

harman/kardon

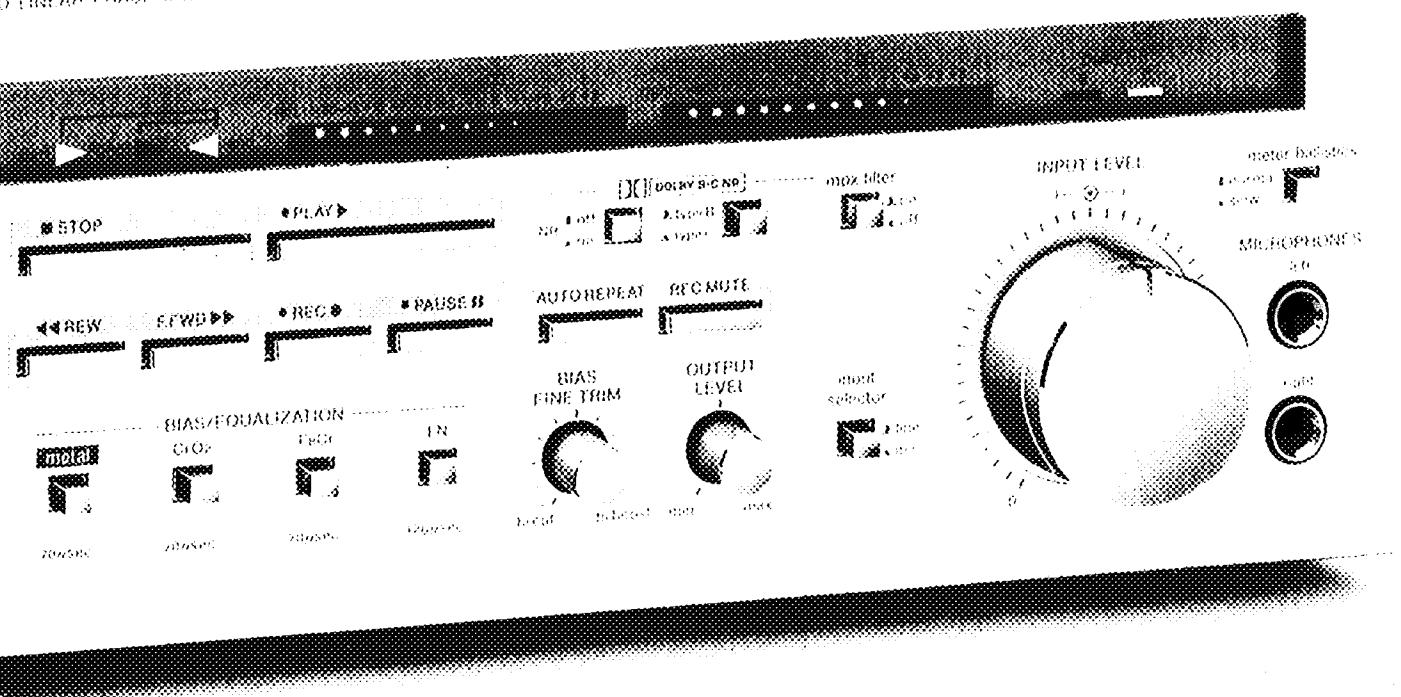
ULTRAWIDEBAND
LINEAR PHASE CASSETTE DECK

CD 201

owner's manual

harman/kardon CD 201

ULTRAWIDEBAND 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 CD201
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 CD201.

