

SONY®

MD PLAYER

MDS-B6P



OPERATION MANUAL English

1st Edition

Serial No. 800001 and Higher (UC)

Serial No. 600001 and Higher (CED)

For the customers in U.S.A.

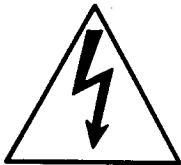
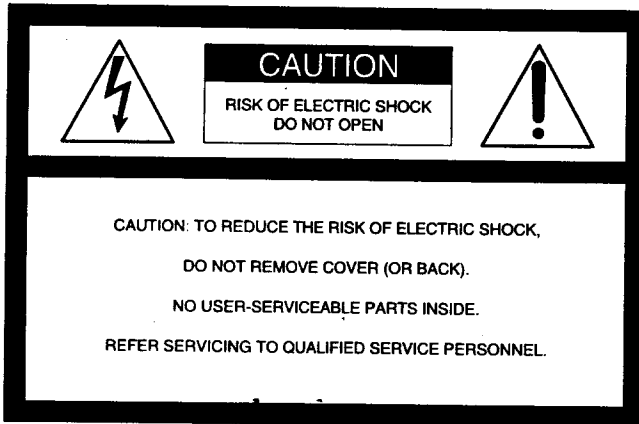
Owner's Record

The model and serial numbers are located on the top of the unit. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. MDS-B6P Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.



This symbol 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.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

CAUTION

As the laser beam used in this MD deck is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

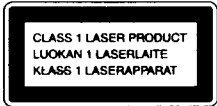
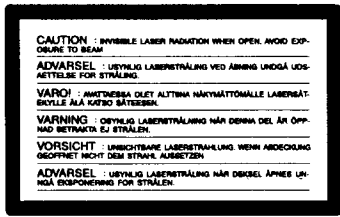
Notes on shipping of the unit

When shipping the unit, make sure the following conditions have been met:

- The unit is in shipping mode.
- The unit is packed in its original carton.

Please note that if these conditions are not met, any damage that occurs to the unit during transport will not be covered by the service warranty.

The following caution label is located inside the unit.



This appliance is classified as a **CLASS 1 LASER** product. The **CLASS 1 LASER PRODUCT MARKING** is located on the side of the unit.

For customers in Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Pour les utilisateurs au Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

For the customers in the United Kingdom

WARNING

THIS APPARATUS MUST BE EARTHED

IMPORTANT

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

Green-and-yellow: Earth
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 green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol \perp or coloured green or green-and-yellow.

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.

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The MDS-B6P is a MiniDisc deck for professional use in any kind of broadcasting, announcements, or program production.

1-1-1 Features of the MiniDisc

ATRAC (Adaptive Transform Acoustic Coding) data compression technology

By eliminating inaudible sound data to obtain a compression ratio of 1:5, ATRAC data compression technology enables the recording of sound information of almost the same quality and quantity as a CD, but on a smaller disc.

74 minutes of playback or recording

A single MD can be used to play back or record up to 74 minutes of sound information. In monoaural mode, you can record and play back up to 148 minutes.

Direct track access

You can use the wire-connected remote controller supplied with the MDS-B5 or an IBM keyboard (not supplied) to directly access any of the MD's 255 tracks without the long cueing time required for tape.

Various playback functions

The MDS-B6P's various playback functions include repeat playback, programmed playback, and random playback. You can also vary the playback speed between $\pm 12.5\%$ of the normal speed.

Multiple editing functions

The MDS-B6P's editing functions allow you to divide, combine, and move tracks on the MD. You can use the rehearsal function to precisely position edit points on a track as you monitor the sound.

Unlike tracks on an analog cassette or DAT tape, specific MD tracks or an entire MD can be erased instantly.

Text entry

You can use the wire-connected remote controller supplied with the MDS-B5 or an IBM keyboard to enter titles for recorded discs and tracks. Title data, which can total 1,792 characters per disc, appear in the display window during playback.

Durability

Because MDs use a non-contact system like compact discs, they are superior to cassette tape in durability.

1-1-2 Operational Features

Instant playback function

The MDS-B6P can store the first part of up to 10 selected tracks into memory in order to begin instant playback.

Two cueing modes

You can use the A.MODE button to select the following two cueing modes.

AUTO PAUSE mode

AUTO PAUSE mode pauses the MD deck at the beginning of a track, then starts playback when you press the PLAY/PAUSE button. Use this mode to pre-cue tracks during on-air broadcasting with multiple MD decks.

AUTO CUE mode

AUTO CUE mode pauses the MD deck when it detects a rise in the audio signal following the inaudible portion before the start of a track. This mode is good for playing special sound effects in theater productions, etc.

1-1 Features

NEXT TRACK SELECT function

During single-deck operations, you can specify the next track to be played as you are playing another one.

Single track play

No matter what the cueing mode may be, you can always play back single tracks. After playing a single track, the deck stops rather than pauses, thus preventing the mistaken playback of another track.

Playback display variations

The MDS-B6P displays track information (playing time, track title, etc.) for the current and the next tracks that have been selected for playback. By pressing the DISPLAY button, you can display the following track information:

- Remaining playing time and title of the current track
- Elapsed time and title of the current track
- Remaining playing time of the current track and a list of programmed tracks during Program Play or Instant Playback.
- Playing time and title of the next track

Rehearsal function

You can play back a portion of a track repeatedly in order to precisely determine points for cueing or track division. You can also use the Setup menu to specify the length of the portion to be repeated and the interval between the end of one repeat and the start of another.

RAM Edit function

You can do temporary editing, such as dividing, combining, and moving the tracks on the MD, without overwriting the TOC information. The results of the RAM edit function will be lost when the MiniDisc is ejected. You can use the RAM edit function on pre-mastered MDs.

UNDO function

You can undo the last editing operation (e.g., when you have mistakenly erased a track).

End-of-message (EOM) function

This function outputs a tally signal from the REMOTE(25P) connector before the end of a track or the disc.

You can use the Setup menu to specify how far in advance of the end the tally signal is output.

Cue point function

This function outputs a tally signal from the REMOTE(25P) connector whenever a cue point is detected during playback. Up to 255 cue points can be marked per disc.

Track trimming function

You can temporarily modify the starting and ending points of a track. The head trimming edit allows you to specify the starting point in accordance to the audio rising point.

Digital time meter

The digital time meter displays the accumulated spindle motor operation time.

Easy menu operations

The editing and setting operations on the MDS-B6P are done using two types of menus: the Edit menu and the Setup menu. Menu operations are easily done using the AMS control, turning it to select items and pressing it to select the setting.

Keyboard operations

You can use the supplied keyboard template on any IBM keyboard to operate the MDS-B6P.

Remote control function

The MDS-B6P can be controlled by external control signals input to the REMOTE(25P) connector on the rear panel. You can select any of four pin assignments for the REMOTE(25P) connector, depending on the application.

When the deck is controlled by external control signals, you can disable the operation buttons and controls on the front panel by using the Kill Local function.

RS-232C interface

The MDS-B6P can be controlled by a personal computer or other external equipment connected to the deck through the RS-232C interface.

Rack mounting compatibility

Two MDS-B6P decks can be mounted side by side in a standard 19-inch EIA rack.

TOC data back-up function

If power to the MDS-B6P is suddenly cut off, edited TOC data in the MDS-B6P's RAM will be saved and maintained by an internal back-up power supply for up to three days.

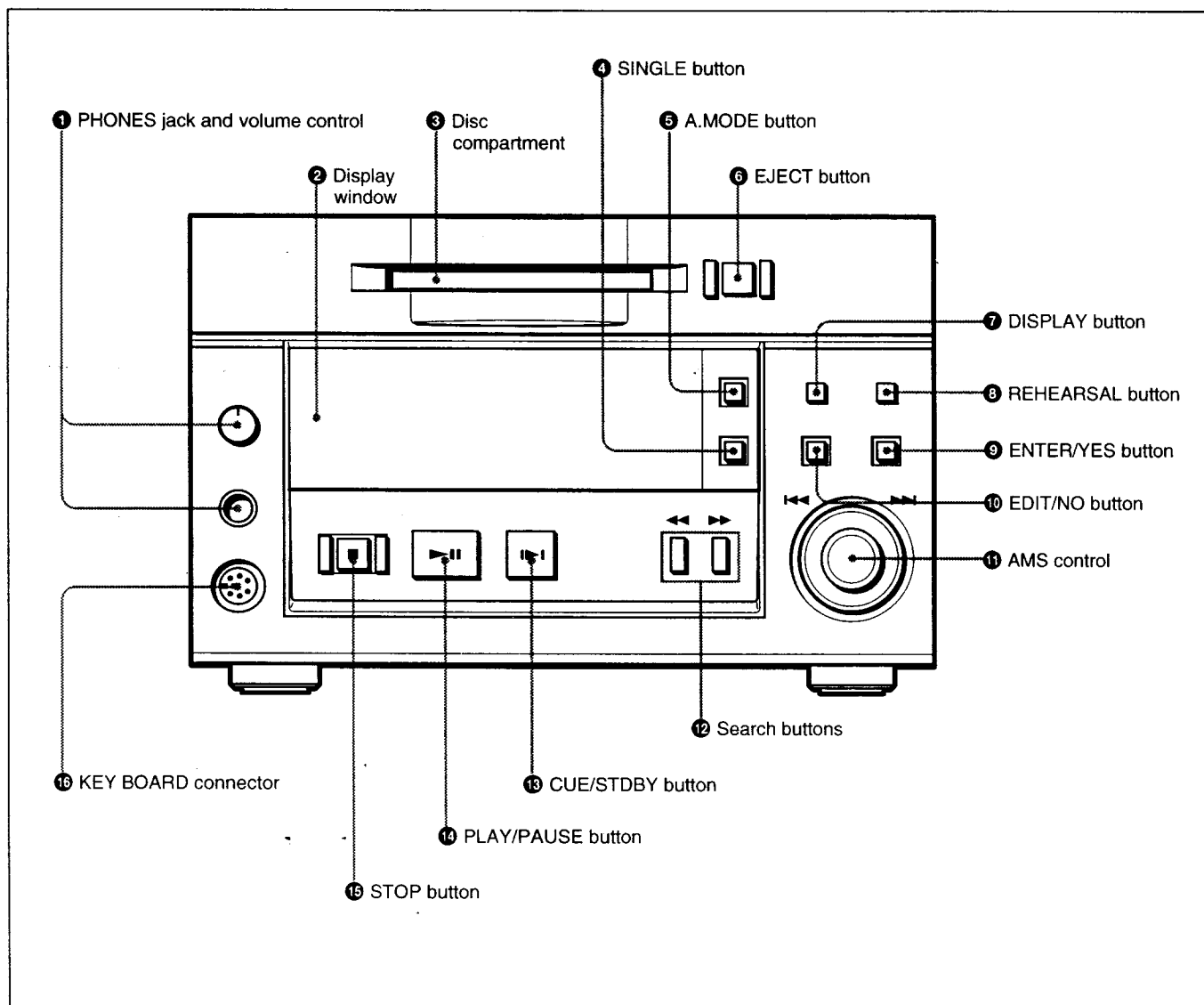
Note

- TOC data may be lost if the power is cut at the moment of the beginning or the end of editing operation.
- Due to the limited capacity of the RAM, cue points and trimming point specifications are not saved.

Error check function

The MDS-B6P can play back a disc at four times normal playback speed, allowing you to quickly verify the integrity of tracks before a broadcast.

2-1 Front Panel



1 PHONES jack and volume control

Connects headphones. Use the volume control to adjust the sound level of the PHONES jack.

2 Display window

Indicates the current MD deck operating status. While the deck is stopped, the disc title, total track number, and total playing time are displayed. During playback, the track title and time information of the current track or the next track are displayed. When using a menu, the menu number and menu item are displayed.

3 Disc compartment

Automatically loads an inserted disc.

4 SINGLE button

Press to play only one track. "1" appears in the display window.

5 A.MODE button

Selects the cueing mode. The following are selected in sequential order each time you press this button.

OFF: The cueing function is disabled. Playback starts when you press the PLAY/PAUSE button or select a track using the AMS control.

A.PAUSE: When you press the PLAY/PAUSE button or select a track using the AMS control, the MD deck locates the beginning of the track and pauses. Playback starts when you press the PLAY/PAUSE button.

A.CUE: When you press the PLAY/PAUSE button or select a track using the AMS control, the MD deck pauses whenever the audio signal rises above a specified threshold level. Playback starts when you press the PLAY/PAUSE button.

6 EJECT button

Press to eject the disc from the disc compartment.

7 DISPLAY button

During playback, press this button to select the following display contents:

- Remaining playing time and title of the current track
- Elapsed time and title of the current track
- Remaining playing time of the current track and the Program Play list during Program Play or the Instant Playback function
- Playing time and title of the next track

8 REHEARSAL button

Press to play a portion of a track repeatedly. If you press this button during playback, the portion starting from that point is repeated. If you press the button while the deck is stopped, the beginning of the first track on the disc or the selected track is repeated.

During rehearsal playing, you can move the repeated portion forward or backward by turning the AMS control. Pressing the ◀◀ or ▶▶ button changes the unit for adjusting the start of Rehearsal Play.

After confirming the cue point or editing point using the rehearsal function, press the CUE STDBY button to pause the deck at the position where the rehearsal started or press EDIT/NO button to execute an editing function.

9 ENTER/YES button

Press to execute an editing function.

You can also execute editing functions by pressing the AMS control.

10 EDIT/NO button

Press to display the Edit menu or cancel an editing function.

11 AMS control

Turn to locate the beginning of a track.

When using the Edit menu or the Setup menu, turn this control to select the menu item and press it to select the setting.

12 Search buttons

- ◀◀: Hold down this button during playback to scan backward while monitoring the sound.
- ▶▶: Hold down this button during playback to scan forward while monitoring the sound.

13 CUE/STDBY (standby) button

Press to return to the position where you last pressed the PLAY/PAUSE button. After finding the position, the MD deck enters playback pause. Use this button to check or return to a cueing position.

14 PLAY/PAUSE button

Press to start playback.

Press during playback to temporarily pause the MD deck; press again to cancel pause.

The PLAY/PAUSE button lights during playback. It flashes while the MD deck is in playback pause.

15 STOP button

Press to stop playback or recording.

