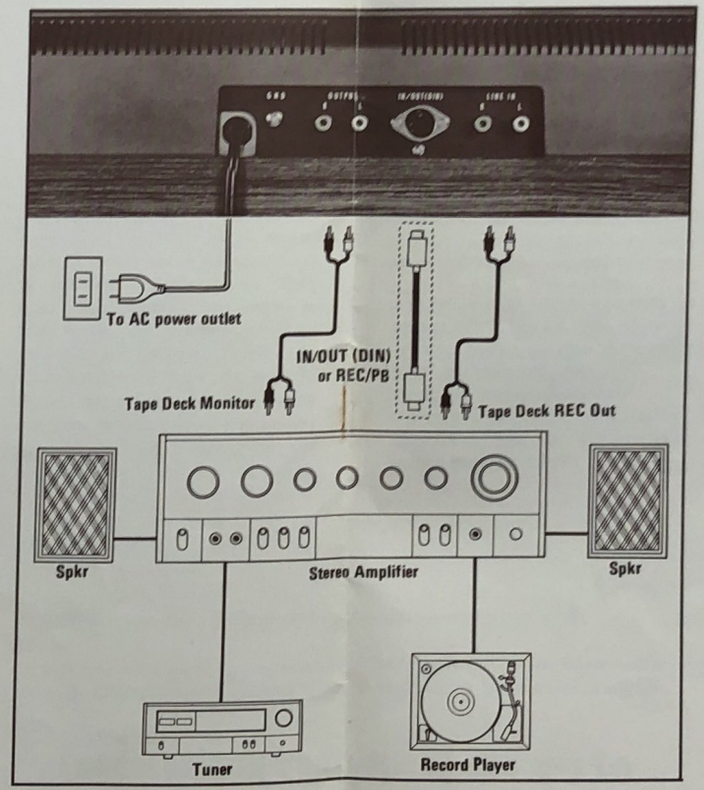
Figure C shows the A-170 connected to a stereo amplifier and speaker system using a pin plug cord.

Figure E shows how the A-170 may be used in conjunction with another tape deck for direct copying of a tape. This is called "dubbing".

Select the system you want to use and make the appropriate connections according to figure. Then refer to the recording or playback procedures below for a step by step guide to record or playback your cassette.

If this TEAC A-170 is your first stereo cassette deck you may want to turn to the center page of this manual for a brief explanation of each of the controls and functions before you begin recording or playing back a tape.

Figure A



* "DOLBY" and the Double D Symbol " ⧈ " are trademarks of Dolby Laboratories, Inc. This product is manufactured under license from Dolby Laboratories, Inc.

WARNING
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

Recording Procedure

1. Insert the cassette tape as shown, with the side you wish to record facing up. Close the cover.

2. Set the BIAS and EQ switches to match the type of tape you are using according to the chart on page 5.
3. Set the Dolby NR switch to the IN position to Dolby encode your tape to reduce noise during playback. For recording without Dolby, set the Dolby NR switch to OUT.
4. Set the INPUT selector to LINE position if you wish to record music via the LINE Inputs at the rear of the deck. Set this switch to MIC/DIN if you wish to record using either microphones at the front panel MIC jacks or the DIN IN/OUT connector at the rear panel of the deck.
5. Set the OUTPUT level controls to about the 3 or 4 position on the scale on the sides of the control.
6. Depress the Pause key and lock it in the down position. Then depress the REC key and while holding it down, depress the Play key.
7. Begin the source music, i.e., tune in the FM station or begin playing the record.
8. Increase the RECORD level controls until the level meters read 0 for the loudest portions of the song.
9. Depress the Pause key again and release it. This begins the actual recording.
10. Depress the Stop key when the recording is finished. If you wish to record another selection depress the Pause key instead of the Stop key. To begin the next recording depress and release the Pause key.