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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
- Adoption of *Dolby C-type Noise Reduction system in addition to the conventional B-type system for dynamic sound reproduction 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 any desired position in a cassette tape
- Easy-to read LED level display
- Functional layout with feather touch push-buttons for quick easy operation

General Instructions

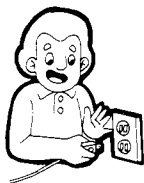
Always use at 120V AC

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

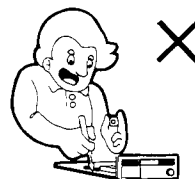
- Always hold the plug when disconnecting the AC cord from the outlet. Pulling at the cord may cause discontinuity.
- If the unit is not used for a prolonged period, disconnect the plug from the outlet.
- Do not place or drop a heavy material such as furniture on the cord. Otherwise, the cord may be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



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

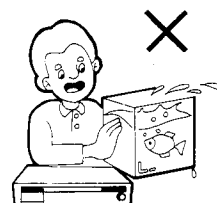
Do not open the cabinet

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.

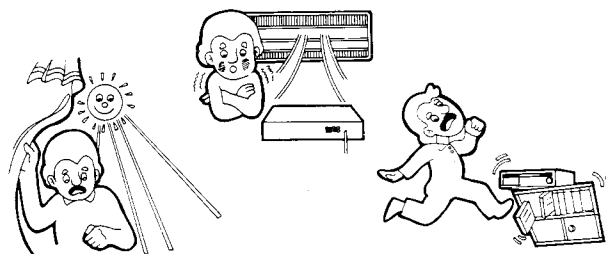


Locations for Installation

Place the CD201 on a firm level 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



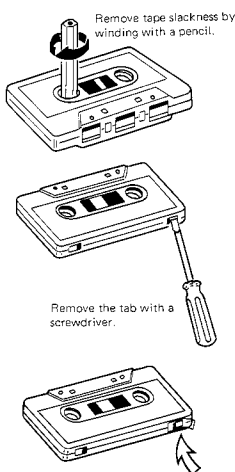
When piling with other components, carefully plan so as not to obstruct heat radiation from a pre-mainamplifier or mainamplifier. Use of a Harman Kardon audio rack is recommended.

*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

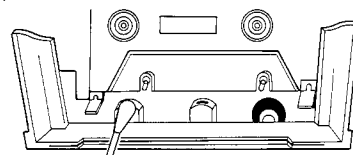
Cassette tape handling

- 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. If these tabs are broken out, the RE-CORD button cannot be pressed, so accidental erasure is prevented.
- 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 C-type NR System

This unit incorporates the Dolby B-type and C-type NR system. The Dolby B-type is the conventional system whereas C-type is a newly developed one.

The Dolby NR system is a system to reduce hissing noise specific to magnetic tape.

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 sound is more conspicuous when the signal level is low. Simple noise reduction may be attained by reproduction through tone control circuit or high-cut filter, but the high-frequency component of the recorded sound is also attenuated. If the high-frequency component is boosted during recording to compensate this attenuation, the recorded sound on the tape is distorted.

The basic principle of the Dolby NR system is to boost the high-frequency zone above 5 kHz by 10 dB when the signal level is low during recording, and to attenuate the high-frequency range as much during playback to offset the effect.

As compared with the conventional Dolby B-type NR system, the new Dolby C-type system adopts 10 dB sliding band processors in 2 stages so as to obtain better noise reduction effect for more strict requirements in today's advanced listening conditions as a result of new program source development.

The Dolby C-type NR system has two additional circuits; the spectral skewing and anti-saturation network.

The spectral skewing network has improved linearity in the high frequency range and reduces error in recording/playback of a tape caused by the difference in tape frequency characteristic.

The anti-saturation network in the main signal path reduces

the recording level by about 3 dB only for high level signal in the high frequency range. As a whole, the high frequency characteristic at 15 kHz has been improved by maximum 8 dB.

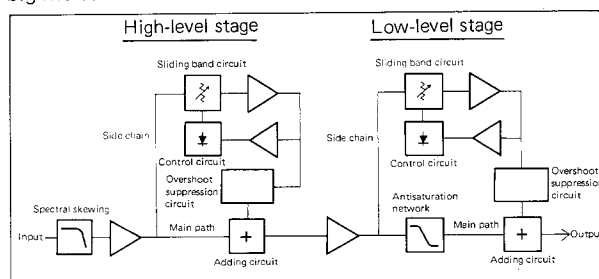
As a result, it enables clear sound recording with minimized distortion.