16 KEY BOARD connector

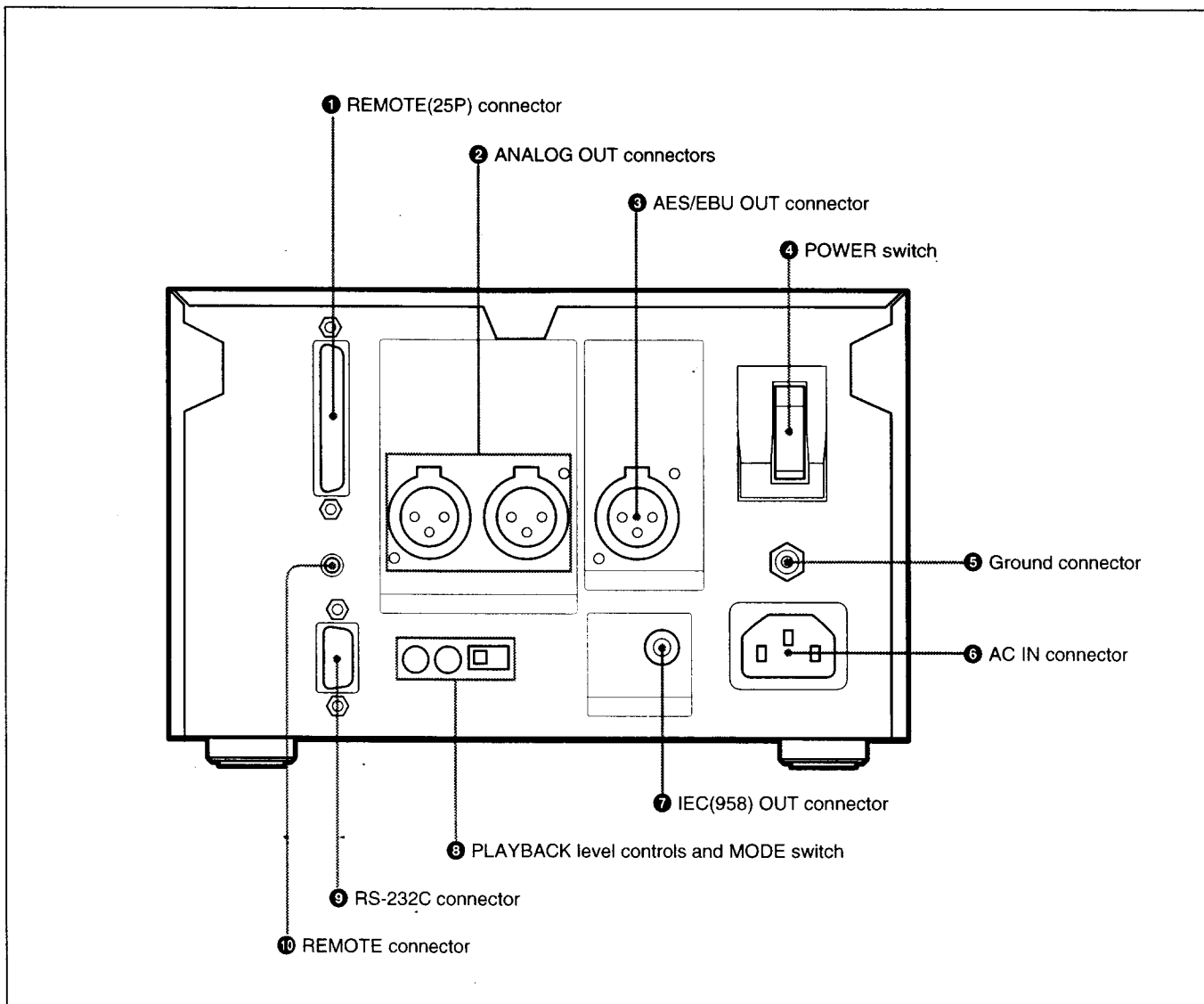
Connects any IBM keyboard for control of the MD deck using the supplied keyboard template.

This connector has a cap for protection. Remove the cap only when connecting a keyboard.

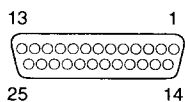
Note

While using the keyboard, turning the MD deck off, then turning it on again quickly may cause the keyboard to malfunction. If this occurs, unplug the keyboard cord and plug it again.

2-2 Rear Panel



1 REMOTE (25P) connector
Connects to external equipment for remote control.



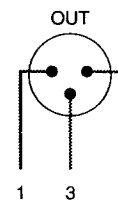
You can choose any of four pin assignments, depending on the purpose.

See "Pin assignments for REMOTE (25P) connector" on page A-3.

2 ANALOG OUT connectors (XLR-type, 3-pin)
Output a two channels of analog audio signals.

Pin assignment

Pin No.	Signal
1	GND
2	HOT
3	COLD



3 AES/EBU OUT connector (XLR-type)
Outputs two channels of digital audio signals in AES/EBU format.

4 POWER switch
Press to turn on the MD deck. Press again to turn the MD deck off.

5 Ground connector

Connects directly to ground.

6 AC IN connector

Connects to an AC outlet with the supplied AC power cord.

7 IEC(958) OUT connector (RCA-type, phono)

Outputs digital audio signals (IEC958-TYPE2).

8 PLAYBACK level controls and MODE switch

PLAYBACK level controls

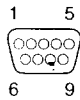
Adjust the analog output reference level during playback. Adjust the level of each channel (CH-1(L)/CH-2(R)) by turning the control with a flat screwdriver.

MODE switch

Selects monaural or stereo mode for the analog output signal.

When MONO is selected, the signals of channel 1 and 2 are mixed and lowered to below -6 dB, then output from ANALOG OUT CH-1(L) and CH-2(R).

9 RS-232C connector



You can use a personal computer connected to the MDS-B6P's RS-232C connector to control the MDS-B6P including following operations:

- Button operations
PLAY/PAUSE, STOP, EJECT, PREVIOUS, NEXT, CUE STDBY
- Direct track access
- Selecting menu functions
Selecting the timing for the end-of-message (EOM) tally signal output, setting the AUTO PAUSE and AUTO CUE functions
- Displaying time and character data and messages on an external computer

See "RS-232C Protocol" on page A-5 for details.

10 REMOTE connector

Connects the remote controller supplied with the MDS-B5.

3-1 Precautions

3-1-1 Installation Precautions

Install the MD deck on a flat surface in a temperature-controlled room. Avoid using or storing the MD deck at a location that is:

- extremely hot or cold.
- damp.
- subject to severe vibrations.
- subject to strong magnetic fields.
- subject to many hours of direct sunlight or close to heating equipment.

3-1-2 Handling Precautions

- Check the MD deck's operating voltage before you plug it in. It must be identical with that of your local power supply.
- If you drop any liquid or metal object inside the MD deck, immediately stop using it, unplug the power cord from the socket, and contact Sony service personnel.
- If the MD deck will be unused for a long time, make sure to unplug its power cord from the socket. When unplugging the power cord, grasp it by the plug, not the cord.
- Do not disassemble the MD deck. The laser light used in the deck can cause damage to your eyes. If the MD deck needs to be inspected, contact Sony service personnel.

Caution

The use of optical instruments with this product will increase eye hazard.

Condensation

Bringing in the MD deck from a cold place or turning on the room heating may cause moisture to condense on the lens within the MD deck, resulting in abnormal operation. If this occurs, leave the power on. The moisture will evaporate within an hour and the MD deck will function normally again.

If the MD deck does not operate normally after a few hours, contact Sony service personnel.

If trouble occurs

Should you detect an abnormal noise, smell, or smoke, immediately turn off the power, unplug the power cord from the socket, and contact Sony service personnel.

AC power cord

Do not use any power cord other than the one supplied with the MD deck.

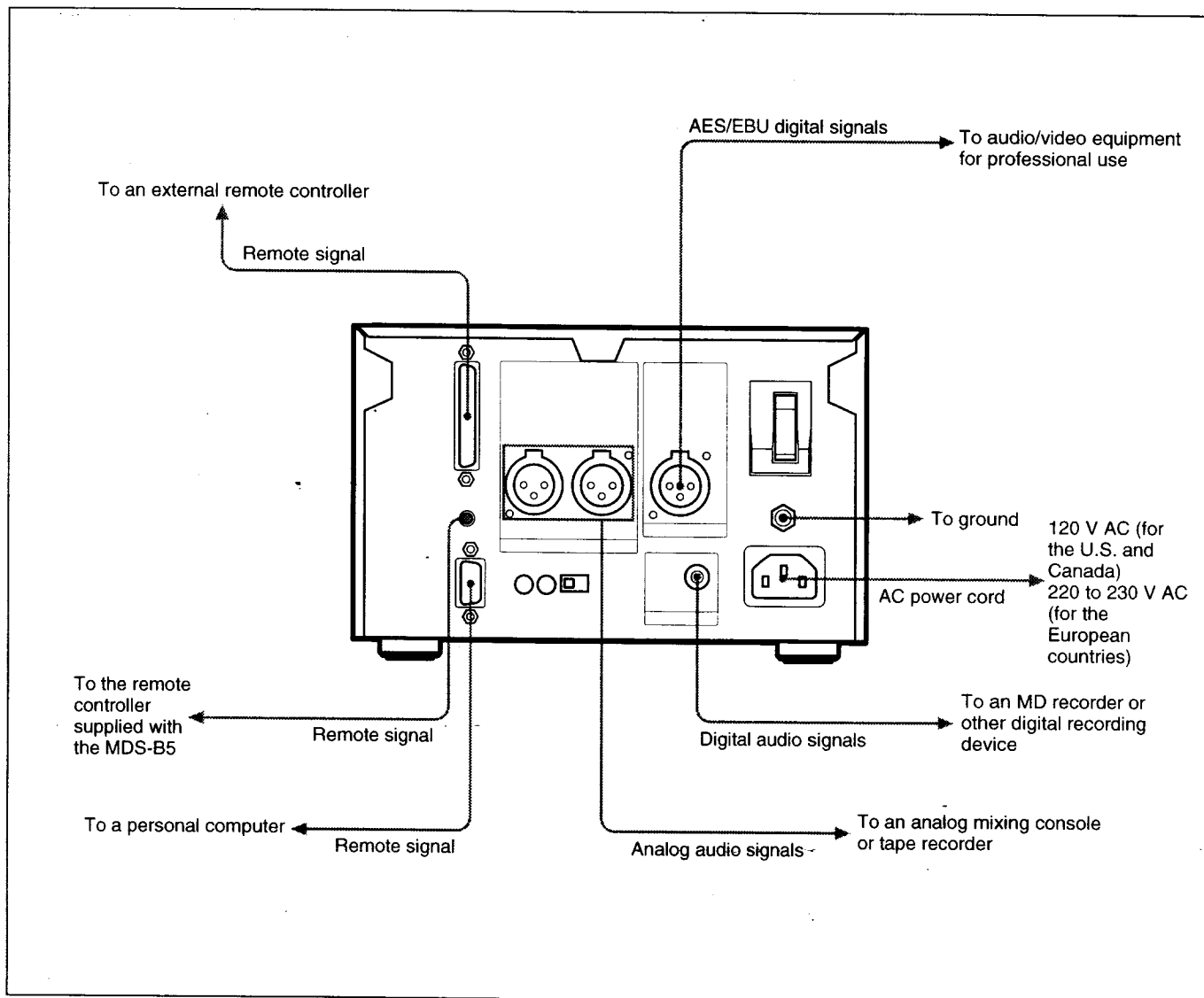
3-1-3 Shipping Precautions

When shipping the MD deck, make sure that the MD deck is packed in its original carton. If not, any damage that occurs to the MD deck during transport will not be covered by the service warranty.

3-2-1 Precautions

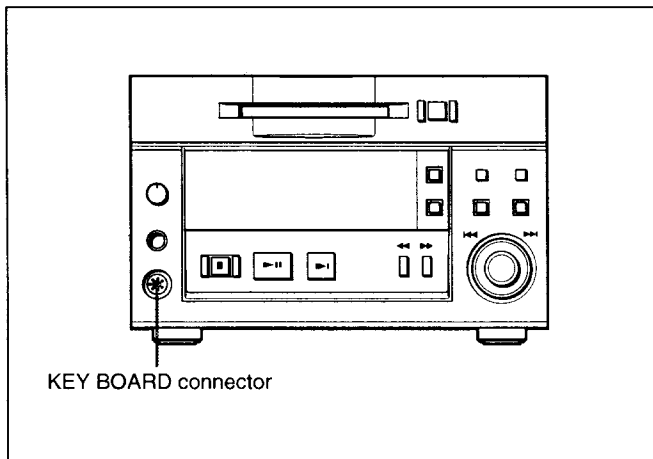
- Turn off all equipment before connecting or disconnecting any cables.
- Insert all electrical plugs firmly since incomplete connection may cause noise.
- Use a cord somewhat longer than needed to prevent the plug from being pulled out when jarred or shaken.

3-2-2 Basic Connection Examples



3-2-3 Connecting and Setting the Keyboard

You can use any IBM keyboard to control the MD deck. The supplied keyboard template has the same key indications found on the front panel of the deck. Be sure to remove the cap from the KEY BOARD connector when connecting a keyboard.

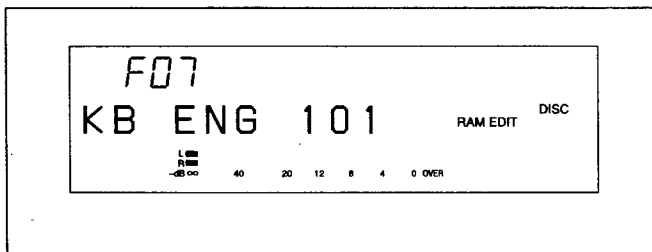


- 4 Turn the AMS control to select either "KB ENG 101" or "KB JPN 106." Press the AMS control to select the item.
- 5 Press the EDIT/NO button to exit from the Setup menu.

Specifying the keyboard type

Use the Setup menu to specify the keyboard type.

- 1 Press the EDIT/NO button while holding down the STOP button. The Setup menu appears in the display window.
- 2 Turn the AMS control to display the menu item F07 ("KB ENG 101" or "KB JPN 106") in the window.



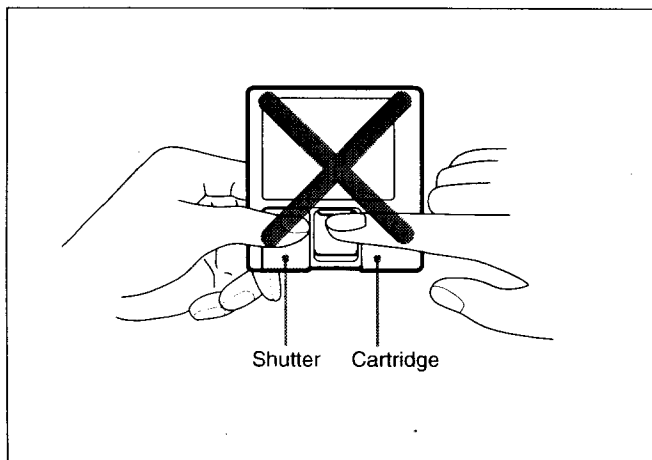
- 3 Press the AMS control. The indication flashes and you can change the setting.

3-3 Handling MiniDiscs

Unlike CDs (Compact Discs), the Mini Disc is encased within a hard plastic cartridge which allows you to handle it without fear of dust or fingerprint contamination. However, a MiniDisc that has been contaminated or bent may cause the MD player to malfunction. To prevent damage to the contents of a disc and to enjoy clear sound permanently, take the following precautions when handling a MiniDisc.

Do not open the shutter to expose the disc

If you do so, the data on the disc may be damaged.



Store MiniDiscs in a proper location

Do not place the cartridge where it will be subject to extremes of sunlight, temperature, moisture or dust.

Cleaning the MiniDisc

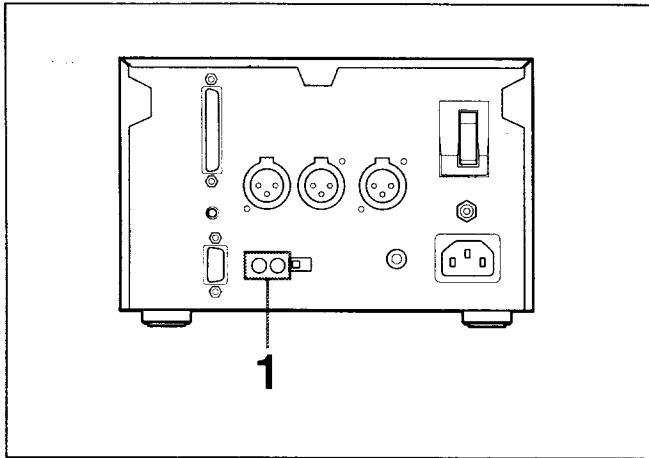
Gently wipe the cartridge with a dry soft cloth to remove dust.

