

harman/kardon

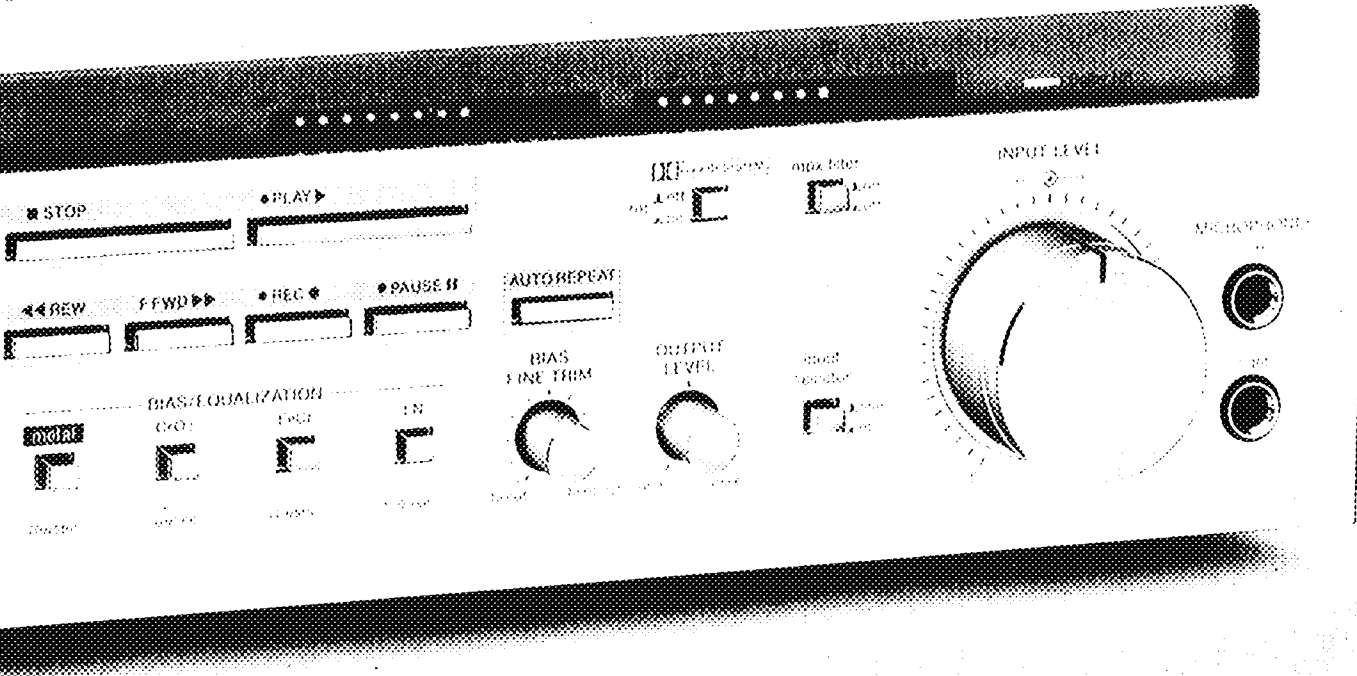
ULTRAWIDEBAND
LINEAR PHASE CASSETTE DECK

CD 101

owner's manual

harman/kardon CD101

LINEAR PHASE CASSETTE DECK



Your investment in a component
 high fidelity system indicates
 you have a more than average interest in music.
 The fact that your investment includes a Harman Kardon CD101
 Ultrawideband Linear Phase Cassette Deck shows us your appreciation
 of uncompromised reproduction of the music you enjoy.
 Throughout the design and manufacture of this unit,
 we made every effort to assure it will meet
 all your expectations.
 To ensure continuing high performance,
 read this manual carefully before
 you connect and operate your CD101.

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

Features

- Capability to use metal tape to enable overwhelmingly dynamic sound reproduction.
- Sendust head to obtain distortion-free recording / playback with improved linearity in high frequency range and to make the most of the characteristics of various tapes in wide dynamic range.
- Functional layout with feather touch push-buttons for quick easy operation.
- Adoption of *Dolby Noise Reduction system for recording with minimal noise.
- Bias fine trim feature for full attainment of the tape performance by optimal bias setting according to the using tape.
- Automatic repeat function to enable endless playback from the start of a cassette tape.
- Easy-to read LED level display.

