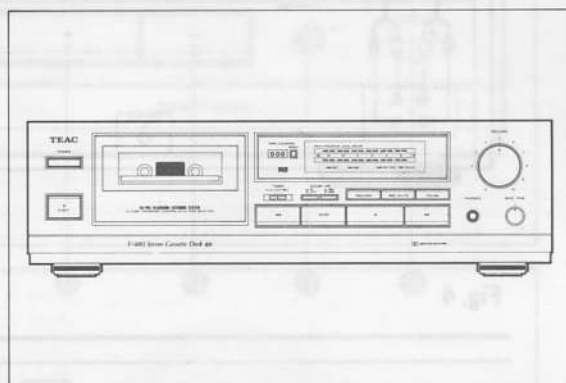


TEAC®

9101377300

V-480

STEREO CASSETTE DECK



OWNER'S MANUAL

Thanks for buying a TEAC. Read this manual carefully to get the best performance from this deck.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This appliance 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 _____

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

SAFETY INSTRUCTIONS

CAUTION:

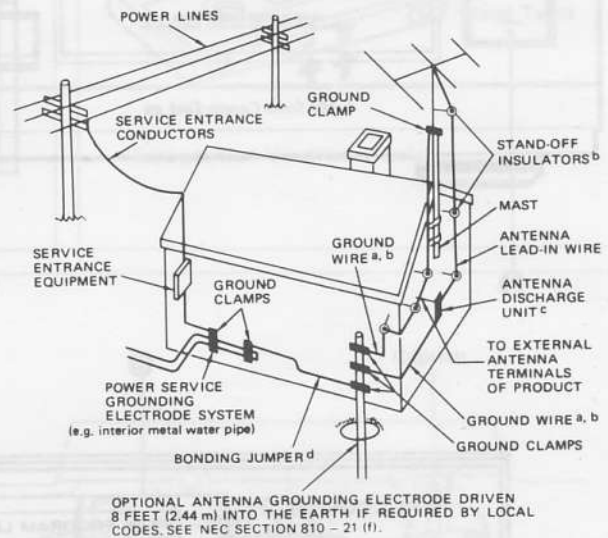
- Read all of these instructions.
 - Save these instructions for later use.
 - Follow all warnings and instructions marked on the audio equipment.
1. **Read Instructions** — All the safety and operating instructions should be read before the appliance is operated.
 2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.
 3. **Heed Warnings** — All warnings on the appliance and in the operating instructions should be adhered to.
 4. **Follow Instructions** — All operating and use instructions should be followed.
 5. **Water and Moisture** — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
 6. **Carts and Stands** — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
 - 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



7. **Wall or Ceiling Mounting** — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. **Heat** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Grounding or Polarization** — The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. **Power-Cord Protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** — The appliance should be cleaned only as recommended by the manufacturer.
14. **Power Lines** — An outdoor antenna should be located away from power lines.

15. **Outdoor Antenna Grounding** — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 — 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure below.