3-4 Setting the Analog Output Reference Level

You can adjust the analog output reference level during playback within a range of +8 dB to -12 dB by turning the PLAYBACK level controls on the rear of the MD deck.

The analog output reference level is factory set at +4 dB (at -20 dB from full bit).

Setting the analog output reference level



- 1 Play back a disc recorded at -20 dB from the full bit. Adjust the output level of the ANALOG OUT connectors with the PLAYBACK (CH-1/CH-2) level controls.

Note

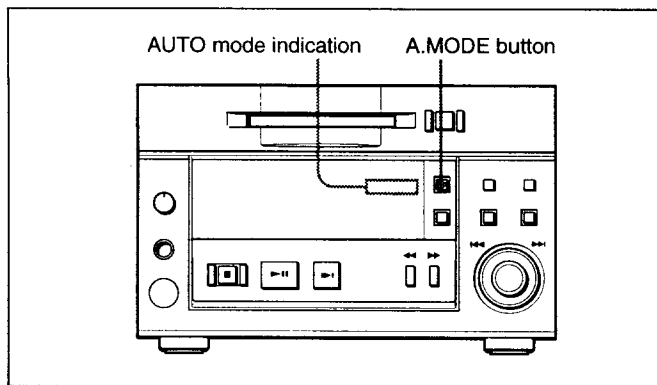
Adjust the PLAYBACK level controls with a flat screwdriver. Do not use excessive force when turning the screwdriver or touch the screwdriver to any part other than the PLAYBACK level controls.

4-1 Overview of Playback Procedures

The MDS-B6P provides many playback functions that can be used for a variety of purposes. This section gives an overview of these functions and their application.

Cueing before playback (AUTO mode)

With each press of the A.MODE button on the front panel, you can select any one of the following AUTO mode settings: AUTO PAUSE, AUTO CUE, or off.



AUTO PAUSE function

If you press the PLAY/PAUSE button while AUTO PAUSE is on, the MD deck will cue to the beginning of the selected track, then pause. To start playback, press the PLAY/PAUSE button again. This function is useful for setting up successive tracks for playback when using multiple MD decks during a broadcast.

AUTO CUE function

If you press the PLAY/PAUSE button while AUTO CUE is on, the MD deck will pause after the inaudible portion before the beginning of the selected track at the point where the signal level actually rises. To start playback, press the PLAY/PAUSE button again. This function is useful for playing sound effects in a theater. Use the Setup menu to set the threshold level for detecting the rise in signal level.

See "6-5 Setting the Auto Cue Function" on page 6-5.

When neither the AUTO PAUSE or AUTO CUE function is selected

Pressing the PLAY/PAUSE button starts MD playback immediately without cueing.

To start playback instantly

You can memorize the beginning of selected tracks into the MD deck's built-in memory in order to begin playback the instant you press the PLAY/PAUSE button.

See "4-8 Starting Playback Instantly (Multi-Access Function)" on page 4-11.

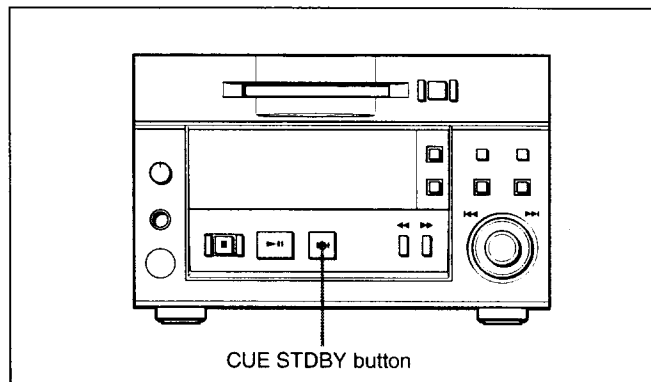
To play a single track

To prevent the unintentional playback of the next track, you can specify playback of one track at a time when pressing the PLAY/PAUSE button.

See "4-2-3 Playing a Single Track Only" on page 4-3.

Checking the playback starting point (CUE STDBY)

Pressing the PLAY/PAUSE button while playing a track establishes that position as the cue point. Press the PLAY/PAUSE button again to monitor the playback. When you press the CUE STDBY button, the MD deck rewinds to the cue point and pauses.



Setting the cue point using the Rehearsal function

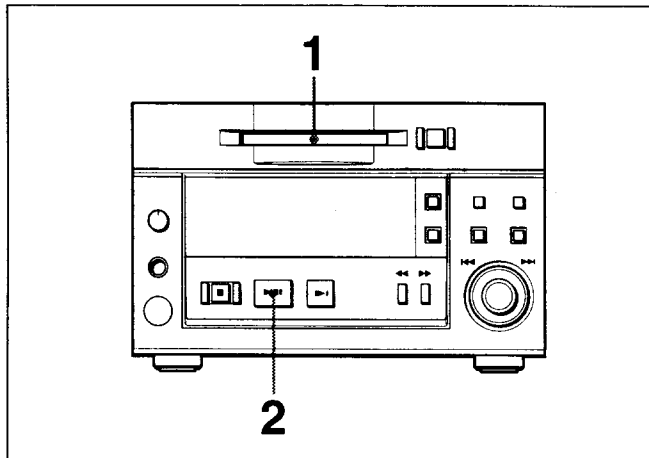
When you press the REHEARSAL button during playback, the MD deck begins playing the track section from that position for the duration specified in the Setup menu. While you monitor the sound, press the CUE STDBY button at the place where you want to place the cue point. The MD deck pauses at that point.

See "4-2-4 Rehearsal Playback" on page 4-3 and "6-6 Setting the Rehearsal Playback Function" on page 6-6.

Note

During shuffle play, the rehearsal playback function operates only within the currently playing track, and cannot be used to return to the position where you pressed the PLAY/PAUSE button last time.

4-2-1 Playing From the First Track on the MD



- 1** Insert the MD into the MD deck.
Insert the disc with the arrow pointing towards the MD deck. The deck grabs and loads the disc automatically.
Disc title, total number of tracks, and total playing time of the disc appear in the display window.
- 2** Press the PLAY/PAUSE button.
When both AUTO PAUSE and AUTO CUE are off: The MD deck starts playing the MD.
When either AUTO PAUSE or AUTO CUE is on: The MD deck enters playback pause after cueing to the beginning of the first track. To start playback, press PLAY/PAUSE button again.
Title, track number, and time information of the current track appear in the display.

To stop playback

Press the STOP button.

To stop playback temporarily

Press the PLAY/PAUSE button.

To resume playback, press the PLAY/PAUSE button again.

To eject the disc

Press the STOP button to stop playback, then press the EJECT button.

4-2-2 Locating a Specific Point (Search)

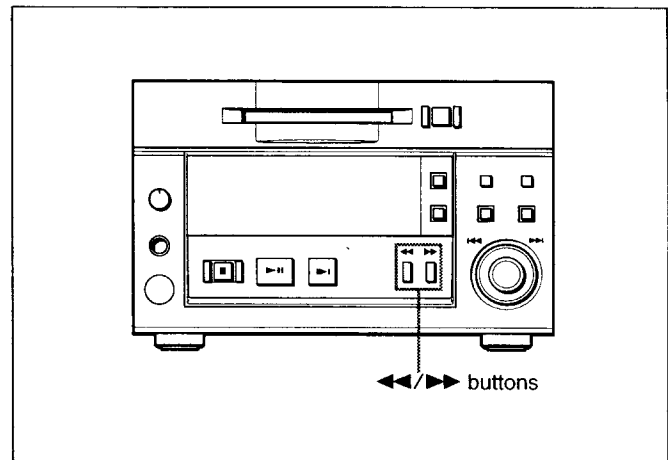
To find a specific point on the MD, use the ◀◀ and ▶▶ buttons during playback to quickly scan forward or backward.

To forward scan the disc

Hold down the ▶▶ button during playback. Playback will start again from the point at which you release the button.

To backward scan the disc

Hold down the ◀◀ button during playback. Playback will start again from the point at which you release the button.



Note

Sound dropout may occur when scanning tracks created by editing functions.

4-2-3 Playing a Single Track Only

In single-track-playback mode, the MD deck plays only single track that you have selected. This prevents unintentional playback of the next track.

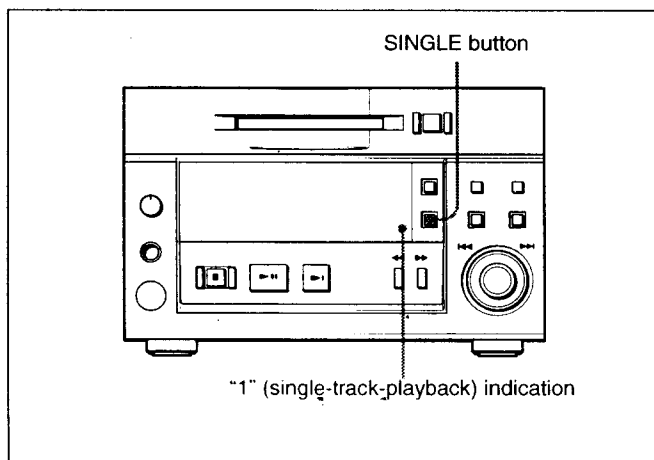
In single-track-playback mode, the MD deck stops when track playback ends, even if AUTO PAUSE or AUTO CUE has been selected.

To select single-track-playback mode

Press the SINGLE button.

“1” appears in the display window.

To turn off single-track-playback mode, press the SINGLE button again.



4-2-4 Rehearsal Playback

Press the REHEARSAL button to play back a portion of a track repeatedly. The rehearsal playback allows you to accurately position a cue point or edit point. Pressing the CUE STDBY or EDIT/NO button sets the cue point or edit point.

If you press the REHEARSAL button during playback

The MD deck plays the track starting from the point at which you pressed the REHEARSAL button.

If you press the REHEARSAL button while the MD deck is stopped

The MD deck locates the first track on the MD or the beginning of the track you selected.

To change the playback portion during rehearsal playback

Turn the AMS control.

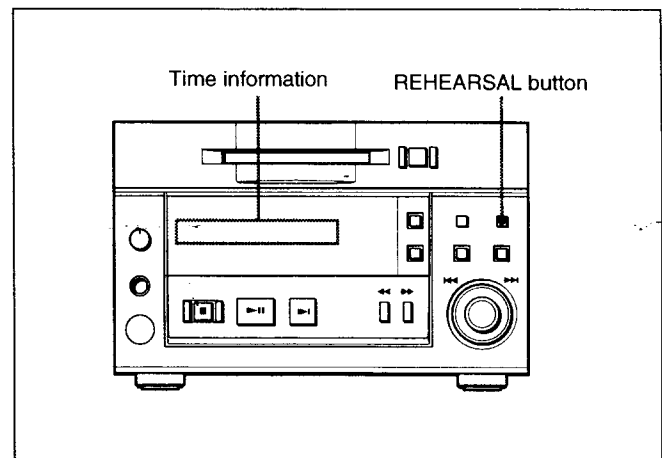
You can change the time unit for adjusting the start of Rehearsal Play by pressing the ◀◀/▶▶ buttons.

When you press the ◀◀ or ▶▶ button, the time unit flashes. Each press of the ◀◀ button selects the next time unit: “F (frame)”, “S (second)”, “M (minute).”

And each press of the ▶▶ button selects the unit in reverse direction.

To turn off rehearsal playback

Press the REHEARSAL button again.



Use the Setup menu to set the duration for rehearsal playback and the interval between repetitions.

See “6-6 Setting the Rehearsal Playback Function” on page 6-6.

4-3-1 Locating a Specific Track

You can access specific tracks instantly by entering their track numbers with the numeric buttons on the remote controller supplied with the MDS-B5 or a keyboard.

If AUTO PAUSE and AUTO CUE are off, the MD deck begins playback immediately after locating the specified track.

If either AUTO PAUSE or AUTO CUE is selected, the MD deck changes to playback pause after cueing to the beginning of the specified track.

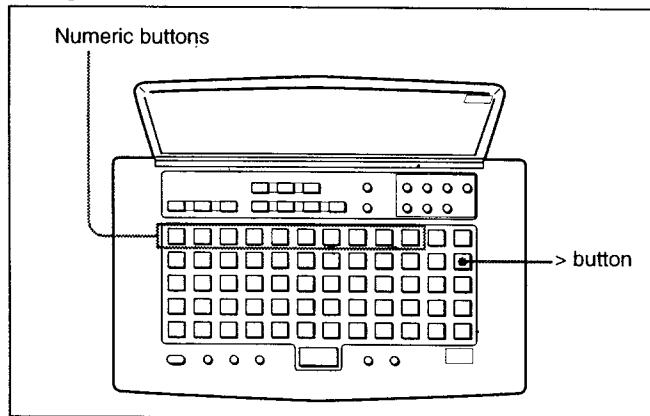
To specify track numbers greater than 10

Press the > button, then press the respective numeric buttons.

Example:

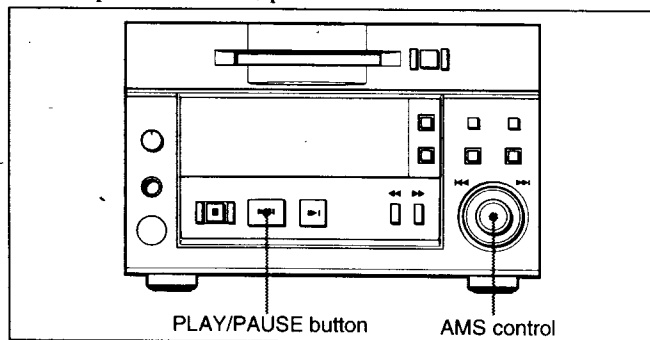
To locate the 15th track, press the > button once, then press 1 and 5.

To locate the 115th track, press the > button twice, then press 1, 1, and 5.



Locating a specific track from the front panel

To locate a specific track, turn the AMS control to display the track number while the MD deck is stopped. To start playback or to locate the beginning of the specified track, press the PLAY/PAUSE button.



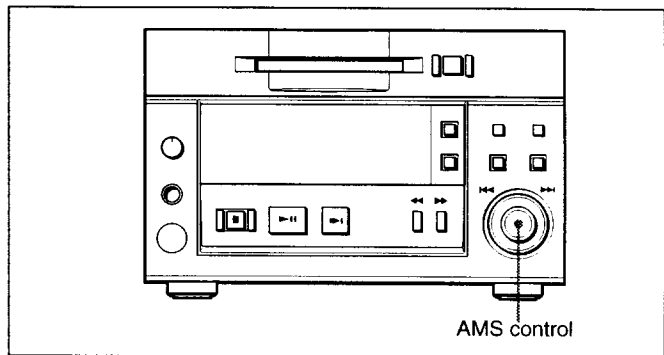
4-3-2 Locating the Beginning of a Track (AMS)

During playback or playback pause, turn the AMS (Automatic Music Sensor) control to quickly skip to any track before or after the current one.

Turn the AMS control clockwise to go to a higher track number, or turn it counterclockwise to go to a lower track number.

If AUTO PAUSE and AUTO CUE are off, the MD deck locates the beginning of the specified track and starts playback.