Figure D

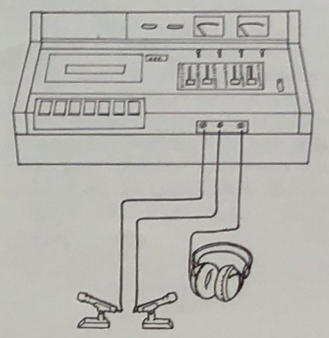
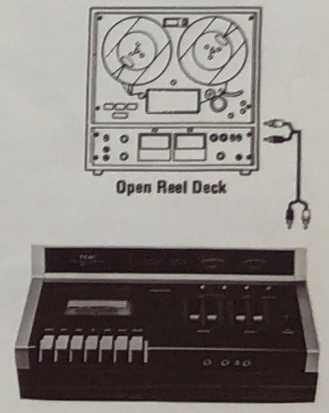


Figure E



Features and Controls of the A-170

The A-170 offers Performance, Convenience, Quality and Economy. We invite you to read over this large page to familiarize yourself with the operating controls and features incorporated in this deck.

See pages 2 and 3 for system connection diagrams and recording and playback charts.

Specifications

Track System	4 track, 2 channel stereo
Type of tape	Cassette tape C-60 and C-90 (Philips type)
Tape speed	1-7/8 inches per second (ips)
Motor	DC servo motor
Wow and flutter (NAB Weighted)	0.09%
Frequency response (overall)	30-16,000 Hz (Chromium dioxide tape) 13-13,000 Hz
Signal-to-noise ratio (overall)	50 dB: with Dolby noise reduction used for record and playback S/N ratio is improved by 5 dB at 1 kHz and 10 dB at frequencies over 5 kHz
Inputs	LINE: 60 mV 50 k ohms MIC: 0.25 mV/–72 dB (600 ohms or more)
Outputs	LINE: 0.775 V for load impedance of 50 k ohms or more. Headphones: 8 ohms
***Power requirements**	100/117/220/240 V AC 50/60 Hz (General Export Models) 117 V AC 60 Hz (USA/Canada Models) 220 V AC 50 Hz (Europe Model)
Power Consumption	16 W
Dimensions	430 (W) x 126 (H) x 225 (D) mm [16-15/16" (W) x 5-3/8" (H) x 8-7/8" (D)]
Weight	4.5 kg [10lbs] net
Included accessories	Input/output connection cord, Silicone cloth, Cleaning stick.

Specifications were determined using Hi-Fi tape except as noted.

Improvements may result in specification changes or features changes without notice.

Note: Make sure the power line voltage specified on the Inspection Card or seal attached to your deck match the power in your area. If it does not, refer to the conversion procedure sheet included with this manual.

* The power requirements for tape decks distributed in certain countries of Europe, Canada and the United States are not adjustable.

Index Counter

When the Play key ▶ or Fast Forward key ▶▶ is depressed the tape moves to the right and the Index Counter counts up to indicate the relative position of the tape. When the Rewind key ◀◀ is depressed the tape moves to the left and the counter counts down.

When you begin recording, reset the counter by depressing the counter reset button which is located just to the right of the counter. As you record, log the counter indication at the start of each song or recording. Then, any time you play this tape you can reset the counter at the start of the tape and quickly locate the beginning of the special songs you want to hear without listening to each song on the tape.

You can also log the location of songs on a pre-recorded tape by listening to the entire tape once. Then you can select Fast Forward or Rewind mode to locate the section of the tape you want to hear.

Record Indicator Lamp

The word RECORD lights up a red color to indicate that the Record key is depressed and the deck is in the Record mode.

Dolby NR Indicator Lamp

The word DOLBY NR lights up an orange color to indicate that the Dolby NR switch is IN and the Dolby circuitry is activated.

Level Meters

Wide expanded scale level meters make setting of the proper levels easy and accurate. During play mode these meters indicate output levels and during record mode they indicate the input levels. For normal recording, maximum signal levels are usually set to read at 0 position for the loudest signals. For Dolby level calibration, set the level to the ◻◻ mark on the meter scale.

BIAS

During recording the amount of bias included with the recorded signal affects the sensitivity, distortion, signal-to-noise ratio and frequency response of the tape. To get the maximum performance out of any tape it is very important to match the amount of bias supplied by the tape deck to the tape. Position 1 of the Bias switch provides the higher level of bias that is required by CrO_2 tapes. Position 2 of the Bias switch provides a lower level of bias that is suitable for most other types of tapes.