General Instructions

Always use at 120V AC

This unit is designed for use at 120V AC. Do not connect the unit to an outlet supplying a higher voltage to prevent fire.

Handle the AC cord carefully

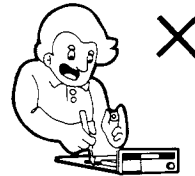
- Always hold the plug when disconnecting the AC cord from the outlet. Pulling at the cord may cause discontinuity.
- If the unit is not used for a prolonged period, disconnect the plug from the outlet.
- Do not place or drop a heavy material such as furniture on the cord. Otherwise, the cord may be damaged to cause fire or shock hazard.



*Always disconnect the plug from the outlet before making connections with other components.

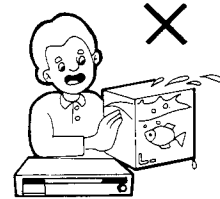
Do not open the cabinet

To prevent shock hazard or unexpected trouble, do not tamper with internal components for inspection or maintenance. Harman Kardon does not guarantee performance degradation resulting from any modification.



When water or a metal piece enters the unit

When water, a hairpin or wire accidentally enters the unit, immediately extract the AC plug from the outlet to prevent shock or trouble.

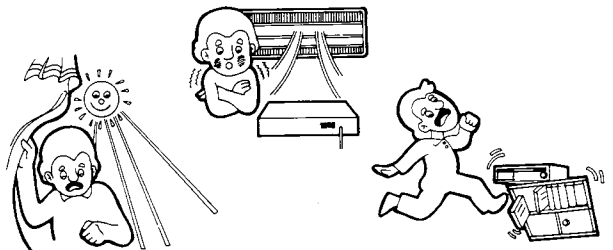


Locations for Installation

Place this unit on a firm flat base.

Avoid the following locations:

- Place exposed to direct sunlight or near a heat source
- Place exposed to excessive moisture
- Cold place such as near a cooling air outlet
- Dusty place
- Place exposed to excessive vibration
- Poorly ventilated place
- Place near a TV receiver, speaker or other object that generates strong magnetism



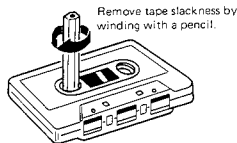
When piling with other components, carefully plan so as not to obstruct heat radiation from a pre-mainamplifier or mainamplifier. Use of a Harman Kardon audio rack is recommended.

*Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D symbols are trademarks of Dolby Laboratories Licensing Corporation.

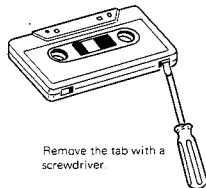
Cassette Tape Handling and Head Cleaning

Cassette tape handling

- Be sure to remove the cassette tape from the cassette compartment after the end of operation to keep the tape quality and maintain the deck performance for a long time.
- Store cassette tapes off from a strong magnetic field such as near a TV set, amplifier and speakers to prevent adverse effect on the recorded sound.
- Before a cassette tape is played back or recorded, be sure to eliminate tape slackness. A slackened tape, if used, may cause jamming in the tape running mechanism.



- If the sound recorded on the tape is desired to be protected from accidental erasure, remove the erase-prevention tabs. With these tabs broken out, accidental erasure can be prevented even if the RECORD button is inadvertently pressed.

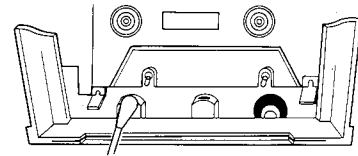


- If it is later desired to record on a cassette tape protected in this way, cover the holes with adhesive tape.



Head cleaning

- Drop out, degradation of frequency characteristic or wow & flutter may be caused when the recording/playback head, capstan and roller get dirty with magnetic material powder or dust. Clean these parts from time to time so as to enjoy perfect tape sound reproduction. Before cleaning, open the CASSETTE COMPARTMENT door and take off the cover by sliding it upward. Use a cotton swab slightly wetted with diluted anhydrous alcohol and clean the recording/playback head, erasing head, capstan and roller which come into direct contact with the tape. Do not wet the cotton swab with too much alcohol. Tape playback shall start after thorough evaporation of alcohol.



- The recording/playback head, erasing head and capstan will be magnetized gradually. Since the magnetism causes noise generation and degradation of high-frequency range characteristic, be sure to demagnetize these parts with a head eraser.

Dolby NR System

Dolby noise reduction system reduces the tape hissing noise generated in tape playback process.