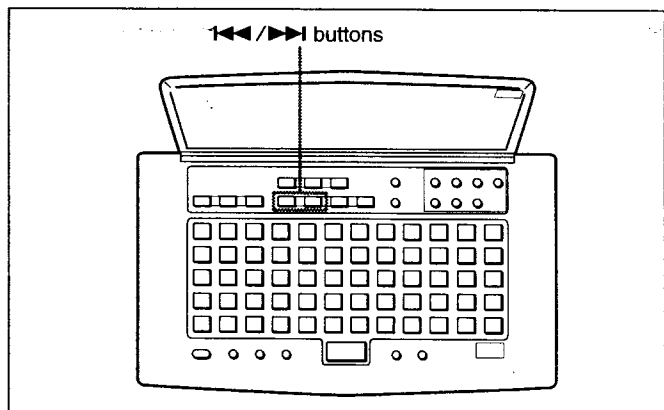
If either AUTO PAUSE or AUTO CUE is on, the MD deck locates the beginning of the specified track and enters playback pause.



Locating a specific track using the remote controller

You can use the remote controller or the keyboard to locate the beginning of a track. To do this, press the ◀◀ or ▶▶ button during playback or playback pause.

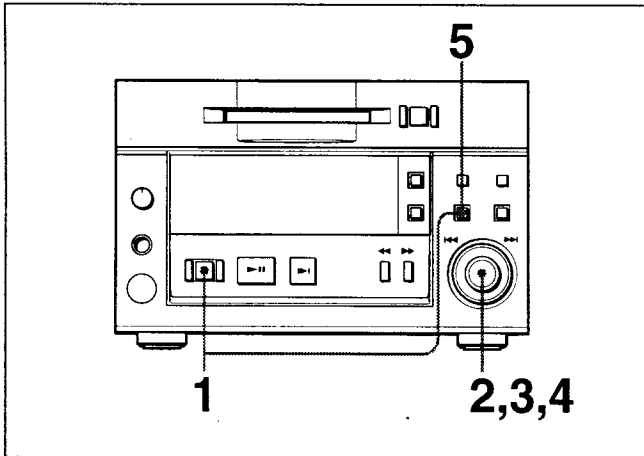
Each press of the ▶▶ (or ◀◀) button increases (decreases) the track number by one; holding it down increases (decreases) the track number faster.



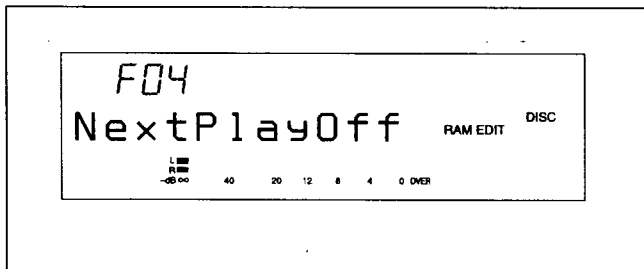
4-3-3 Preparing the Next Track During Playback

In Next Play mode on a single MD deck, you can locate the next track even during playback of the current track. After specifying Next Play mode in the Setup menu, track selection operations change from the current track to those for the next track.

Specifying Next Play mode



- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.
- 2 Turn the AMS control until "F04:NextPlayOff" appears.



- 3 Press the AMS control.
The indication flashes to show that you can change the setting.

- 4 Turn the AMS control clockwise to change the display to "NextPlayOn," then press the AMS control.

Turning the AMS control counterclockwise changes the display back to "NextPlayOff."

- 5 Press the EDIT/NO button to exit from the Setup menu.

While you have selected the next track in Next Play mode

The title and time information of the current track temporarily changes to the that of the next track.

To keep the information on the next track displayed

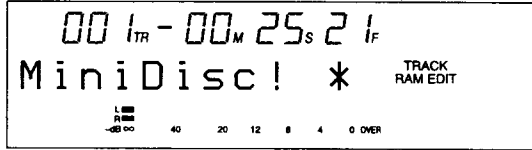
Press the DISPLAY button so that "NEXT TRACK" appears.

4-4 Display Information During Playback

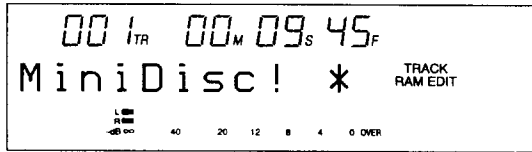
Changing the display information during playback

Each press of the DISPLAY button during playback changes the information in the display as follows:

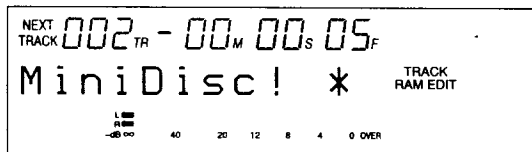
Remaining playing time and title of the current track



Elapsed playing time and title of the current track



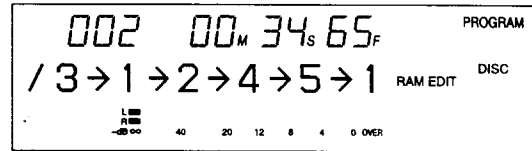
Playing time and title of the next track



Display information during Program Play and Instant Playback

During Program Play and Instant Playback, the MD deck displays the program list before it displays the next track's information

Remaining playing time of the current track and program list



4-5 Playing Tracks Repeatedly

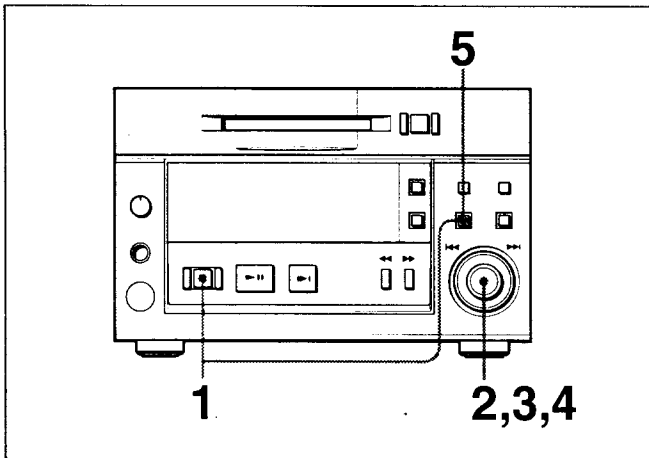
You can use the Setup menu to select Repeat Play mode.

The Repeat Play mode can be used with all other playback modes.

When either AUTO PAUSE or AUTO CUE is activated during Repeat Play

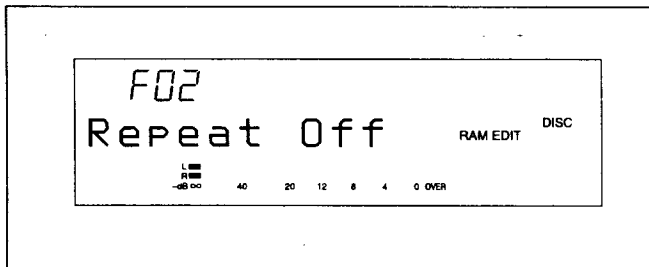
The MD deck enters playback pause at the beginning of the track (or when the audio signal rises).

To select Repeat Play mode



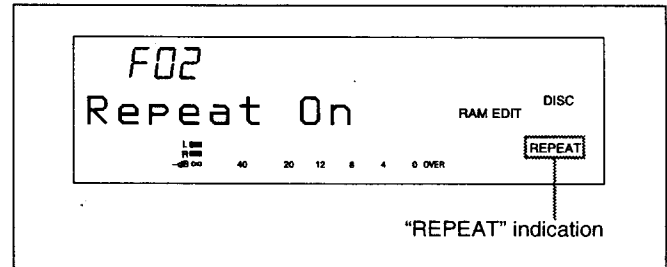
1 Press the EDIT/NO button while holding down the STOP button. The Setup menu appears in the display.

2 Turn the AMS control to display menu item F02 ("Repeat Off" or "Repeat On").



3 Press the AMS control. The indication flashes to show that you can change the setting.

4 Turn the AMS control clockwise to display "Repeat On", then press the AMS control. The "REPEAT" indication lights. Turning the AMS control counterclockwise changes the setting back to "Repeat Off."

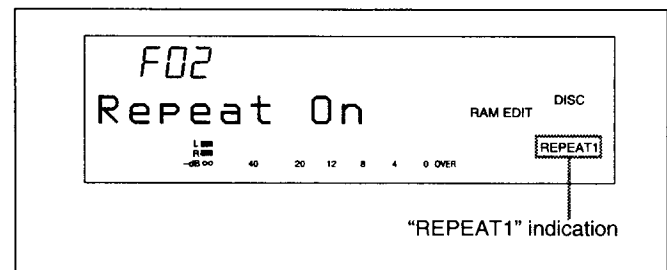


5 Press the EDIT/NO button to exit from the Setup menu. Pressing the PLAY/PAUSE button starts the repeated playback of tracks.

To play only one track repeatedly

Press the SINGLE button during the Repeat Play mode.

The "REPEAT1" indication lights.



Use the Program Play function to specify the playback sequence of multiple tracks.

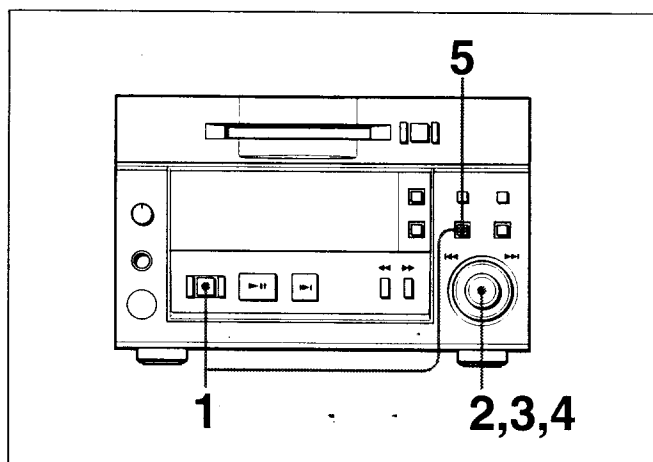
- To turn the Program Play function on, use the Setup menu.
- To program tracks, use the Edit menu.

You can specify the playback sequence of up to 25 tracks.

When either AUTO PAUSE or AUTO CUE is activated during Program Play

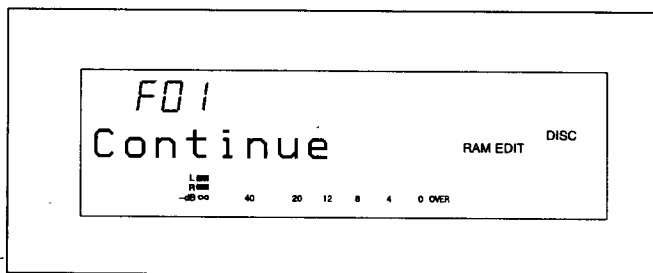
The MD deck enters playback pause at the beginning of each track in the program (or when the audio signal rises).

To select Program Play mode



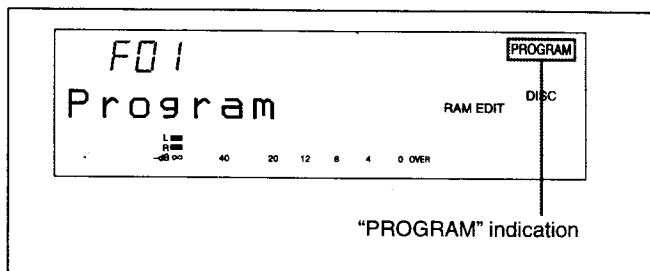
- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears in the display.

- 2 Turn the AMS control until menu item F01 (“Continue”, “Shuffle”, “Program”, or “Multi Access”) appears.



- 3 Press the AMS control.
The indication flashes to show that you can change the setting.

- 4 Turn the AMS control clockwise to display “Program,” then press the AMS control. “PROGRAM” lights up in the display. Turning the AMS control clockwise displays “Continue”, “Shuffle”, “Program”, and “Multi Access” in sequence. Turning the control counterclockwise displays the same items in reverse sequence.

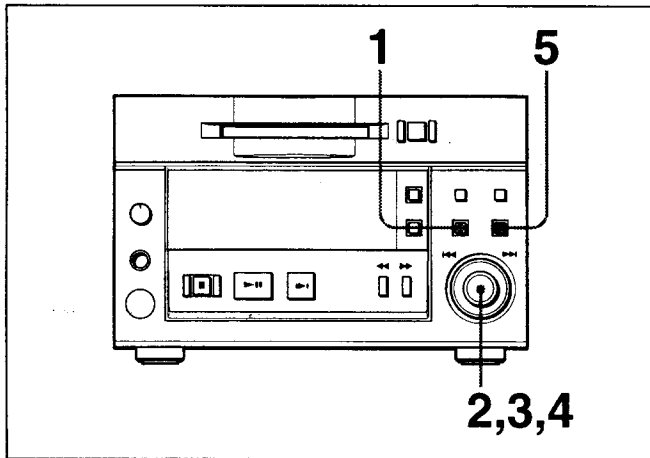


- 5 Press the EDIT/NO button to exit from the Setup menu.
After making a program, press the PLAY/PAUSE button to start playing the program.

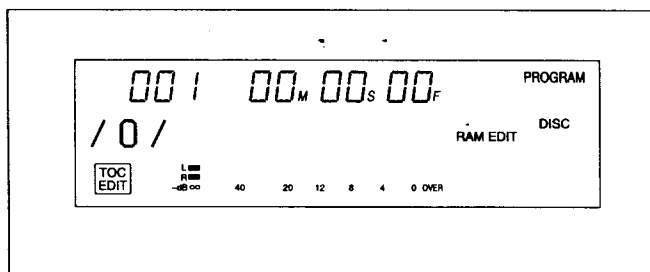
To play an entire program repeatedly

Select “F01:Program” and “F02:Repeat On” in the Setup menu. The programmed selections will play back repeatedly.

To make a program



- 1** Press the EDIT/NO button.
The Edit menu appears.
- 2** Turn the AMS control until "011:Program ?" appears.
- 3** Press the AMS control.
The display for programming tracks appears.



To delete tracks from a program

Press the ◀◀ or ▶▶ button until the track to be deleted begins flashing, then press the EDIT/NO button.

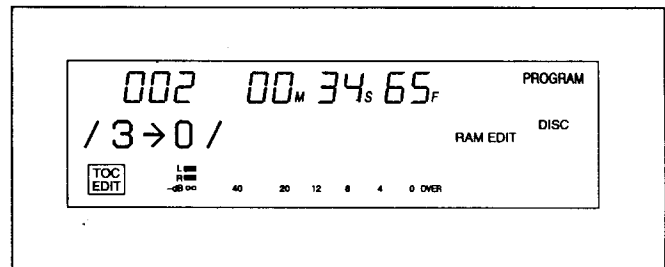
To change a programmed track number

Press the ◀◀ or ▶▶ button until the track number to be changed begins flashing, turn the AMS control to change the track number, then press the ENTER/YES button. Press the ◀◀ or ▶▶ again to change another track number.

To delete an entire program

Press the EDIT/NO button until all the tracks in the program are deleted.

- 4** Turn the AMS control to select a track, then press the AMS control.
The position for the second track begins flashing.
Repeat this step to program up to 25 tracks.



- 5** Press the ENTER/YES button to complete the program.

To specify track numbers using the numeric buttons

In step 4, use the numeric buttons on the remote controller supplied with the MDS-B5 or a keyboard to enter track numbers. After entering a track number, the next track position begins flashing immediately.