EQ (Equalization)

Tape decks do not record and reproduce all audio frequencies at the same level. Various tapes also produce different output levels for different frequencies. To compensate for these factors manufacturers have added circuitry to try to restore the "flatness" of the original music. This circuitry is called equalization and is standardized throughout the audio industry to provide compatibility between tape decks made by various manufacturers. The A-170 incorporates a 2-position EQ switch that allows you to select the equalization that best matches the tape you will be using.

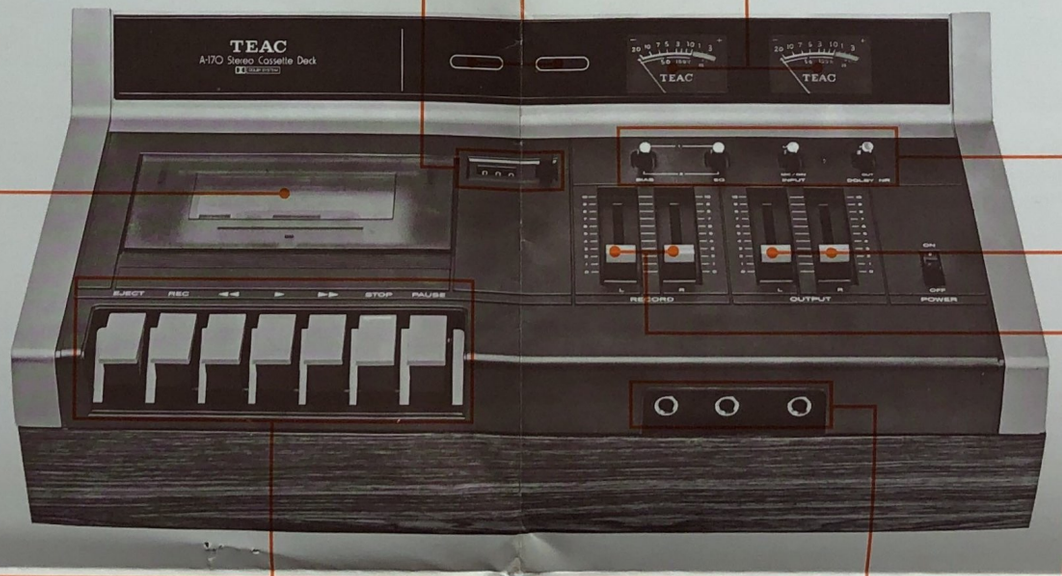
Select position 1 for 70 microsecond equalization for the tapes listed in the upper section of the chart below as well as most other CrO_2 type tape.

Select position 2 for 120 microsecond equalization to match the tapes listed in the bottom section of the chart below and for most other Hi Fi or Low noise types of tape.

Set the Bias and EQ switches to match the chart below

BIAS and EQ Switch Setting Chart

Switch BIAS	Switch EQ	Tape Brand	Tape Designation
1	1	FUJI FILM	FC-C-60 FC-C-90
		MAXELL	CR-C-60 CR-C-90
		TDK	KR-C-60 KR-C-90
		SONY	C-60-CR
		BASF	Chromdioxid C-60 C-90
		AGFA-GEVAERT	Chromdioxid C-60 C-90
2	2	SONY	C-60-HF, C-90-HF C-60, C-90
		TDK	ED-C-90 SD-C-60, SD-C-90 D-C-60, D-C-90
		FUJI FILM	FX-C-60, FX-C-90 FL-C-60
		MAXELL	UDXL-C-60 UD-C-60, UD-C-90 LN-C-60, LN-C-90
		BASF	C-60LH, C-90LH C-60, C-90
		SCOTCH	LD-C-90



Cassette Holder

To record or play a cassette tape, first load the cassette tape in the deck using the following procedure.

1. Depress the EJECT key to open the cassette holder door.

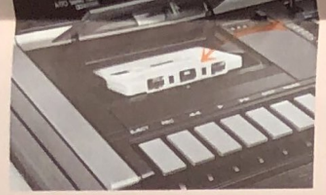
2. Insert the cassette as shown with the side you wish to play or record facing up.

BIAS and EQ switches

Separate 2 position Bias and Equalization switches allow you to set these two parameters to squeeze out the best results from the tape you are using. Use the chart on page 5 to guide you to the selection of the best setting of these switches.