Dolby C-type NR system has achieved remarkable improvement for a normal tape whose high frequency characteristic is insufficient, and enables flat frequency characteristic up to 15–20 kHz for a metal tape even if the recording level is 0 dB.

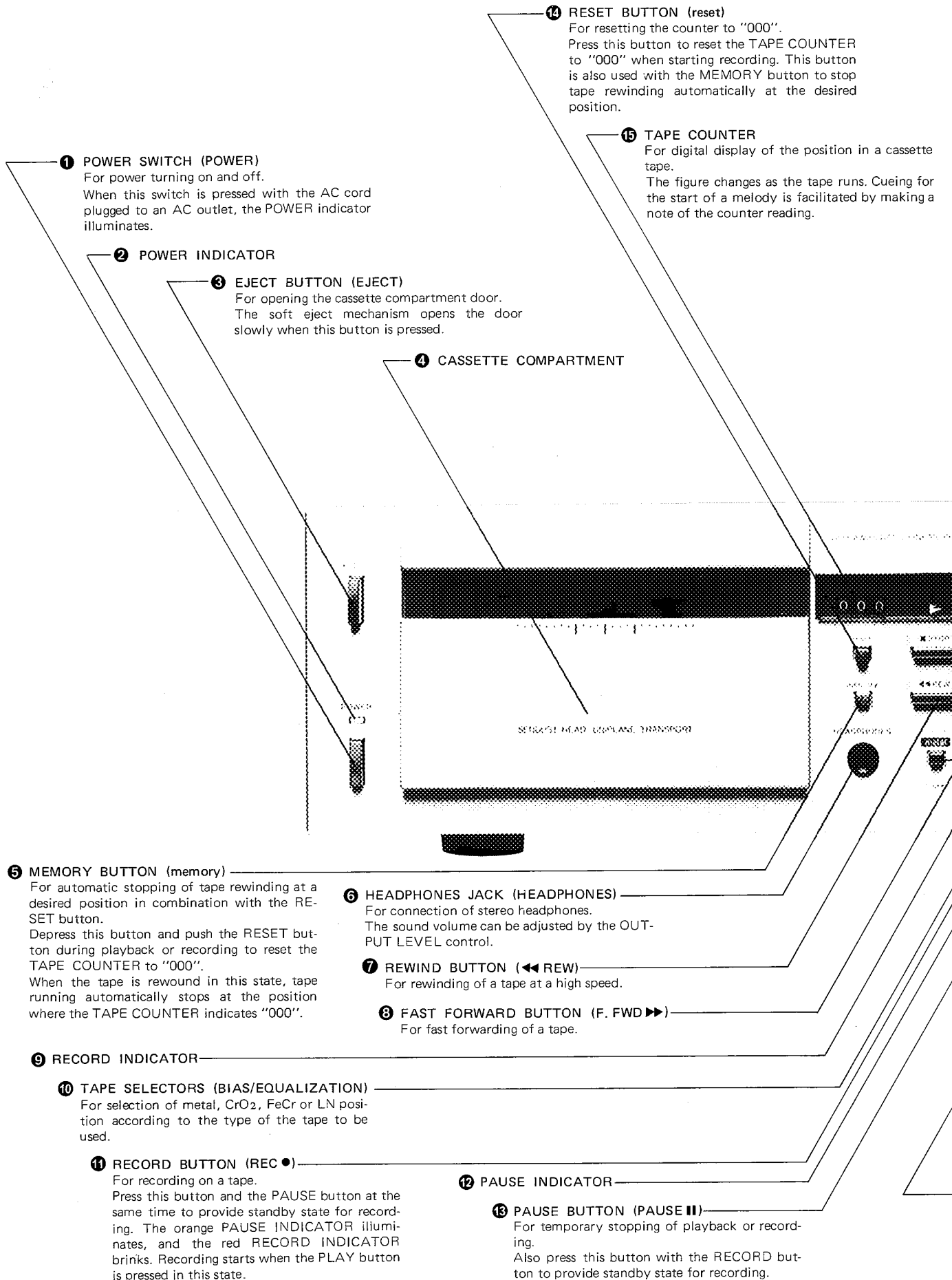
The Dolby C-type NR system uses the dual path system which has been used in the conventional Dolby B-type NR system.