To change a part of the program

In step 3, press the ◀◀ or ▶▶ button until the track to be changed starts flashing. Use the numeric button(s) of the remote controller supplied with the MDS-B5 or the keyboard to change the track number, then press the ENTER button. Press the ◀◀ or ▶▶ button again to change another track number.

4-7 Playing Tracks in Random Order (Shuffle Play)

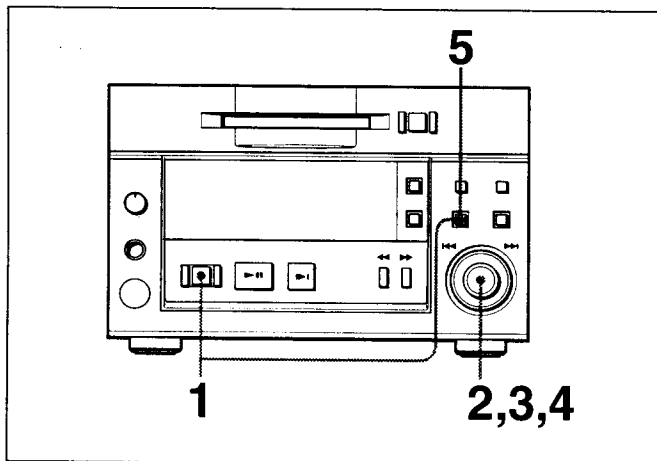
You can play all the tracks on the MD in random order.

Use the Setup menu to select Shuffle Play mode.

If the AUTO PAUSE or AUTO CUE function is activated during Shuffle Play

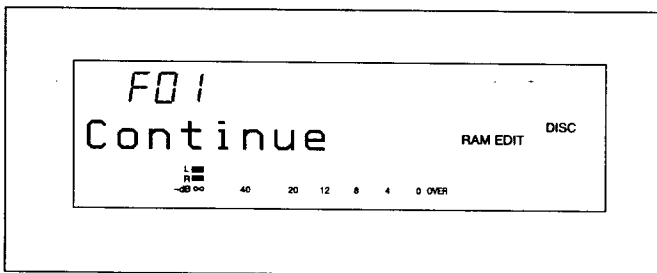
The MD deck enters playback pause at the beginning of each track (or when the audio signal rises).

To select Shuffle Play mode



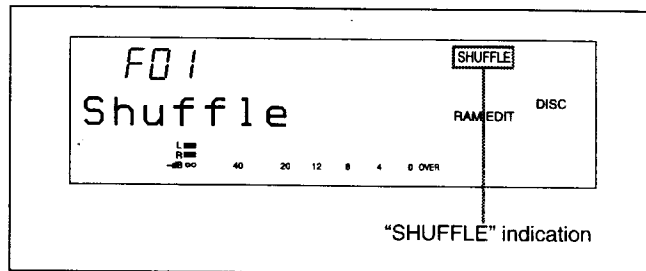
- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears in the display.

- 2 Turn the AMS control until menu item F01 ("Continue", "Shuffle", "Program" or "Multi Access") appears.



- 3 Press the AMS control.
The indication flashes to show that you can change the setting.

- 4 Turn the AMS control clockwise to display "Shuffle," then press the AMS control. "SHUFFLE" lights up in the display. Turning the AMS control clockwise displays "Continue", "Shuffle", "Program", and "Multi Access" in sequence. Turning the control counterclockwise displays the same items in reverse sequence.



- 5 Press the EDIT/NO button to exit from the Setup menu.
Press the PLAY/PAUSE button to start Shuffle Play.

To repeat Shuffle Play

Select "F01:Shuffle" and "F02:Repeat On" in the Setup menu to play back all the tracks on the MD in random order.

After the MD deck plays back each track on the MD in random order, it plays them all again in random order.

4-8 Starting Playback Instantly (Multi-Access Function)

You can memorize the beginning of a track in the MD deck's built-in memory to start playback the instant you press the PLAY/PAUSE button.

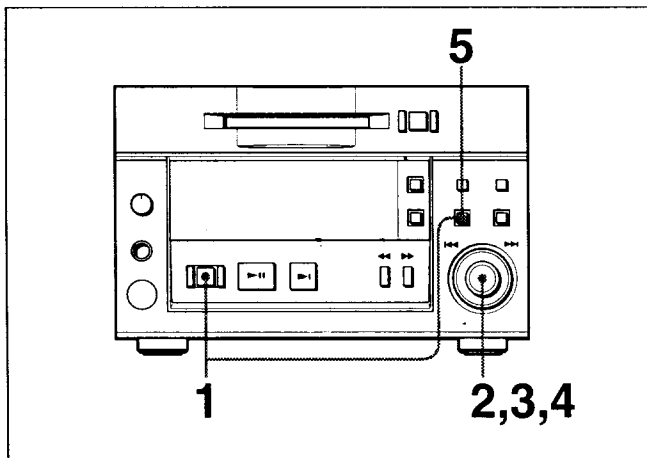
- To turn the Multi-Access function on, use the Setup menu.
- To specify the tracks for instant playback, use the Edit menu.

You can memorize the beginning of up to 10 tracks.

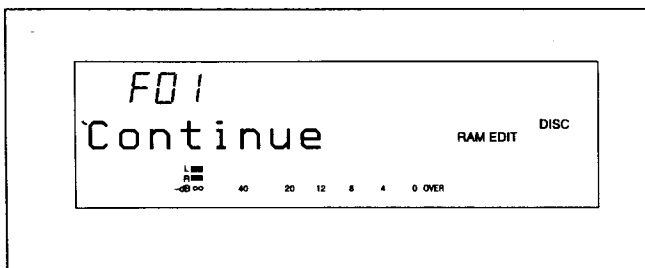
If the AUTO PAUSE or AUTO CUE function is activated during Multi-Access playback

The AUTO PAUSE and AUTO CUE functions do not work when you are using the Multi-Access function. This is because tracks entered numerically are played back instantly from the built-in memory, and thus the A.MODE button is disabled.

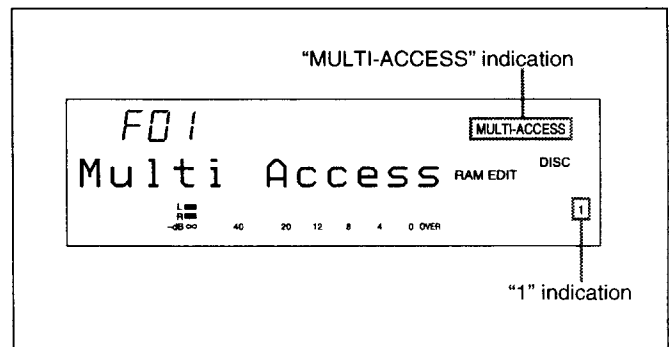
To specify the Multi-Access function



- 1** Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears in the display.
- 2** Turn the AMS control until menu item F01 ("Continue", "Shuffle", "Program", or "Multi Access") appears.



- 3** Press the AMS control.
The indication flashes to show that you can change the setting.
- 4** Turn the AMS control clockwise to display "Multi Access," then press the AMS control.
"MULTI-ACCESS" and "1" (single track play) light up in the display.
Turning the AMS control clockwise displays "Continue", "Shuffle", "Program", and "Multi Access" in sequence. Turning the control counterclockwise displays the same items in reverse sequence.



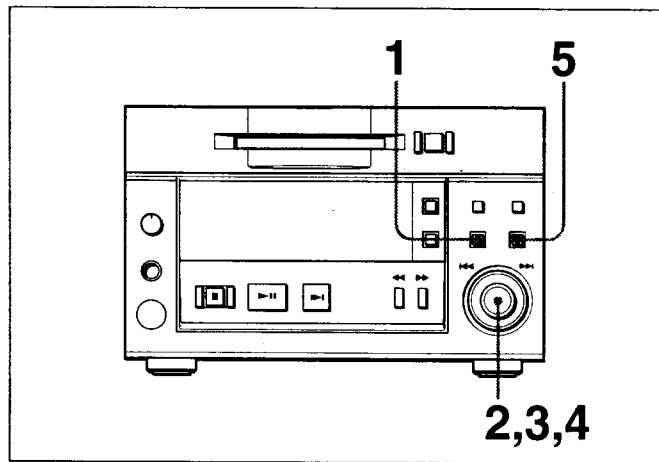
- 5** Press the EDIT/NO button.
After "Memorizing" lights up, the MD deck exits from the Setup menu.

To start Multi-Access playback

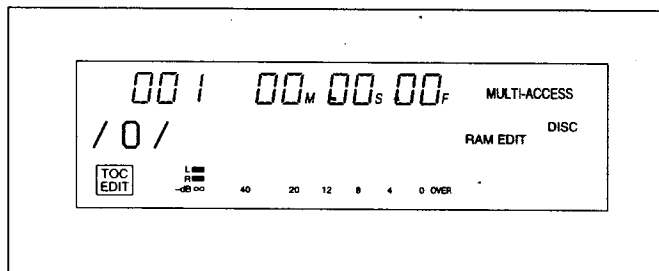
Enter the number of the track to be played with the numeric button(s) on the remote controller supplied with the MDS-B5 or keyboard.

4-8 Starting Playback Instantly (Multi-Access Function)

To specify tracks for Multi-Access playback



- 1 Press the EDIT/NO button.
The Edit menu appears.
- 2 Turn the AMS control to display "012:M-Access?"
- 3 Press the AMS control.
The display for specifying tracks appears.



To delete tracks from the track list for Multi-Access playback

Press the ◀ or ▶ button until the track to be deleted begins flashing, then press the EDIT/NO button.

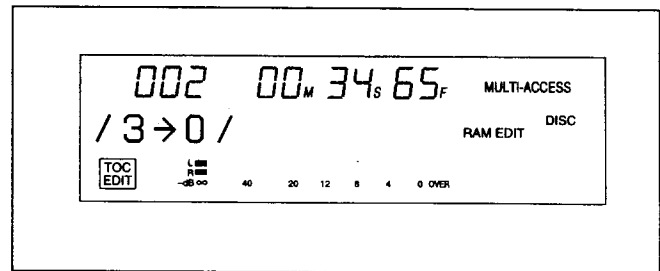
To change a track number

Press the ◀ or ▶ button until the track number to be changed begins flashing, turn the AMS control to change the track number, then press the ENTER/YES button. Press the ◀ or ▶ button again to change another track number.

To delete all tracks

Hold down the EDIT/NO button until all the tracks are deleted.

- 4 Turn the AMS control to select a track, then press the AMS control.
The position for the second track begins flashing.
Repeat this step to specify up to 10 tracks.



- 5 Press the ENTER/YES button to complete the track specification procedure.

To specify track numbers using the numeric buttons

In step 4, use the numeric buttons on the remote controller supplied with the MDS-B5 or a keyboard to enter track numbers. After entering a track number, the next track position begins flashing immediately.

To change a part of the track list

In step 3, press the ◀ or ▶ button until the track to be changed starts flashing. Use the numeric button(s) of the remote controller supplied with the MDS-B5 or the keyboard to change the track number, then press the ENTER button. Press the ◀ or ▶ button again to change another track number.

Storing the beginning of a track

The beginning of a track is stored in the built-in memory when:

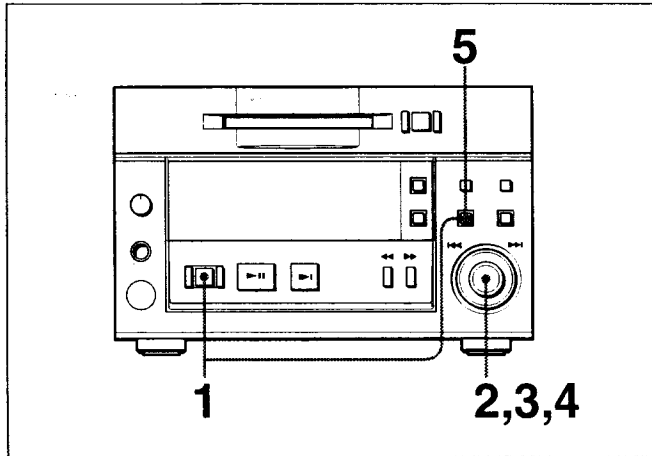
- you change the disc while the Multi-Access function is selected.
- you specify a track for Multi-Access playback using the Edit menu while the Multi-Access function is selected.
- you select the Multi-Access function in the Edit menu after specifying tracks for Multi-Access playback.

4-9 Varying the Playback Speed (Variable-Speed Playback)

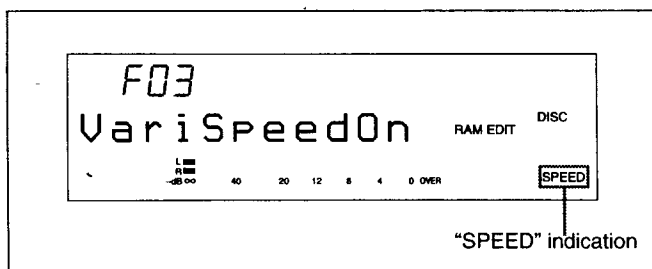
You can vary the playback speed in a range between +12.5% and -12.5% of the normal speed.

- To select variable-speed playback, use the Setup menu.
- To specify the playback speed, use the Edit menu.

To select variable-speed playback mode

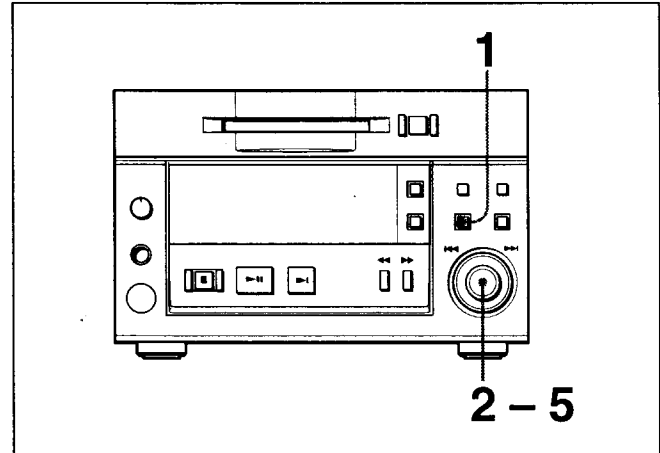


- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.
- 2 Turn the AMS control until menu item F03 (“VariSpeedOff”) appears.
- 3 Press the AMS control.
The indication flashes to show that you can change the setting.
- 4 Turn the AMS control clockwise to change the display to “VariSpeedOn,” then press the AMS control.
“SPEED” lights in the display.
Turning the AMS control counterclockwise changes the display back to “VariSpeedOff.”

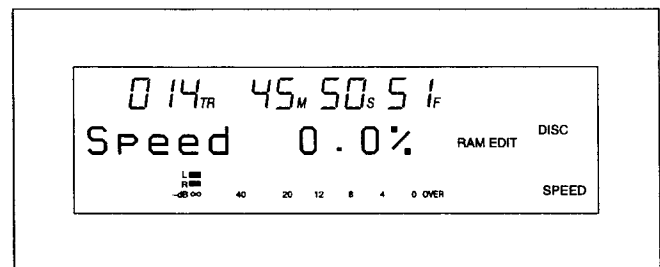


- 5 Press the EDIT/NO button to exit from the Setup menu.
After selecting the playback speed, press the PLAY/PAUSE button to start playback.

To select the playback speed



- 1 Press the EDIT/NO button.
The Edit menu appears.
- 2 Turn the AMS control until “013:Speed?” appears.
- 3 Press the AMS control.
The display for specifying the playback speed appears.