INPUT selector switch

Set this switch to select the inputs you want to use. Select LINE inputs (using the LINE IN jacks on the rear panel of the deck) or MIC/DIN inputs. However, don't connect both MIC and DIN inputs at the same time. The input level of all of these inputs is controlled by the setting of the RECORD level controls.



3. Close the cassette holder door by pressing down on the door as shown.

To stop the tape, depress the STOP key. After the tape stops, depress the EJECT key to open the cassette holder door. Turn the cassette over to play or record the other side of the tape, or remove the cassette as desired.

Be sure to keep the cassette holder door closed when the deck is not in use to prevent dust and dirt from getting on the heads and tape drive mechanism.

Eject key

The Eject key is used to open the cassette cover and to eject the cassette. A gentle push on the Eject key will open the cassette cover only. A slightly firmer push will raise the cassette for easy removal. Never depress the Eject key during a Fast Forward or Rewind operation.

REC key

When depressed the red RECORD indicator will light and the record circuitry will be activated. To actually begin recording and tape movement, depress the Play key while holding the REC key down. The REC key will lock in the down position and the tape will be recorded. The REC key must be depressed before depressing the Play key.

NOTE:
You cannot depress the RECORD key if a cassette is not inserted in the cassette holder. You cannot depress the RECORD key if the cassette that is inserted has had the Record protection tabs removed. See page 3 of the Information Supplement for further information about protection of recorded tapes.

Rewind key

When depressed, the tape will rewind quickly onto the left reel of the cassette. This will move the tape to the beginning of the tape. When the tape is completely wound onto the left reel, the unique end-stop feature of the A-170 will automatically release the Rewind key and stop the tape movement.
Note that if the Rewind key is depressed while the tape is already rewound onto the left reel, the Rewind key will again be automatically released after a short delay of 3–6 seconds.

Play key

This key causes the tape to move from the left to the right side for both normal Record and Playback operation. When the tape reaches the end, the special end-stop feature will release the key or keys that were depressed.

Fast Forward key

This key causes the tape to move quickly from the left reel to the right reel of the cassette to allow you to by-pass or skip over portions of the tape that you don't wish to record or play. The end-stop feature also releases this key when the end of tape is reached.

STOP key

This key will stop the tape and release the keys and de-activate any function that was selected (except PAUSE)

PAUSE key

If depressed during Record or Play mode, the tape movement will be halted but the electronics will remain in the previously selected state (Record or Play). The capstan remains in motion, but the pinch roller is retracted. When you want to resume tape movement just depress the PAUSE key again and release it. Pause mode can also be used to set the Record input levels prior to starting an actual Record operation. To do this, depress the PAUSE key first and then depress the REC and Play keys together. Electronically the deck will be in the Record mode but there will be no tape movement and therefore no recording of the tape. The PAUSE key eliminates the necessity of completely stopping the tape deck and releasing the selected mode as the STOP key would do.

RECORD level controls

These gold and black colored slide controls allow you to adjust the RECORD input levels from any of the three inputs; LINE, MIC or DIN. Setting of the Record level is an important step for obtaining high quality cassette tape recordings.

MIC and Headphones Connections

Use 8 ohm stereo headphones and plug them into the PHONES jack on the front panel of the A-170.
Use microphones with impedance of 600 ohms to 10K ohms and connect them to the MIC L and R jacks on the front panel. Low impedance mics with impedance of 150 to 600 ohms will also work satisfactorily.

DOLBY NR switch

Place switch to IN position to record with the internal Dolby Noise Reduction circuitry of the A-170 or when playing back a tape that was previously recorded using Dolby Noise Reduction. Place switch to the OUT position for non-Dolby recording or playback.

OUTPUT level controls

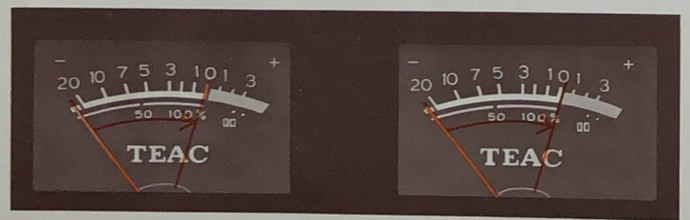
These gold and black controls adjust the output level and the sound level supplied to the headphone jack.