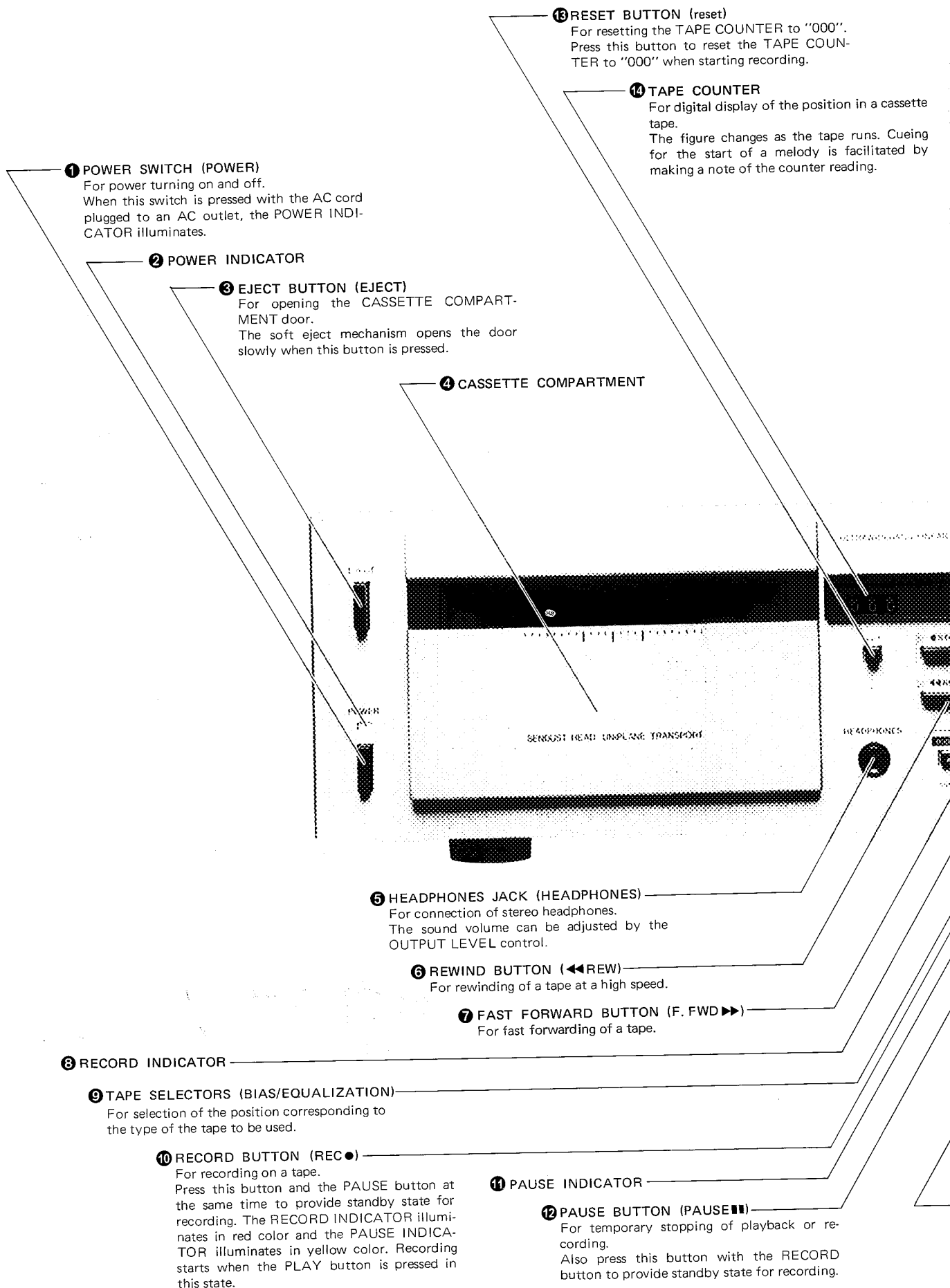
This system mainly reduces the noise generated from the tape itself and the noise in the recorded source program cannot be reduced. For effective use of the Dolby NR system, select a source program with minimal noise.

The tape hissing noise is said to be caused by the grain size of the magnetic substance coated on the tape. Even if the grain size is smaller or if the tape speed is faster, the hissing noise is reduced. As compared with an open reel tape recorder, the tape speed in a cassette tape deck is 1/4 and the recording track width is 1/2. Therefore, tape hissing noise is more conspicuous.