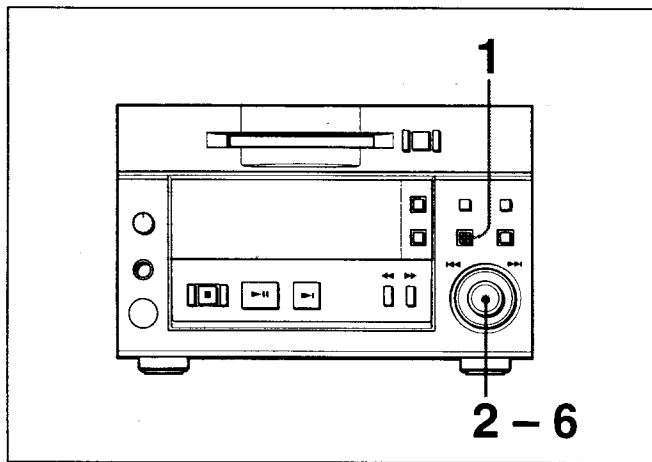


- 4 Turn the AMS control to set the desired playback speed.
Pressing the EDIT/NO button returns the setting to “0.0%.”
- 5 Press the AMS control to exit from the Edit menu.

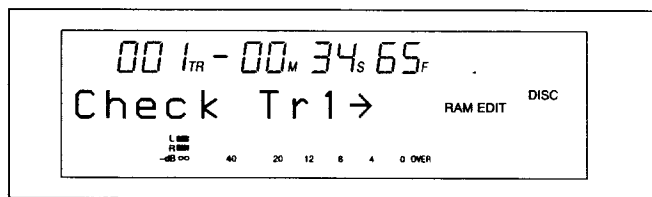
4-10 Error Checking

Use the Error Check function to detect errors on a track and display error positions.

To perform error checking



- 1** Press the EDIT/NO button.
The Edit menu appears.
- 2** Turn the AMS control to select "014:Err Check ?"
- 3** Press the AMS control.
The display for selecting the track to begin error checking appears.



- 4** Turn the AMS control to select the track number.
- 5** Press the AMS control.
Error checking starts.
After error checking finishes, the results are displayed.
- 6** If any error is detected, press the AMS control again.
Up to ten positions where error has occurred are displayed.

5-1 Overview of Editing Functions

5-1-1 Types of Editing Functions

Use the Edit menu to select the editing functions. Press the EDIT/NO button, then turn the AMS control to display each edit function and its number one at a time.

There are 10 editing functions.

- (001) Name ? — Recording the title of tracks and discs
- (002) Erase ? — Erasing tracks
- (003) Move ? — Moving tracks
- (004) Combine ? — Combining tracks
- (005) Divide ? — Dividing tracks
- (006) All Erase ? — Erasing all tracks on a disc
- (007) Undo ? — Canceling the last editing operation
- (008) Cue Point ? — Setting cue points
- (009) Head Trim ? — Trimming the starting portion of a track
- (010) End Trim ? — Trimming of ending portion of a track

5-1-2 RAM Edit

The MDS-B6P does not record the results of editing operations in the TOC on the disc; only RAM edit is possible on this deck.

In RAM Edit mode, editing is done temporarily. This mode may be used to edit data on record-protected or premastered discs.

5-1-3 Track Numbers After Editing Operations

If an editing operation results in the deletion or addition of one or more tracks, the MD deck will automatically renumber the affected tracks to reflect that change. For example, if you erase track No. 2, all succeeding tracks will be renumbered, starting with track No. 3 (which becomes track No. 2).

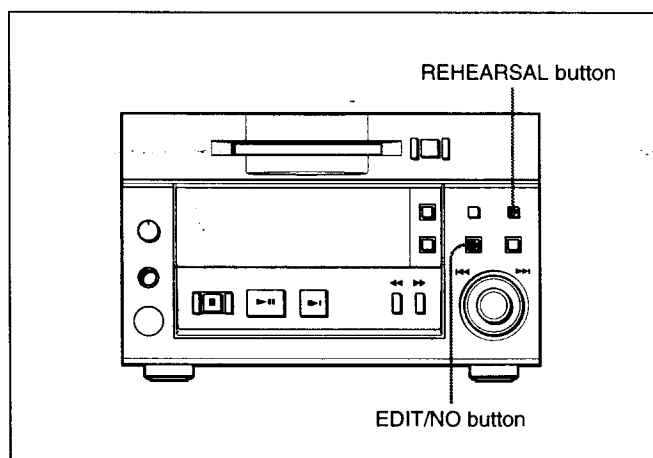
If you do successive track erasures and relocations, it is recommended that you monitor the results of each operation by watching the titles and track numbers in the display and through Rehearsal playback in order to prevent editing errors.

5-1-4 Editing Operations During Rehearsal Playback

Pressing the REHEARSAL button during playback starts Rehearsal playback from that point. After locating the part to be edited, press the EDIT/NO button to do select the editing function.

You can do the following editing functions during Rehearsal playback.

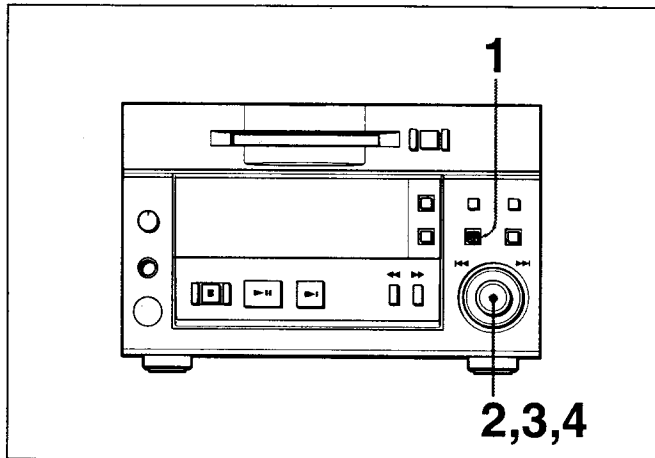
- (005) Divide ? — Dividing tracks
- (008-01) CP In ? — Recording cue points
- (009-01) HT In ? — Trimming of the starting portion of a track
- (010-01) ET In ? — Trimming of the ending portion of a track



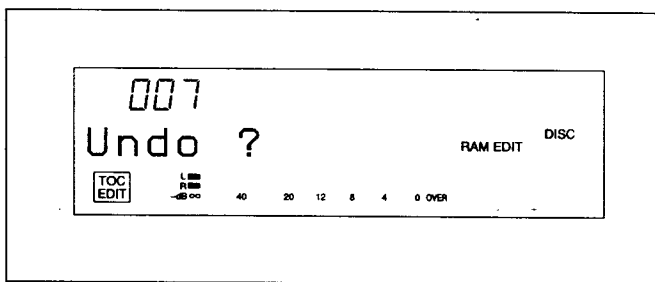
5-1-5 Undo Function

If you make a mistake in erasing or moving a track, the Undo function allows you to cancel the results of the last operation.

To undo the last editing operation



- 1 Press the EDIT/NO button.
The Edit menu appears.
- 2 Turn the AMS control until "007:Undo ?" appears.
This does not appear if the last operation was not an editing operation.

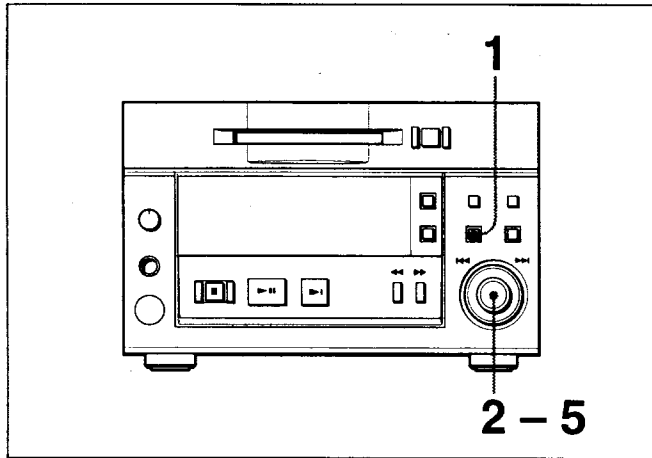


- 3 Press the AMS control.
A message will appear asking whether you want to cancel the last operation or not. For example, "Erase Undo ?" appears if the last operation was an erasure of a track.
- 4 Press the AMS control.
After "Complete!!" (i.e., the undoing of the last operation) appears, and the MD deck exits from the Edit menu.

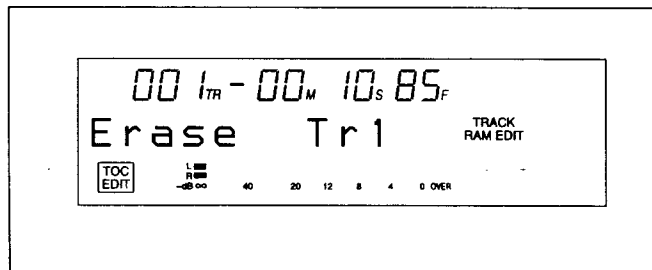
5-2 Erasing Tracks (Erase Function)

Use the erase function to erase a single track or all tracks from a recorded disc.

To erase a single track



- 1 Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "002:Erase ?" appears.
- 3 Press the AMS control. The display for erasing tracks appears and Rehearsal playback of the displayed track starts.



- 4 Turn the AMS control to select the track to be erased.
- 5 Press the AMS control. "Complete!!" appears and the specified track is erased.

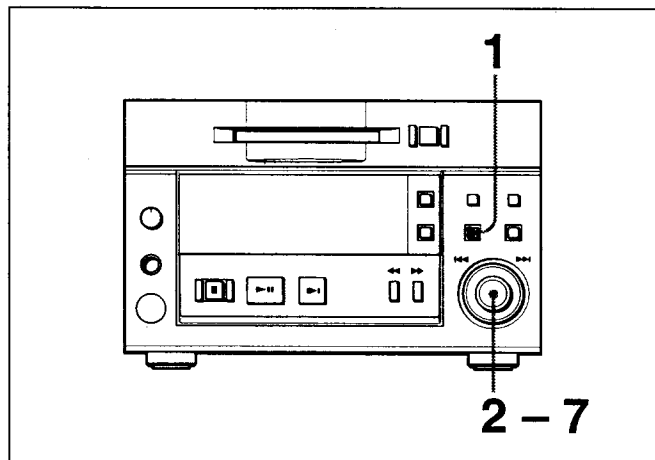
To erase all tracks on an MD

- 1 Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "006:All Erase ?" appears.
- 3 Press the AMS control. "All Erase ?" appears to ask whether you wish to cancel the procedure or not. To cancel the erasure of all tracks on an MD, press the EDIT/NO or STOP button.
- 4 Press the AMS control. "Complete!!" appears and all tracks on the MD are erased. The MD deck then exits from the Edit menu.

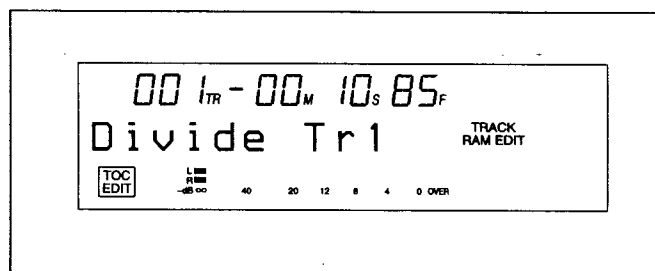
5-3 Dividing a Recorded Track (Divide Function)

To randomly access certain portions of a track, the divide function allows you to create separate tracks for each portion. You can also use the divide function to erase selected portions of a track, by first specifying the portion as a separate track, then erasing that track.

To divide a recorded track

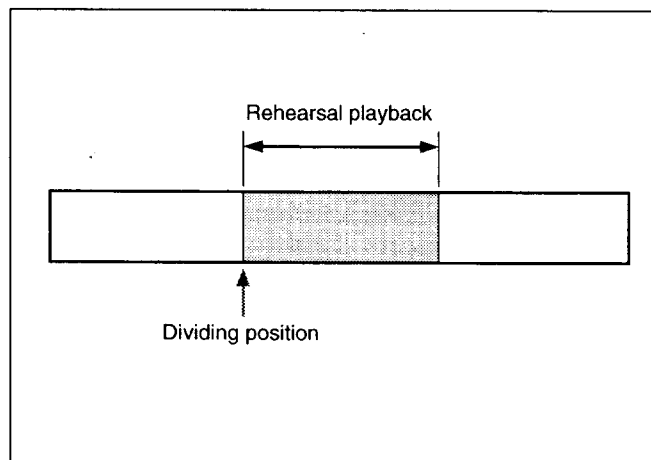


- 1 Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until “005:Divide ?” appears.
- 3 Press the AMS control. The display changes for dividing track and the rehearsal playback of the currently displayed track starts.



- 4 Turn the AMS control to select the track to be divided.
- 5 Press the AMS control. The rehearsal playback starts to locate the dividing position.

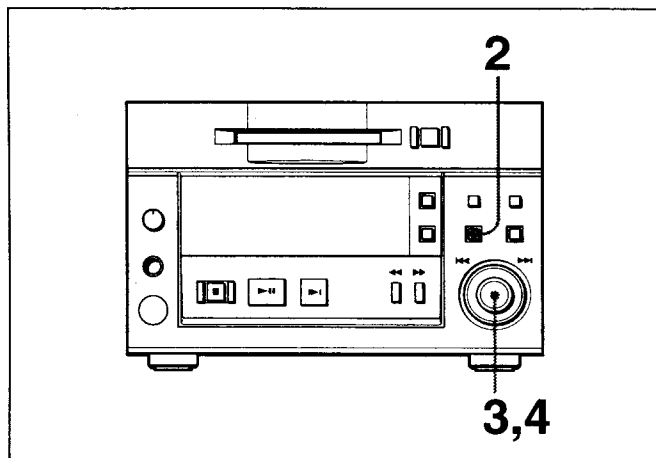
- 6 Turn the AMS control to adjust the dividing position. The track will be divided at the top position of the rehearsal playback. Pressing the ◀◀/▶▶ button allows you to change the unit for shifting the top position of the rehearsal playback. You can choose the unit from “F” (frame), “S” (second), or “M” (minute).



- 7 Press the AMS control. “Complete!!” appears and the deck starts to play back the divided track for confirmation.

To divide a recorded track during rehearsal playback

Locating the dividing position with the rehearsal playback before using the divide function allows you to skip the procedures for selecting the track to be divided and locating the dividing position.



- 1** Locate the dividing position with the rehearsal playback.

See "4-2-4 Rehearsal Playback" on page 4-3 for details.

- 2** Press the EDIT/NO button.
- 3** Turn the AMS control until "005:Divide ?" appears.
- 4** Press the AMS control.
"Complete!!" appears and the deck starts to play back the divided track for confirmation.

Notes

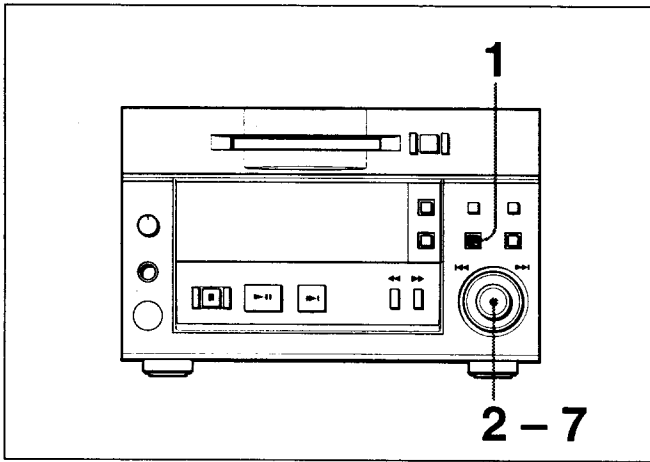
- If "Impossible" indication appears, you can not divide the track you specified. Repeating the division of tracks may produce a track which cannot be divided. This is the restriction on the MiniDisc system and is not out of order.
- The original title for the divided track goes with the former part of it. The latter part of the divided track may be newly named.