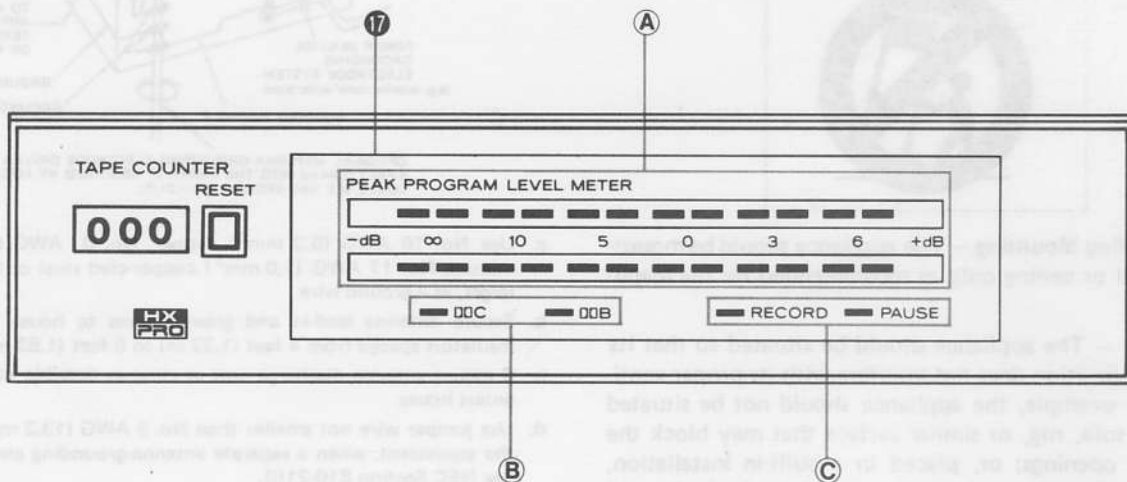
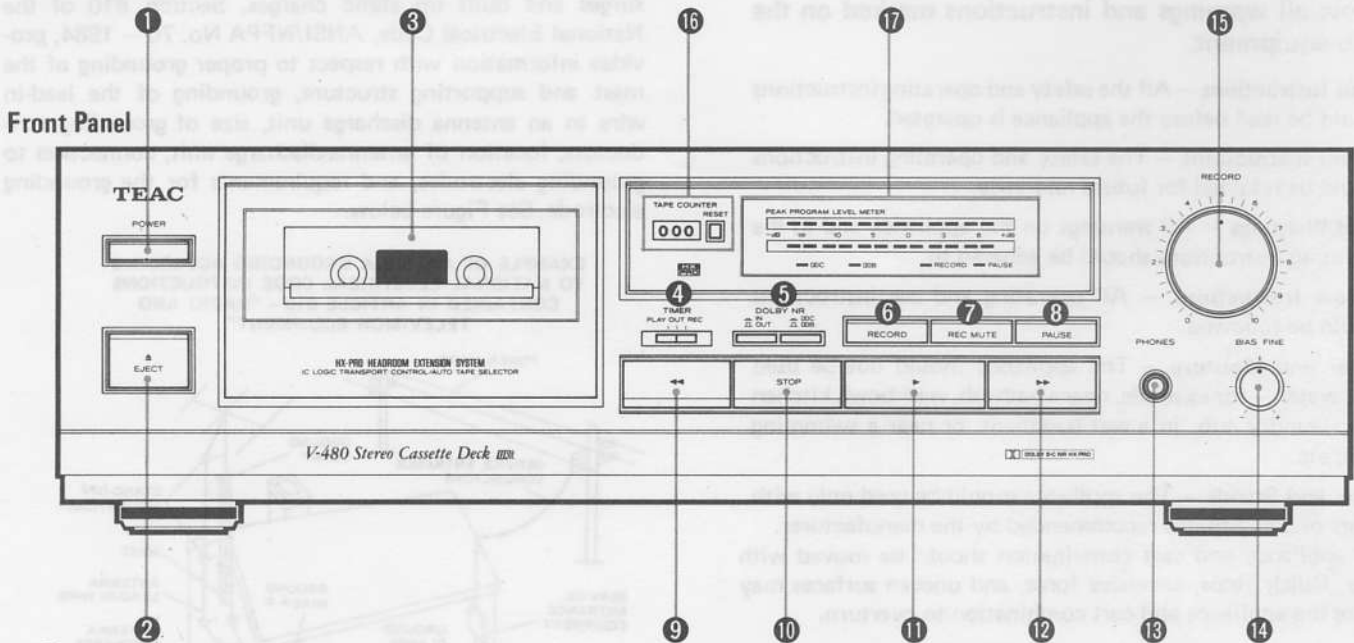
EXAMPLE OF ANTENNA GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS CONTAINED IN ARTICLE 810 — "RADIO AND TELEVISION EQUIPMENT"