Noise reduction by the Dolby B-type NR system is carried out as follows:

When the input signal level is below the standard level during recording, the high-frequency component is boosted. When the tape recorded in this way is played back, the high frequency component is attenuated as much to offset the effect. As a result, the tape hissing sound specific to playback of the high-frequency signal is reduced as much.

Components and Their Functions



15 STOP BUTTON (■STOP)

For stopping each operation. Pressing this button stops playback, recording, fast forwarding or rewinding of a tape. It also cancels standby state by PAUSE button operation.

16 PLAY INDICATOR

17 PLAY BUTTON (PLAY▶)

For playback of a tape. Press this button to start playback. The PLAY INDICATOR illuminates in green color.

18 LED LEVEL DISPLAY (peak level meter)

For clear indication of the recording or playback level.

19 DOLBY NR BUTTON (DOLBY SYSTEM NR)

For recording or playback using the Dolby NR system. Press this switch to use the Dolby NR system. The DOLBY NR INDICATOR illuminates in green color. Press this switch again to invalidate the Dolby NR system.

20 MPX FILTER SWITCH (mpx filter)

For cutting the multiplex noise during recording of an FM stereo broadcasting program by using the Dolby NR system. Depress this switch to invalidate the MPX filter function.

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21 DOLBY NR INDICATOR (Dolby NR)

For indication of the validation of the Dolby NR system.

22 MICROPHONE JACKS (MICROPHONES)

For connection of recording microphones. Use low-impedance microphones.

23 INPUT LEVEL CONTROL (INPUT LEVEL)

For input level control during recording. The input level is shown on the LED LEVEL DISPLAY. The front side knob is for the left channel and the rear one is for the right channel. The front and rear knobs turn together unless one knob is held by another hand.

24 INPUT SELECTOR (input selector)

For selection of the input source for recording.

LINE position:

For recording from other components.

MIC position:

For recording from microphones.

25 OUTPUT LEVEL CONTROL (OUTPUT LEVEL)

For control of the output level during playback or monitoring of the recording sound. It also controls the volume of the sound monitored through headphones.

26 BIAS FINE TRIM KNOB (BIAS FINE TRIM)

For setting of the optimal bias for the tape to be used. Normally set at the center position. Turn it counterclockwise to attenuate the high signal level range, or clockwise to boost the high signal level range, during recording.

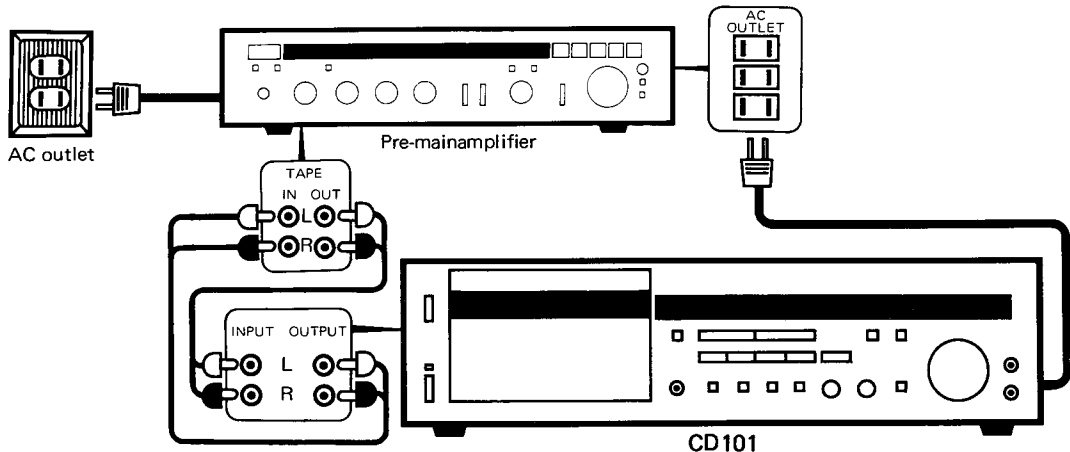
27 AUTOMATIC REPEAT BUTTON (AUTO REPEAT)

For automatic repeating of playback operation to enable endless playback.