5-4 Combining Recorded Tracks (Combine Function)

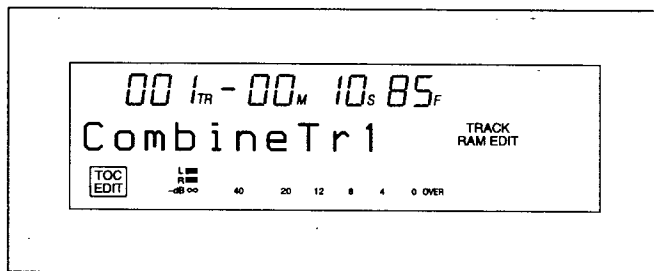
Use the combine function to combine tracks on a recorded disc.

The two tracks to be combined needs not to be consecutive. And the latter track to be combined can be the track which comes before the former one in track number order.

To combine tracks

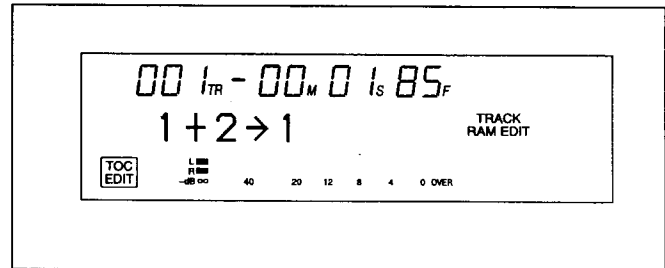


- 1 Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "004:Combine ?" appears.
- 3 Press the AMS control. The display changes for selecting the former track to be combined and the rehearsal playback of the currently displayed track starts.



- 4 Turn the AMS control to select the former track to be combined.

- 5 Press the AMS control. The display changes for selecting the latter track to be combined and the rehearsal playback of the currently displayed track starts.



- 6 Turn the AMS control to select the latter track.
- 7 Press the AMS control. "Complete!!" appears and the deck starts to play back the combined track for confirmation.

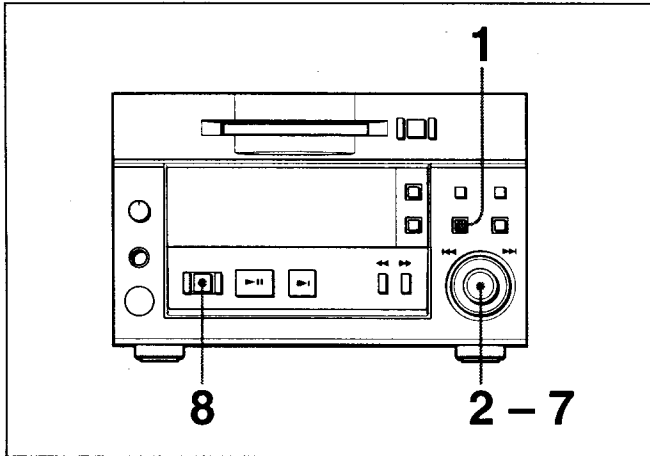
Notes

- If "Impossible" indication appears, you can not combine the two tracks you specified. This is the restriction on the MiniDisc system and is not out of order.
- The track title after combined will be the one for the former track to be combined.
- The track shorter than 8 seconds may not be combined.

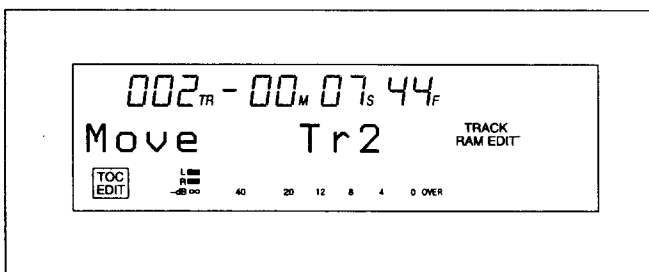
5-5 Moving Recorded Tracks (Move Function)

Use the move function to change the order of specific tracks.

To move tracks

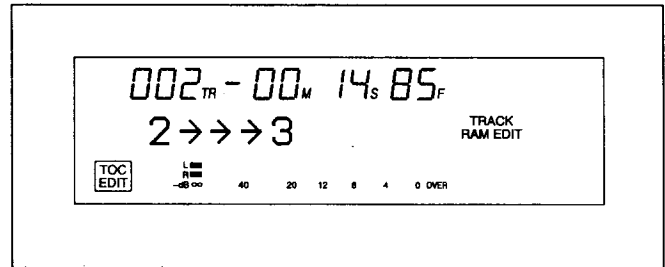


- 1 Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until “003:Move ?” appears.
- 3 Press the AMS control. The display changes for selecting the track to be moved and the rehearsal playback of the currently displayed track starts.



- 4 Turn the AMS control to select the track to be moved.

- 5 Press the AMS control. The display changes for selecting the track number where the track will be moved to.

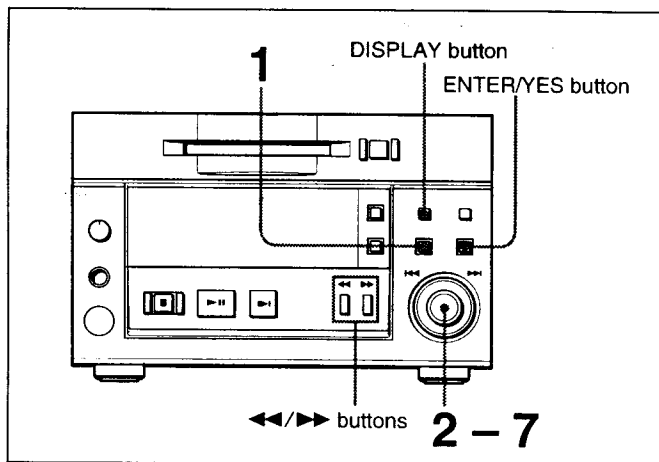


- 6 Turn the AMS control to select the track number where the track will be moved to. The track moves to the track number you selected.
- 7 Press the AMS control. “Complete!!” appears and the deck starts to play back the moved track for confirmation.
- 8 After confirming, press the STOP button.

5-6 Editing Titles

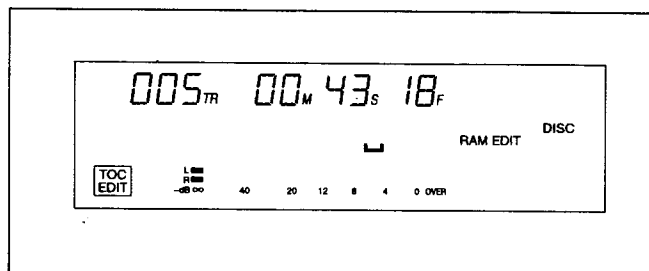
Use the Edit menu to enter or edit disc or track titles. A single disc can store up to 1,792 characters of title data. You can enter a title, erase a title, erase all titles on the disc, or copy a title.

To enter the title of a disc or track



- 1 Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "001:Name ?" indication appears.
- 3 Press the AMS control. The display for selecting the title editing mode appears. There are four title editing modes.
"Nm In ?": Entering titles
"Nm Erase ?": Erasing titles
"Nm All Ers?": Erasing all titles on the disc
"Nm Copy ?": Copying titles
- 4 Turn the AMS control to select "Nm In ?" then press the AMS control. The display for selecting the track to be entitled appears.

- 5 Turn the AMS control to select "Disc" to enter a disc name or the track number to enter a track title, then press the AMS control. The display for entering a title appears. When a track number is selected, the track starts to play repeatedly.



- 6 Turn the AMS control until the first character of the title appears, then press the control to enter the character. Press the AMS control to move, the cursor moves to next character position.

To change the character type

Press the DISPLAY button to choose uppercase, lowercase, or number.

To change an entered character

Press the << or >> button to until the character you want to change begins flashing, then turn the AMS control to select a new character.

To erase a character

Press the << or >> button until the character you want to erase begins to flash, then press the EDIT/NO button. Pressing the button repeatedly erases successive characters.

To enter a space

Press the << or >> button until the character that you want to enter a space before begins flashing, then press the AMS control.

- 7 Repeat step 6 until you enter the entire title then press the ENTER/YES button. The title you entered is recorded on the disc. "Complete!!" appears and then the title scrolls.

To erase a title

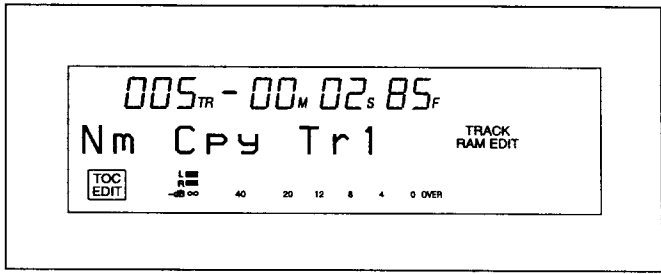
- 1** Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2** Turn the AMS control until "001:Name ?" appears, then press the AMS control.
- 3** Turn the AMS control to select "Nm Erase ?", then press the AMS control. The display for selecting a title to be erased appears. If you select a track number, the track will begin playing back repeatedly.
- 4** Turn the AMS control to select "Disc" to erase a disc title or a track number to erase a track title, then press the AMS control. The title you selected is erased. "Complete!!" appears, followed by "No Name."

To erase all titles on a disc

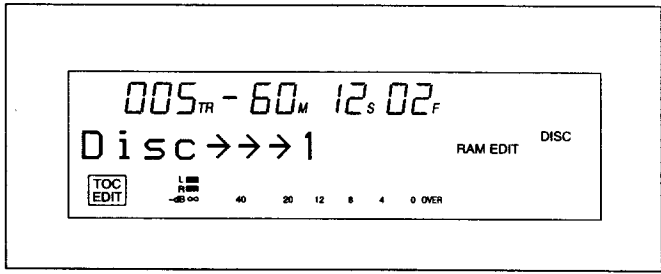
- 1** Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2** Turn the AMS control until "001:Name ?" appears, then press the AMS control.
- 3** Turn the AMS control to select "Nm All Ers?", then press the AMS control. "Nm All Ers??" appears to ask whether you want to erase all titles on the disc.
- 4** Press the AMS control again. All titles on the disc are erased. "Complete!!" appears, followed by "No Name."

To copy a title

- 1** Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2** Turn the AMS control until "001:Name ?" appears, then press the AMS control.
- 3** Turn the AMS control to select "Nm Copy ?", then press the AMS control. The display for selecting the title to be copied appears.



- 4** Turn the AMS control to select "Disc" to copy the disc title, or the track whose title you want to copy, then press the AMS control. The display for specifying the location to be copied to appears.



If you select the track with no name, the "No Name" indication appears.

- 5** Turn the AMS control to select "Disc" for disc title or to specify the track number to copy to a track, then press the AMS control. The selected title is copied. "Complete!!" appears.

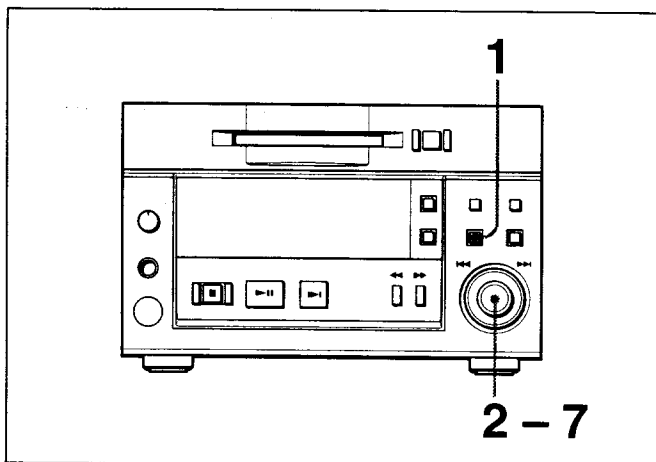
5-7 Marking the Cue Point

You can mark the cue point anywhere on the track to put out the tally signal from the REMOTE connector (D-sub, 25-pin) during playback.

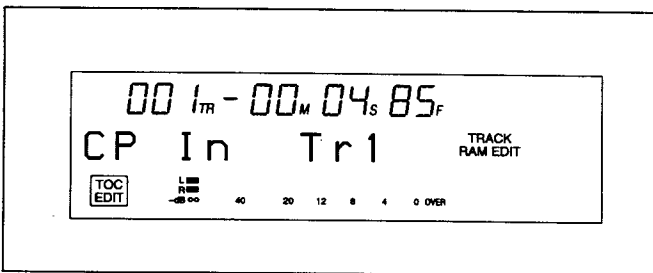
You can mark up to 255 cue points per disc.

“CUE” appears in the display while the MD deck is outputting the tally signal.

To mark a cue point



- 1 Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until “008:Cue Point ?” appears.
- 3 Press the AMS control to display “CP In ?.”
- 4 Press the AMS control. The display changes for selecting the track to be marked with a cue point and the rehearsal playback of the currently displayed track starts.



- 5 Turn the AMS control to select the track to be marked with a cue point, then press the control. The rehearsal playback starts for locating the marking point.

- 6 Turn the AMS control to locate the cue point to be marked.

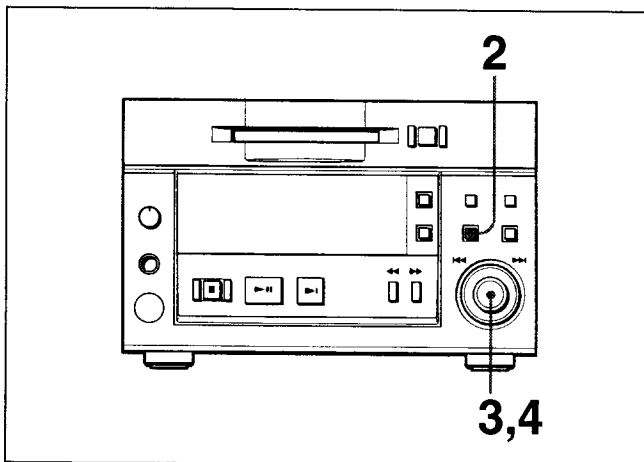
The beginning of rehearsal playback will be the cue point to be marked.

Pressing the ◀▶ button allows you to change the unit for shifting the top position of the rehearsal playback. You can choose the unit from “F” (frame), “S” (second), or “M” (minute).

- 7 Press the AMS control. “Complete!!” appears and the deck starts to play back for confirming the cue point.

To mark a cue point during rehearsal playback

Locating the marking position for the cue point with the rehearsal playback in advance allows you to skip the procedures for locating the marking position.