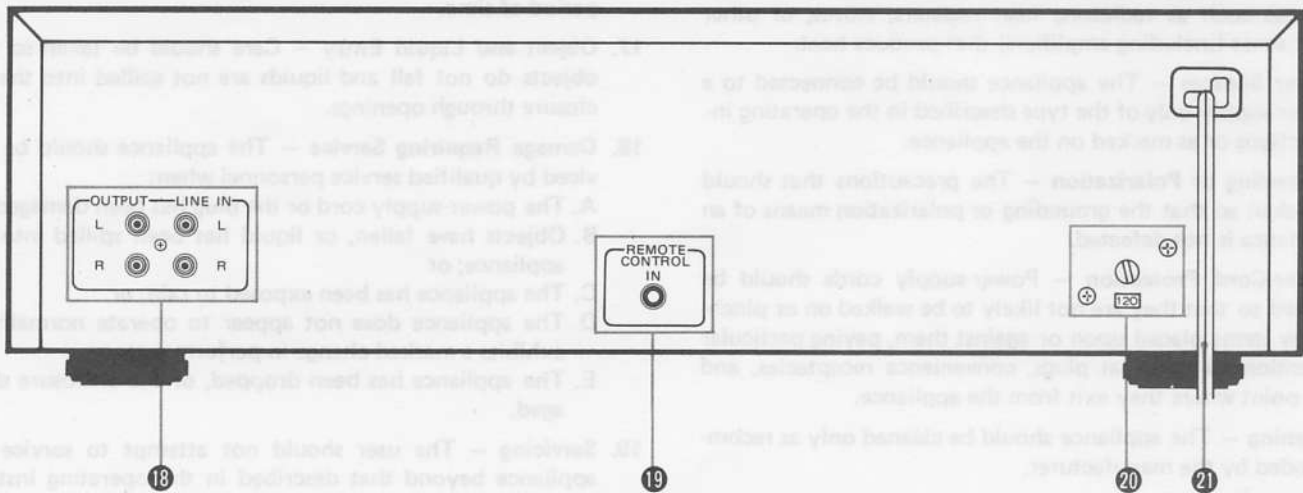
- a. Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger, as a ground wire.
 - b. Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 m) to 6 feet (1.83 m) apart.
 - c. C mount antenna discharge unit as close as possible to where lead-in enters house.
 - d. Use jumper wire not smaller than No. 6 AWG (13.3 mm²) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(j).
16. **Nonuse Periods** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
 17. **Object and Liquid Entry** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
 18. **Damage Requiring Service** — The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
 19. **Servicing** — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Reference Illustrations

Fig. 1



Rear Panel



Normal Tapes

Chrome (Cobalt) Tapes

Metal Tapes

• Tape position identification holes.

Fig. 6

The diagram illustrates the connection of four TEAC components: a V-480 Stereo Cassette Deck, an A-107 DC Integrated Stereo Amplifier, a T-107 Digital Synthesizer 88-108 MHz Stereo Tuner, and a T-12 Audio timer. The V-480 is connected to the A-107 amplifier. The A-107 amplifier is connected to the T-107 tuner. The T-107 tuner is connected to the T-12 audio timer. All units are connected to a spare AC outlet and an AC power source.

V-480

Amplifier

TEAC A-107 DC Integrated Stereo Amplifier

Spare AC outlet

Tuner

TEAC T-107 Digital Synthesizer 88-108 MHz Stereo Tuner

Audio timer

TEAC T-12

AC power

Precautions

Environment

Avoid using the deck in the following circumstances:

- High temperature (such as heater, direct sunlight).
- Extremely low temperature.
- Excessive humidity.
- Dusty atmosphere.
- Where power line voltage fluctuation is severe (the use of a voltage regulator may be advisable).
- Be aware also that placing other units or any objects on the deck can leave marks depending on their weight.

Cassette Tape (Fig. 3)

Tape Selection:

For the automatic tape select function to work properly, metal and chrome (cobalt) formula tapes must have tape identification holes.

Tape Handling:

Do not store tape in the following places:

- On top of heaters, in direct sunlight or in any other high-temperature areas.
 - Near speakers, on TV sets or amplifiers or near any strong magnetic fields.
 - High-humidity areas or dirty, dusty areas.
- Avoid dropping or subjecting the cassettes to excessive shock.

Voltage Conversion (For general export models) (Fig. 4)

If it is necessary to change the voltage requirements of the deck to match your area, use the following procedure:

1. DISCONNECT POWER LINE CORD.
2. Using a screwdriver, turn the selector until the desired voltage marking appears.

IMPORTANT (for U.K. Customers)

The wires in this mains lead are coloured in accordance with the following code:


BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

In the U.K., this unit is sold without an AC plug.

This product is manufactured to comply with the radio interference of EEC directive "82/499/EEC."

* Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol  and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

Features and Controls (Fig. 1)

Front Panel

1 POWER Switch

Press to switch the deck on. Press again to turn the deck off.

Note: If you switch the power on again, be sure to wait more than 2 seconds after the power has been switched off.

2 EJECT Button

Press in the stop mode to open the cassette holder.

3 Cassette Holder





4 TIMER Switch





PLAY: For timer playback

OUT: Set to this position when not using a timer.

REC: For timer recording.
(Refer to page 7.)