Generally, a tape recorded through the Dolby B-type or C-type NR system should be reproduced through the Dolby B-type or C-type NR system, respectively.

In case of the recording with the Dolby C-type NR system, reproduction without a NR system or through Dolby B-type NR system will not give abnormal impression because of gradual reduction of the compression ratio toward the low frequency range. This wide applicability of a tape is a big merit for a music enthusiast.



Components and Their Functions



16 AUTOMATIC REPEAT RANGE INDICATOR

For indication of the repeating range in a cassette tape by automatic repeat function.

17 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.

18 PLAY INDICATOR

19 PLAY BUTTON (PLAY ►)

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

20 LED LEVEL DISPLAY

For clear indication of the recording or playback level.

21 DOLBY NR SYSTEM SELECTOR (DOLBY B-C NR)

●NR ON/OFF Selector

For recording or playback using the Dolby NR system.

Press this switch to use the Dolby NR system. The green DOLBY NR INDICATOR (for B-type) or the orange one (for C-type) illuminates according to the NR TYPE selector position. Press this switch again to invalidate the Dolby NR system.

●NR TYPE Selector

For selection of Dolby B- or C-type NR system. Depress this selector to select the Dolby C-type NR system. Press it again and the B-type is selected.

22 MPX FILTER SWITCH (mpx filter)

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

23 DOLBY NR INDICATORS (Dolby NR B, C)

For indication of the validated Dolby NR system type.

24 METER BALLISTICS SELECTOR (meter ballistics)

For selection between normal and slow LED LEVEL DISPLAY recovery time.

25 MICROPHONE JACKS (MICROPHONES)

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

26 INPUT LEVEL CONTROL (INPUT LEVEL)

For input level control during recording. The LED LEVEL DISPLAY shows the input level. The front side knob is for the left channel and the rear one is for the right channel. Both knobs are turned together by single-hand operation.

26 OUTPUT LEVEL CONTROL (OUTPUT LEVEL)

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

27 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.

28 RECORD MUTE BUTTON (REC MUTE)

For providing a soundless interval during recording.

To cut off undesirable sound between programs keep this button pressed until the next program starts. No sound is recorded as long as this button is kept pressed.

30 BIAS FINE TRIM KNOB (BIAS FINE TRIM)

For setting of the optional 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.

31 AUTOMATIC REPEAT BUTTON (AUTO REPEAT)

For automatic repeating of playback operation to enable endless playback.

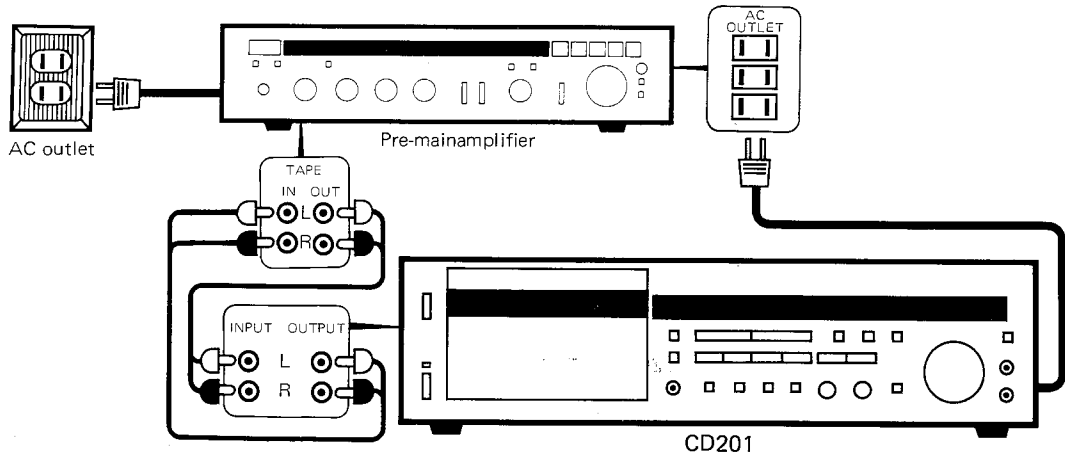
When this button is pressed the AUTOMATIC REPEAT RANGE INDICATOR illuminates to indicate the playback range.