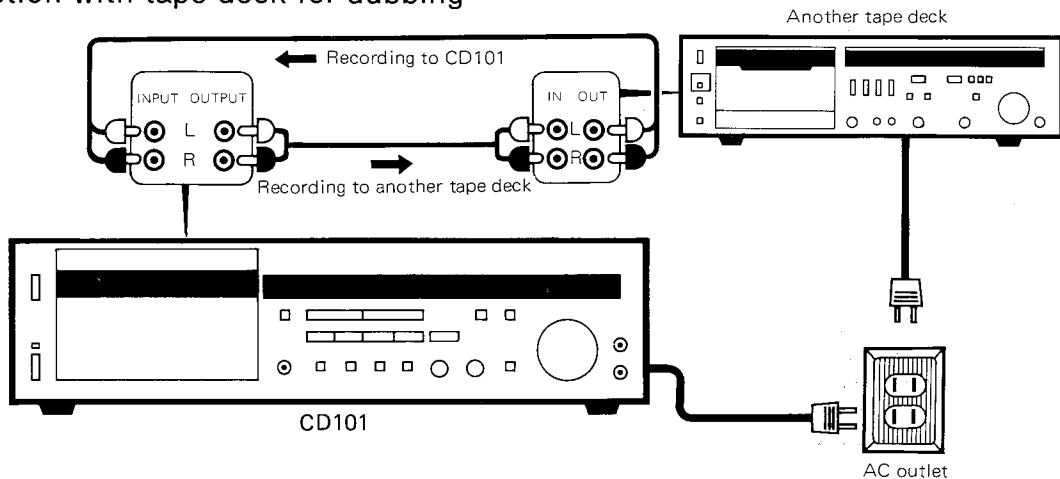
Connections

- Always disconnect the AC cords connected to mains outlets before making connections between components.
- Use the attached connection cords. Connect the plugs correctly to left and right channel jacks.
- Insert plugs fully. Imperfect insertion may cause noise or sound reproduction failure.

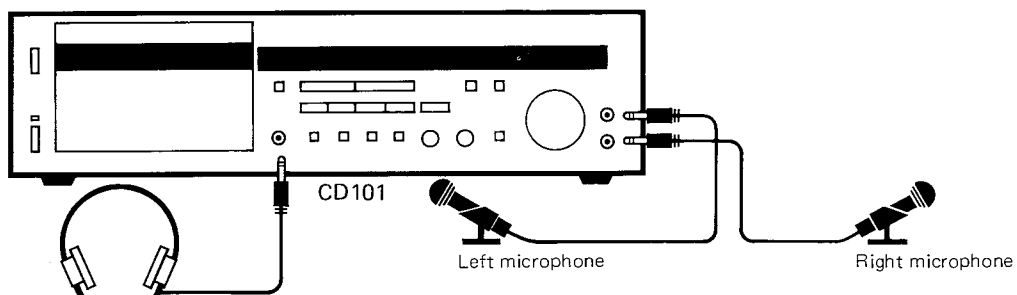
Connection with amplifier



Connection with tape deck for dubbing



Connecting headphones and microphones



- When headphones are used, tape playback sound can be enjoyed without connecting an amplifier.
- The sound volume through the headphones can be adjusted by the OUTPUT LEVEL control.
- Use headphones with the standard connecting plug.
- Use low-impedance microphones. (600Ω in the standard.)
- The recording level can be adjusted by the INPUT LEVEL controls.
- Use microphones with standard plugs.
- When recording with one microphone, connect it to the left MICROPHONE jack. In that case, monaural recording on both channels occurs.

Operation Procedures

Tape Playback

1. Turn on your amplifier, turn the volume control to the minimum level and select the tape monitor function on the amplifier according to its owner's manual.
2. Press the POWER switch, and the POWER INDICATOR illuminates.
3. Press the EJECT button to open the CASSETTE COMPARTMENT door, and insert a recorded cassette tape correctly in the compartment. Incorrect insertion may cause failure in door closing or playback.
4. Press the TAPE SELECTOR according to the type of the using tape.
5. Press the Dolby NR button for a recorded tape by using the Dolby NR system.
6. Press the PLAY button. The PLAY INDICATOR illuminates and the tape starts to be played back.
7. Gradually turn the OUTPUT LEVEL control and the volume control of your amplifier until the playback sound is heard.
8. Press the PAUSE button for temporary stopping of the tape. Press the PLAY button to restart tape playback.
9. Press the STOP button to stop tape playback.
10. Tape running automatically stops when the tape end is reached.

Automatic Repeat System

The automatic repeat system is a convenient system for automatic repeated playback from the beginning of a tape after recording or playback to the tape end.