5 DOLBY NR Switches

IN/OUT Switch: This switch is used to activate and deactivate the noise reduction system. To activate noise reduction, set to the IN () position and select the NR-system with the  B/  C switch. Set this switch to the OUT () position to record or play back without noise reduction.

 B/  C Switch: Set this switch to the " " position to record with Dolby C-type NR or play back a cassette tape recorded with Dolby C-type NR, or to the " " position to record with Dolby B-type NR or play back a cassette tapes recorded with Dolby B-type NR.

6 RECORD Button

Press this button together with the ► button to start recording. The RECORD indicator lights.

7 REC MUTE Button

Pressing this button, during recording, leaves about 4 seconds of blank space on a tape. Then the deck enters the record-

Connections (Fig. 2)

- Turn off power for all equipment before making connections.
- Read instructions for each component you intend to use with the deck.
- For the connection of the REMOTE CONTROL jack, refer to the owner's manual of the component to which the V-480 is to be connected.

pause mode. To restart recording, press the ► button.

8 PAUSE Button

Press this button to temporarily stop tape travel during recording or playback (the PAUSE indicator lights). To restart tape travel, press the ► button.

9 ◀◀ (Rewind) Button

Pressing this button rewinds the tape at high speed from right to left. When the tape is fully rewound, the auto stop mechanism stops automatically the tape transport.

10 STOP Button

Press to stop the tape travel and release any other mode.

11 ▶ (Play) Button

Pressing this button causes the tape to run at normal speed.

12 ▶▶ (Fast-Forward) Button

Pressing this button fast-forwards the tape at high speed from left to right. In the same way, tape transport stops automatically when the tape is fully wound.

13 PHONES Jack

Connect 8 ohms stereo headphones to this jack for private listening or monitoring.

14 BIAS FINE Tuning Control

This control allows fine bias level setting when recording. The center "click" position provides a nominal amount of bias current depending on the type of tape.

Turning the control toward + increases the amount of bias and thus decreases high frequency response.

Turning the control toward - decreases the amount of bias and thus increases high frequency response.

Keep this control in the center position when it's not being used.

15 RECORD Level Control

When recording, turn the RECORD control clockwise to fade the input sound in or turn it counterclockwise to fade out.

16 TAPE COUNTER and RESET Button

This counter indicates the relative position on the tape. Pressing the RESET button sets the counter to "0000"

17 Display Window

A PEAK PROGRAM LEVEL METER

This meter shows the peak level of the input or playback signal. In the record mode, the meter indicates the level of the source signals which have been adjusted with the RECORD level control. During playback, the meter indicates the level of signals recorded on the tape. The deck automatically detects the type of tape which has been loaded.

B DOLBY NR Indicators

Lights to show the NR system currently selected.

C Transport Mode Indicators (RECORD/PAUSE)

RECORD: Lights when deck is in the record and record-ready modes, and flashes during record-muting.

PAUSE: Lights when deck is in the stand-by mode for playback or recording.

Rear Panel

18 LINE IN/OUTPUT Terminals

Connect the LINE IN jacks to the amplifier's REC OUT jacks and also connect the OUTPUT jacks to the amplifier's TAPE PLAY (or LINE IN) jacks.

19 REMOTE CONTROL Connector

This connector is used to link with another TEAC component when controlling the V-480 in a future total TEAC audio system.

20 Voltage Selector (General export models only)

See "Voltage Conversion" on page 5.

21 Power Supply Cord

Operations

Playback and Recording

Stereo Playback

1. Set the TIMER switch to OUT.
2. Press the POWER switch to ON.
3. Load a pre-recorded cassette.
4. Select the NR system with the DOLBY NR buttons.
5. Press the ► button to start playback.
6. Adjust the volume with the amplifier's control.

Stereo Recording

Recording from a stereo system:

1. Set the TIMER switch to OUT.
2. Press the POWER switch to ON.
3. Load a recordable cassette.
4. Select the NR system with the DOLBY NR buttons.
5. Press the PAUSE button together with RECORD button (both indicators light). This enables you to adjust the recording level without actually recording on the tape.
6. Adjust the BIAS FINE tuning control described in "Using the BIAS FINE Tuning Control".
7. Adjust the RECORD level control so that the loudest peak briefly reaches the 0 dB point on the PEAK PROGRAM LEVEL METER.



8. Press the ► button to start recording.

Notes:

- To stop recording, press the STOP button.
- To momentarily stop recording, press the PAUSE button. To resume recording, press the ► button.