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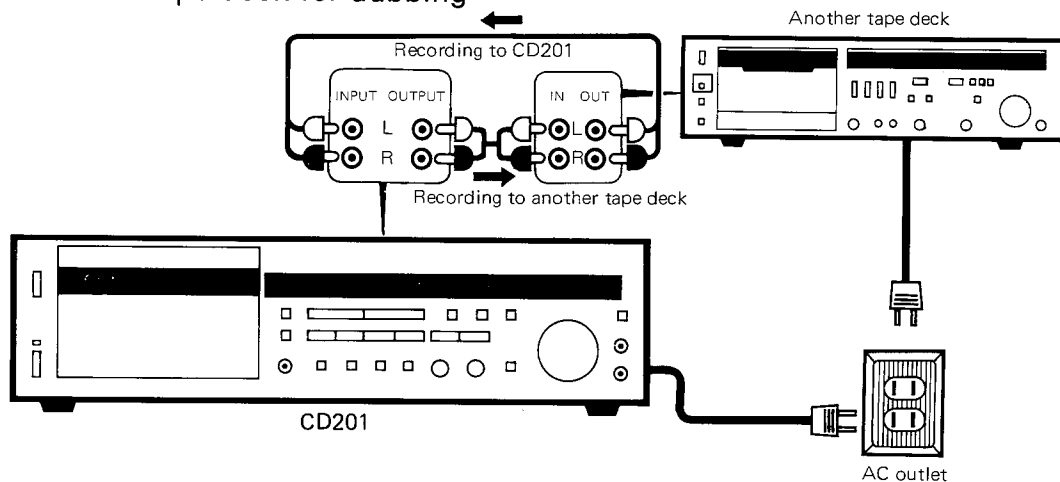
Connections

- 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.

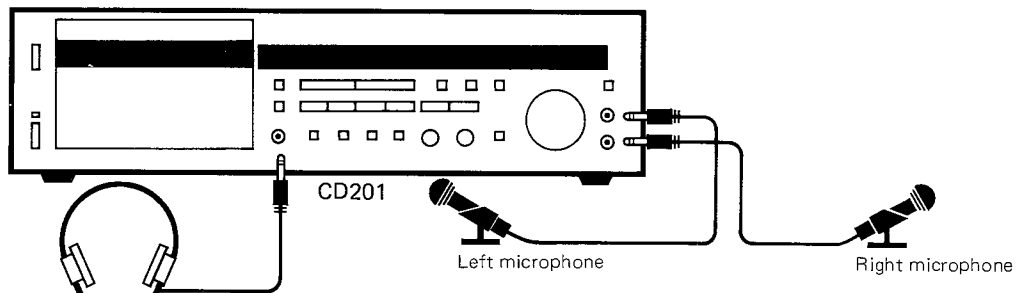
Connection with amplifier



Connection with tape deck for dubbing



Connecting headphones and microphones



- When headphones are connected to the HEADPHONES jack, 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 this 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 the recorded cassette tape correctly in the compartment. Incorrect insertion may cause failure in door closing or playback.
4. Press the proper TAPE SELECTOR corresponding to the type of the tape to be used.
5. When playing back a tape recorded through the Dolby B-type or C-type NR system, depress the NR ON/OFF selector and place the NR TYPE selector at the B-type or C-type position corresponding to the Dolby NR system type used for recording.
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.