POWER switch

Depress the top half of this rocker type switch to turn on power. The lamps on the Level Meters will illuminate to show that power is applied.
Depress the bottom section of the switch to turn off power.

Setting the recording level

Due to the thinness of the base material and the oxide coating on cassette tapes, the setting of the proper recording level for good quality recording is very critical. Cassette tapes are easily "saturated". That is, a large signal can "over-magnetize" the tape. This results in a poor sounding tape with the high frequencies suppressed or a lack of sufficient dynamic range on your recording. The recording will sound bad.
Music that is recorded at too low a level may be buried in tape hiss or produce too low an output level.
Normally a cassette tape should be recorded at approximately 0 level on the level meters for the louder passages of a song. However, if you record music at this level and the recording sounds poor, you may find that recording at a slightly lower level will produce better fidelity recordings. If you reduce the recording level too much, the signal-to-noise ratio may suffer. With a little practice you will be able to select that critical recording level that gives you the best high fidelity recordings. The type and condition of the tape as well as the kind of music you are recording also affects the optimum setting of the record level.



Direct Function Operation

This deck incorporates direct function operation which allows you to go directly from one mode to another without depressing the Stop key to release the previously selected function keys. You can, for instance, go directly from Fast Forward ►► or Rewind ◄◄ to Play or Record mode, from Rewind to Fast Forward or almost any sequence of these operations you wish.
However, you cannot go from Play mode directly to Record mode because there is a record interlock which requires that the Record key be depressed prior to depressing the Play key. This safety feature prevents the user from accidentally depressing the Record key during a play mode and thereby erasing a good tape. You must depress the Stop key or another key (except Record) to release the Play key prior to selecting the Record mode.

CAUTION: Never depress the Play key and either of the fast motion keys (Fast Forward or Rewind) at the same time. This will result in improper tape movement and possible damage to your cassette tape.

End-Stop Function

During any tape movement, when the cassette tape reaches the end of tape, the deck will stop and the selected key or keys will be automatically released after a short delay of 3–6 seconds. If the tape is already at the end of tape and any tape movement operation is selected that would move the tape toward the end-stop, the end stop function will continually release the selected key after the 3 to 6 second delay.
The Pause key, if selected, will not be released.

Mic Recording

* Plug the microphones into the MIC jacks on the front panel of the deck. Two mics must be used for stereo (2 channel) recording.
* Set the Input selector switch to the MIC/DIN position. (Do not use a DIN IN/OUT cable at the same time as mics are being used.)
* Use headphones to monitor the inputs to prevent feedback or "howling" that might occur if you were using speakers.
* Prior to actual recording, set the RECORD level controls for approximately 0 Level or less on the Level meters for the loudest sounds.
* Balance the sound on the two channels by adjusting the RECORD level controls and/or by repositioning the mics.
* Follow the basic recording procedure given on page 3.

Connections with a DIN cord

The DIN cord may be used to connect the deck to a stereo amplifier or receiver for both record and play modes.
For high fidelity recording, use of the pin plug cords is recommended instead of the DIN cord.
The use of the pin plug cords is recommended for deck to deck connections.
Never connect both the DIN connector and the MIC input at the same time as this may cause feedback, noise or other problems.

A-170 Stereo Cassette Deck with Dolby System

TEAC®

The leader. Always has been.

TEAC CORPORATION	3-7-3, NAKA-CHO, MUSASHINO, TOKYO PHONE: (0422) 53-1111
TEAC CORPORATION OF AMERICA	7733 TELEGRAPH ROAD, MONTEBELLO, CALIFORNIA 90640 PHONE: (213) 726-0303
TEAC TONBAND-ANLAGEN VERTRIEBS GmbH	6200 WIESBADEN-ERBENHEIM, EGERSTRASSE 2, WEST GERMANY PHONE: (06121) 74225~8
TEAC HONGKONG LIMITED	FLAT 78, PORTLAND HOUSE, 7TH FLOOR, BLOCK C, No. 41-D, MA TAU WEI ROAD, KOWLOON, HONG KONG PHONE: 3-659071~4

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