Note:

Recording prerecorded tapes, records, or other published or broadcast material may infringe copyright laws. Check these laws before recording.

Setting the Recording Level

Setting the recording level correctly is essential if you want to make top-quality recordings. If the level is too low, the recording will be noisy. If the level is set too high, the recording will be distorted. If the meters peak over the 0 dB reading, decrease the recording level by turning the RECORD level controls counterclockwise. However, some program material of different tape formulations may require higher or lower recording levels. With a little time and practice you will be able to select the critical recording level that gives you the best hi-fi recordings. The type and condition of the tape, as well as the type of music source you are recording will affect the optimum setting of the recording level.

Record Muting Operation

The capability of creating blank unrecorded (erased) portions on a tape during recording is a real advantage in many recording situa-

tions. For instance, you may want to eliminate undesired portions of an FM broadcast that you are recording, such as commercials, station breaks or announcements. You may want to record a complete program with controlled spacing between each song. Such blank portions on a tape can be easily left using the REC MUTE function.

1. Automatic Spacing Operation — for a 4-second blank — (during recording)

Press the REC MUTE button during recording. The tape movement continues, and a blank space of about 4 seconds is recorded (the RECORD indicator flashes).

The deck then switches automatically to the record-pause mode (both the RECORD and PAUSE indicators light). To begin recording the next tune, press the ► button (the PAUSE indicator goes off).

2. For a Blank of Less Than 4 Seconds

After pressing the REC MUTE button during recording, press the PAUSE button, before the 4-second interval has expired, to cancel the muting mode and engage the record-pause mode. To begin recording, press the ► button.

Erasing

A previously recorded tape will be automatically erased when you make a new recording on it. Alternatively it can be erased by "recording" on it with the RECORD level control set to "0".

Dubbing

Deck-to-deck copying of tapes (dubbing) can be done without using an external amplifier. Operation is the same as standard record and playback procedures described in the record and playback sections. This deck can be used as the "master" recorder with a second recorder used as the "slave" recorder. Connect the output of the master to the input of the slave recorder. To use this deck and the second recorder in opposite roles, simply reverse the input and output connections.

Using the BIAS FINE Tuning Control

The center position provides a nominal amount of bias current. Turning the control toward "+" increases the amount of bias current; a minute decrease in high-frequency response will be obtained. Turning it toward "-" decreases the amount of bias current; a noticeable increase in high-frequency response will be obtained.

DOLBY HX PRO

1. Make a recording from a disc, etc.
2. After recording, rewind the tape to the beginning of the recorded section, then play it to monitor the reproduced sound.
3. By comparing the monitored sound with the original, adjust the BIAS FINE control, then try recording again.
4. Repeat steps 1 through 3 until correct setting of the BIAS FINE control is obtained so that the best possible sound can be recorded.

Timer-Controlled Operation (Fig. 6)

Timer-Controlled Recording Operation

1. Connect your deck and stereo system to a commercially available audio timer as shown in the diagram.
2. Make all the preparations as for normal recording, but leave the deck in the stop mode.
3. Set the audio timer to the required start (power on) and stop (power off) times.
4. Set the TIMER switch on the deck to REC. When the preset start time is reached, power will be supplied and recording will start.

Timer-Controlled Playback Operation

1. Check that the deck is correctly connected to the amplifier for normal playback operation.
2. Connect the deck and amplifier to an audio timer as for timer-controlled recording (above).
3. Make all preparations as for normal playback, but do not set the tape in motion.
4. Set the audio timer to the required start (power on) and stop (power off) times.
5. Set the TIMER switch on the deck to PLAY. When the preset start time is reached, power will be switched on and playback will start.

Dolby HX Pro is an "active bias" technique that can improve the quality of audio tape recordings. High-level high frequencies can be recorded more accurately, without sacrificing signal-to-noise ratio, while such side effects of tape saturation as distortion are reduced.

What Is Bias?

Bias is a very high-frequency signal generated within a tape deck and recorded on the tape simultaneously with the program material. This inaudible signal allows a low noise, low distortion recording and flat frequency response. Different magnetic tape formulations require different amounts of bias for optimum performance. If the bias level is too high, high-frequency Maximum Output Level (MOL) decreases.

The Problem of Self-Bias

Unfortunately, bias level is often influenced by the signal being recorded. The high frequencies contained in some music act as bias. This unpredictable source of bias is added to the existing bias, resulting in a loss of high-frequency response. As the high-frequency content of the signal increases, the ability of the recorder to record high frequencies (MOL) decreases. This phenomenon is called self-biasing.