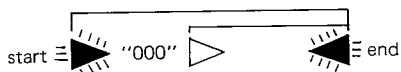
Automatic Repeat System

The automatic repeat system is a convenient system for automatic repeated playback of a tape after recording or playback to the end of the tape. Operate the unit according to the following explanation:

1. Press the AUTOMATIC REPEAT button.
The AUTOMATIC REPEAT RANGE INDICATOR illuminates.
2. For repeated playback from a desired position, press the RESET button at the desired point on the tape to reset the TAPE COUNTER to "000" and press the MEMORY button. The AUTOMATIC REPEAT RANGE INDICATOR illuminates as shown below to indicate the repeating range.



To repeat from the start of the tape, press the MEMORY button again to its released position. The AUTOMATIC REPEAT RANGE INDICATOR display status changes as shown below.



3. Start tape recording or playback.
 - Playback after recording.
 - ① Set the recording mode and start recording.
 - ② Upon recording to the tape end, the tape is automatically rewound to the start position of the tape or to the "000" position whichever is indicated by the AUTOMATIC REPEAT RANGE INDICATOR and playback from that position starts automatically. Tape playback is automatically repeated until the automatic repeat mode is cancelled by pressing the AUTOMATIC REPEAT button again.
 - To repeat playback
 - ① Start tape playback.
 - ② Upon playback to the tape end, the tape is automatically rewound to the position indicated by the AUTOMATIC REPEAT RANGE INDICATOR and playback is repeated automatically.

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 the proper TAPE SELECTOR corresponding to the type of the tape to be used. If none of the four TAPE SELECTORS is pressed, the RECORD INDICATOR does not illuminate and recording is not possible.
4. For recording through the Dolby NR system, press the NR ON/OFF selector and select type B or C by the NR TYPE selector.
5. For FM stereo broadcast recording 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 blinks in red color and the PAUSE INDICATOR illuminates in orange color. The tape does not run in this state.
7. Turn the INPUT LEVEL control to set to the proper recording level.
8. Press the PLAY button to start recording. The RECORD INDICATOR illuminates without blinking and the PLAY INDICATOR illuminates in green color.
9. Press the PAUSE button for temporary stopping of the tape. Press the PLAY button to restart tape recording.
10. Press the STOP button to stop tape 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 other component, release the INPUT SELECTOR to the LINE position.

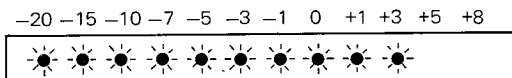
For dubbing without using an amplifier

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

Recording Level Adjustment

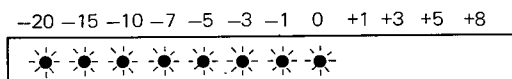
Adjust the recording level by turning the INPUT LEVEL control while observing the LED LEVEL DISPLAY. Make adjustment as described below when the sound level is relatively high.

When using a metal tape

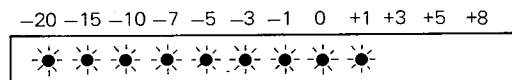


Momentary illumination up to +3 dB is allowable.

When using a chrome tape

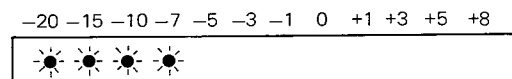


When using a ferrichrome or normal tape



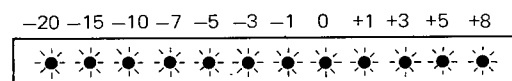
The following adjustments will cause excessive sound distortion or tape noise.

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.

Record Mute Button

If the sound (such as CM or narration) between melodies is desired to be cut off during recording, recording function can be invalidated by pressing the RECORD MUTE button.

1. Press the RECORD MUTE button continuously after a melody ends. No sound is recorded on the tape as long as this button is kept pressed.
2. After a few seconds, press the PAUSE button and wait for the next melody.

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 at the position corresponding 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.