Depress the AUTO REPEAT button. When the tape end is reached, the tape is automatically rewound to the beginning of the tape, and is automatically replayed endlessly. This automatic repeat mode is cancelled by releasing the AUTO REPEAT button.

Tape Recording

1. Turn on the POWER switch. The POWER INDICATOR illuminates.
2. Press the EJECT button to open the CASSETTE COMPARTMENT door and insert a cassette tape correctly. Incorrect insertion may cause failure in door closing or recording.
3. Press one of the TAPE SELECTORS corresponding to the type of the tape to be used. Even if none of the TAPE SELECTORS is pressed, the RECORD INDICATOR illuminates but recording is not possible.
4. To record through the DOLBY NR system, press the DOLBY NR button. The DOLBY NR indicator illuminates in green color.
5. To record an FM stereo broadcasting program through the DOLBY NR system, be sure that the MPX FILTER switch is on. This switch is off when depressed.
6. Press the RECORD and PAUSE buttons at the same time. The RECORD INDICATOR illuminates in red color and the PAUSE INDICATOR illuminates in yellow color. The tape does not run in this state.
7. Turn the INPUT LEVEL control to set the proper recording level.
8. Press the PLAY button to start recording.
9. Press the PAUSE button to stop recording temporarily. Press the PLAY button to restart recording.
10. Press the STOP button to stop recording.
11. Tape running automatically stops when the tape end is reached, and the recording mode is cancelled.

Notes:

- When recording through microphones, connect the left and right microphone cords correctly to MICROPHONE jacks and depress the INPUT SELECTOR to the MIC position.
- When recording from an external component, release the INPUT selector to the LINE position.

For dubbing without using an amplifier

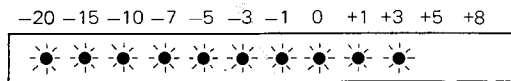
Connect this unit as shown in **Connection with tape deck for dubbing**, and carry out dubbing operation.

Operation Procedures

Recording Level Adjustment

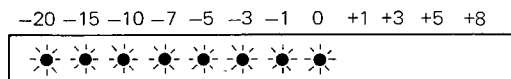
Adjust the recording level by turning the INPUT LEVEL control while observing the LED LEVEL DISPLAY. Make adjustment as described below when the sound level is relatively high.

When using a metal tape

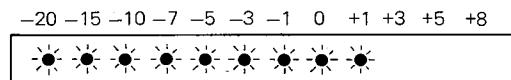


Momentary illumination up to +3 dB is allowable.

When using chrome tape

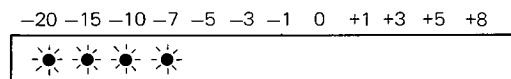


When using a ferrichrome or normal tape



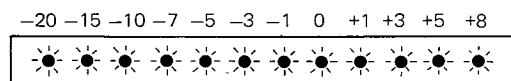
The following adjustments will cause excessive sound distortion or tape noise.

Too low level setting (illumination up to about -7 dB)



Recording with excessive tape noise will result.

Too high level setting (illumination up to +3 dB to +8 dB)



Recording with excessive distortion will result.

Bias Fine Trim Knob

The optimal recording bias rating of the tape of each brand is somewhat different from that of other brands.

The high frequency range tends to be attenuated if the bias current is higher than the rated value for a tape while it tends to be boosted if the bias current is less than the rated value. The BIAS FINE TRIM knob is provided to enable fine adjustment to obtain a flat frequency characteristic for such difference.

Turn this knob clockwise or counterclockwise to boost or attenuate the level in the high frequency range, respectively.

Erasing the Recorded Signals

When a new recording is made on a recorded tape, the recorded sound on that part of the tape is automatically erased. To erase the recorded sound on the tape without recording, operate as follows:

1. Be sure that erase-prevention tabs of the cassette are not broken out. If broken, cover the holes with adhesive tape.
2. Turn the INPUT LEVEL control surely to the "0" position.
3. Press the TAPE SELECTOR which corresponds to the erasing tape type.
4. Press the RECORD and PLAY buttons at the same time.

Maintenance

When the unit gets dirty, wipe it with a soft dry cloth. If heavily contaminated, wipe it with a soft cloth soaked with mild soapy water and then wipe with a dry cloth. Never use alcohol, thinner, benzine or other volatile agent since the painting may be damaged.