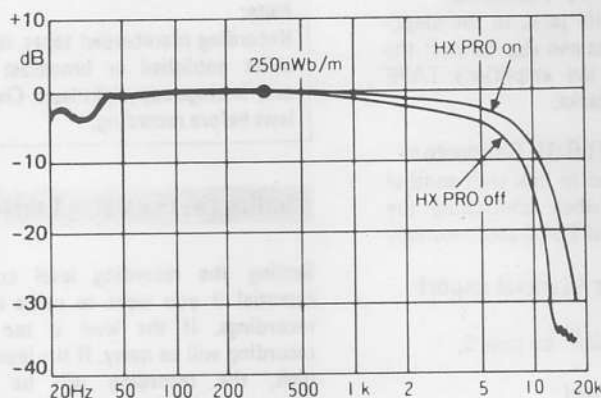
How Dolby HX Pro Solution

The Dolby HX Pro monitors the high-frequency content of the program material and adjusts the recorder bias oscillator to maintain a constant total bias level. The result is improved high-frequency response and lower distortion. Depending on the type of tape, the improvement in headroom can be 6 dB or more.

The Benefits

With Dolby HX Pro, it is easier to make more accurate recordings of the kind of music which contains high-level high frequencies. The improvement is similar to that of high-performance tape over conventional tape, so regardless of the type of tape used, the results will sound better.

Most important of all, Dolby HX Pro requires no decoding process. Once the tape is recorded with it, the improvements will be realized when playing the tape back on any machine.



Example of improved frequency response using Dolby HX Pro function

Maintenance (Fig. 5)

The heads and tape path should be cleaned and demagnetized periodically.

Cleaning Tape Path

- Apply head cleaning fluid* to special cotton swabs or a soft cloth, and lightly rub the heads, capstans and all metal parts in the tape path.

- Also clean the pinch rollers using rubber cleaning fluid*.

* Both are available in TEAC HC-1 and RC-1 in the U.S.A. or TEAC TZ-261 Tape Recorder Cleaning Kit in other areas.

Demagnetizing Heads

Be sure that the power is off, then demagnetize the heads using a TEAC E-3 demagnetizer or equivalent. For details of its use, read its instructions.

Troubleshooting

Basic troubleshooting of a cassette tape deck is similar to troubleshooting any other electrical or electronic equipment. Always check the most obvious possible causes first. To give you a few ideas of what to look for, check the following:

- No power: Is the power cord connected?
- Tape begins running when power is turned on: Is the TIMER function on?
- No audio output. Are all connections properly made?
- Degraded sound quality: Are the heads dirty or magnetized? Are you using good quality tape? Is the proper NR System select switch on?
- Unable to select record mode: Are the record protection tabs on the tape in place?

Specifications

Track System 4-Track, 2-Channel Stereo

Heads 2:1 Erase, 1 Record/Playback

Type of Tape Cassette tape C-60 and C-90 (Philips type)

Tape Speed 4.76 cm/sec (1-7/8 ips)

Motor 1 DC servo motor

Wow and Flutter (WRMS) 0.06 %

Frequency Response (Overall, -20 dB)

30 - 19,000 Hz, Metal

30 - 18,000 Hz, CrO₂

30 - 17,000 Hz, Normal

Signal-to-Noise Ratio (Overall)

59 dB (3 %THD Level, Weighted)

69 dB (Dolby B NR In, over 5 kHz)

79 dB (Dolby C NR In, over 1 kHz)

Fast Winding Time Approximately 120 seconds for C-60

Inputs Line: 60 mV, 50 kohms

Outputs Line: 0.43 V for load impedance of 50k ohms or more
Headphones: 8 ohms

Power Requirements 120/220/240 V AC, 50/60 Hz (General Export model)
120 V AC, 60 Hz (U.S.A./Canada model)

220 V AC, 50 Hz (Europe model)

240 V AC, 50 Hz (U.K./Australia model)

Power Consumption 10 W

Dimensions (W x H x D)

435 x 127 x 262 mm

(17-1/8" x 5" x 10-5/16")

Weight (net) 4.3 kg (9.5 lbs.)

Standard Accessories Input-output connection cords

- Specifications were determined using metal tape except as noted.
- Improvements may result in specification or feature changing without notice.

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