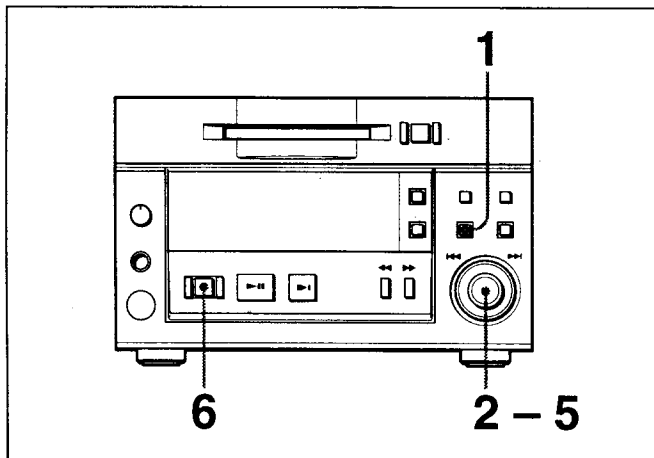


- 1 Locate the marking position with the rehearsal playback.

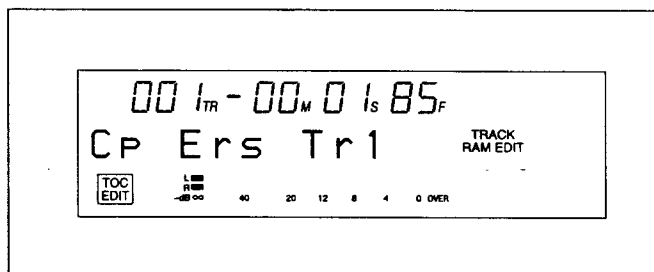
See “4-2-4 Rehearsal Playback” on page 4-3 for details.

- 2 Press the EDIT/NO button.
- 3 Turn the AMS control to display “008-01:CP In ?.”
- 4 Press the AMS control. “Complete!!” appears and the deck starts to play back for confirming the cue point.

To erase a cue point

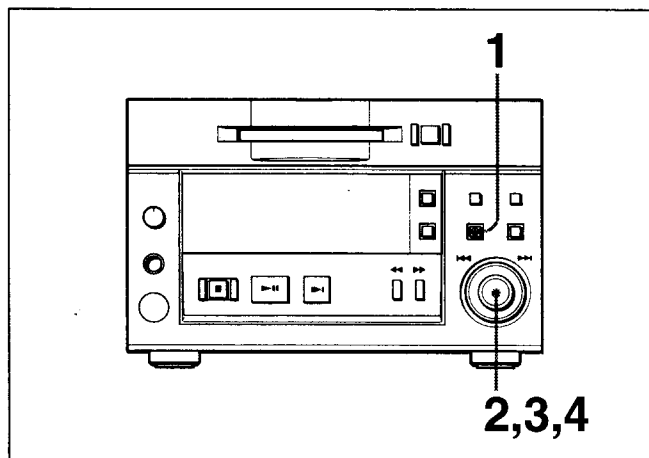


- 1** Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2** Turn the AMS control until "008:Cue Point ?" appears.
- 3** Press the AMS control and turn it until "CP Erase ?" appears. The display changes for selecting the track whose cue point you want to erase and the rehearsal playback of the currently displayed track starts.



- 4** Turn the AMS control to select the track whose cue point you want to erase and then press the AMS control. The cue point number in the track you selected appears and the rehearsal playback starts from that cue point.
- 5** Turn the AMS control to select the cue point number and then press the AMS control. "Complete!!" appears and the deck starts to play back for confirmation.
- 6** After confirmation, press the STOP button.

To erase all cue points



- 1** Press the EDIT/NO button while the MD deck is stopped, playing back, or in playback pause. The Edit menu appears.
- 2** Turn the AMS control until "008:Cue Point ?" appears.
- 3** Press the AMS control and turn it until "CP All Ers ?" appears. Then press the AMS control. "CP ALL Ers??" appears to ask whether you want erase all cue points or not.
- 4** Press the AMS control. "Complete!!" appears.

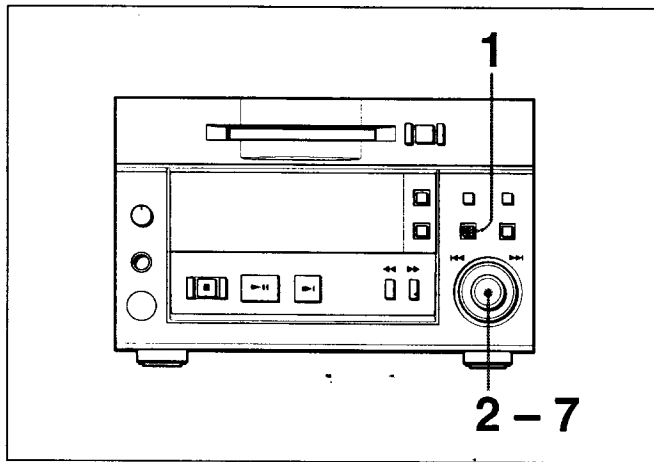
5-8-1 Head Trimming

The head trimming function allows you to change the beginning of a track temporarily without erasing the actual data on the disc. You can specify the trimming point for the beginning of a track by detecting the rise in the audio signal according to the threshold level set by the Autocue function in the Setup menu.

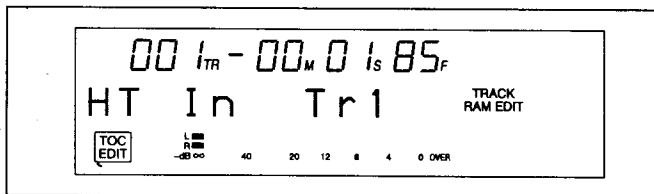
Using this function in conjunction with the Multi-access function allows you to position the start of playback more accurately.

“END” appears in the display when you select a track with head-trimming specification.

To trim the beginning of a track



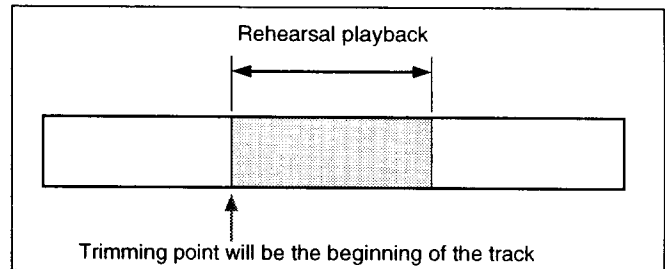
- 1** Press the EDIT/NO button.
The Edit menu appears.
- 2** Turn the AMS control until “009:Head Trim ?” appears.
- 3** Press the AMS control to display “HT In ?”, then press the control.
The display for selecting the track to be trimmed appears.



- 4** Turn the AMS control to select the track to be trimmed.
When you want to trim all the tracks on the MD, select the “HT In All” indication instead of a track number.

- 5** Press the AMS control.
Rehearsal playback starts from the rise in the audio signal detected according to the Autocue threshold level set in the Setup menu.

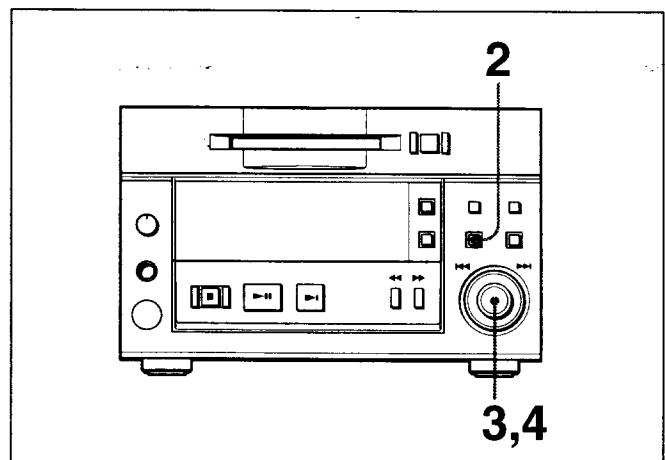
- 6** Turn the AMS control to specify the trimming point.
The start of Rehearsal playback becomes the trimming point. Pressing the ◀▶ button allows you to select “F” (frame), “S” (second), or “M” (minute) as the unit for adjusting the start of Rehearsal Play.



- 7** Press the AMS control.
“Complete!!” appears and playback starts for confirming the results of the operation.

To trim a track during Rehearsal playback

Locating the trimming position during Rehearsal playback eliminates the need to use the Edit menu to do the same thing.

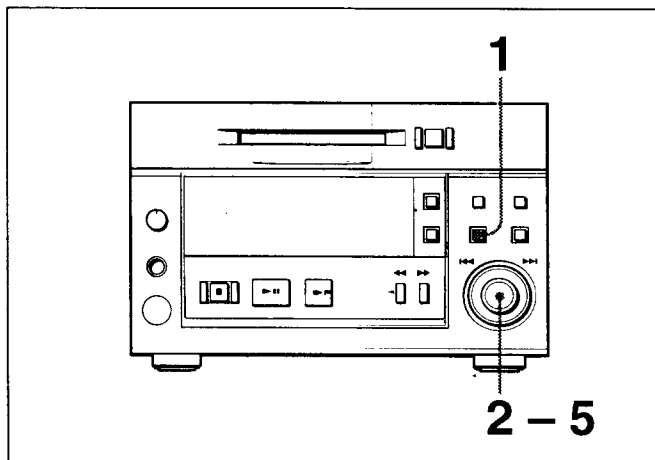


- 1 Locate the trimming position through Rehearsal playback.

For details, see "4-2-4 Rehearsal Playback" on page 4-3.

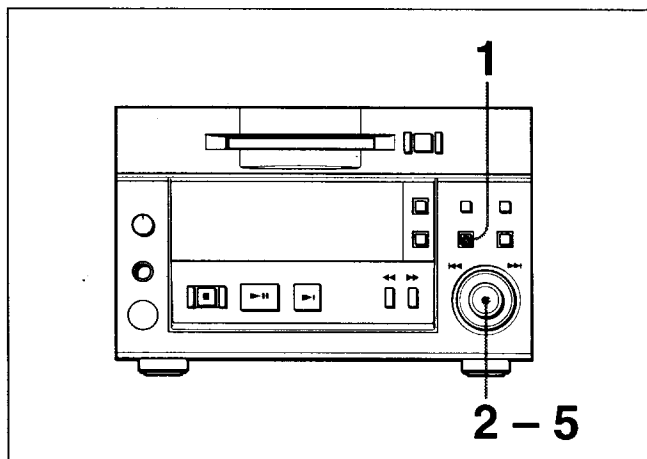
- 2 Press the EDIT/NO button.
- 3 Turn the AMS control until "009-01:HT In ?" appears.
- 4 Press the AMS control. "Complete!!" appears and playback starts for confirming the results of the operation.

To erase the trimming specification at the beginning of a track



- 1 Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "009:Head Trim ?" appears.
- 3 Press the AMS control, then turn the control to display "HT Erase ?."
- 4 Press the AMS control. The display for selecting the track whose specification is to be erased appears. The specified track begins playing repeatedly.
- 5 Turn the AMS control to select the track, then press the control. "Complete!!" appears and playback starts for confirming the results of the operation.

To erase all head-trimming specifications on a disc

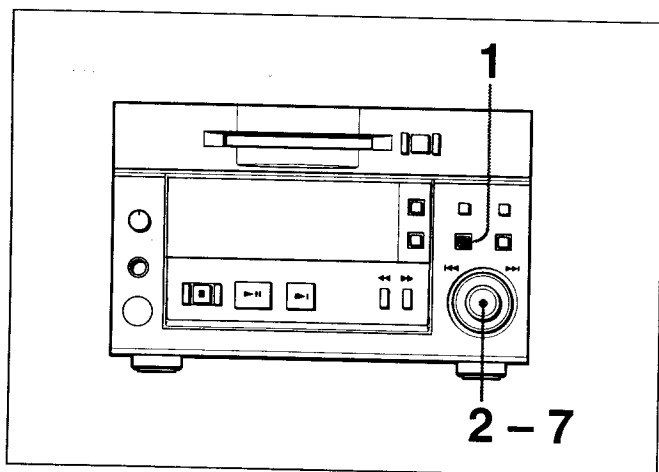


- 1 Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "009:Head Trim ?" appears.
- 3 Press the AMS control, then turn the control to display "HT All Ers ?."
- 4 Press the AMS control. "HT ALL Ers??" appears to ask whether you want to erase all head-trimming specifications or not.
- 5 Press the AMS control. "Complete!!" appears.

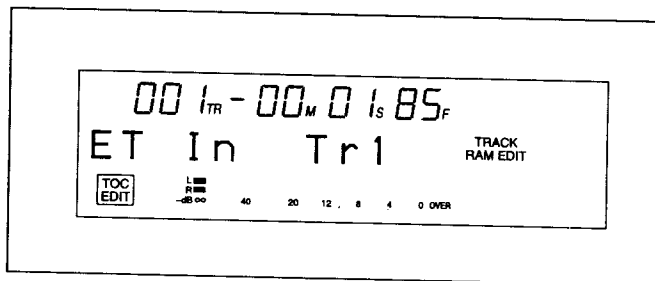
5-8-2 End Trimming

By entering a trimming specification at the end of a track, you can eliminate the ending position without actually erasing sound data on the disc. "END" appears in the display when you select a track with end-trimming specification.

To trim the end of a track

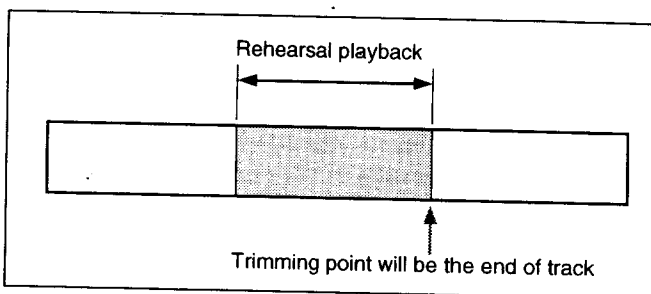


- 1 Press the EDIT/NO button. The Edit menu appears.
- 2 Turn the AMS control until "010:End Trim ?" appears.
- 3 Press the AMS control to display "ET In ?", then press the control again. The display for selecting the track to be trimmed appears.



- 4 Turn the AMS control to select the track to be trimmed.
- 5 Press the AMS control. Rehearsal playback starts to allow you to specify the trimming point.

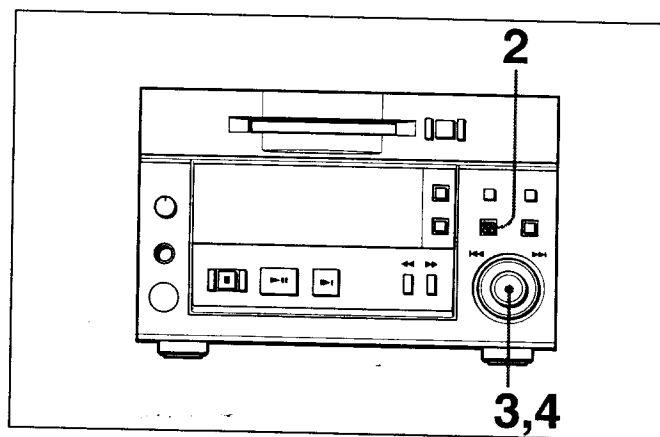
- 6 Turn the AMS control to specify the amount to be trimmed. Trimming point will be set at the end of Rehearsal playback. Pressing the ◀▶ button allows you to select "F" (frame), "S" (second)", or "M" (minute) as the unit for adjusting the end of Rehearsal playback



- 7 Press the AMS control. "Complete!!" appears and playback starts for confirming the results of the operation.

To trim the end of a track during Rehearsal playback

Locating the trimming position during Rehearsal playback eliminates the need to use the Edit menu to do the same thing.



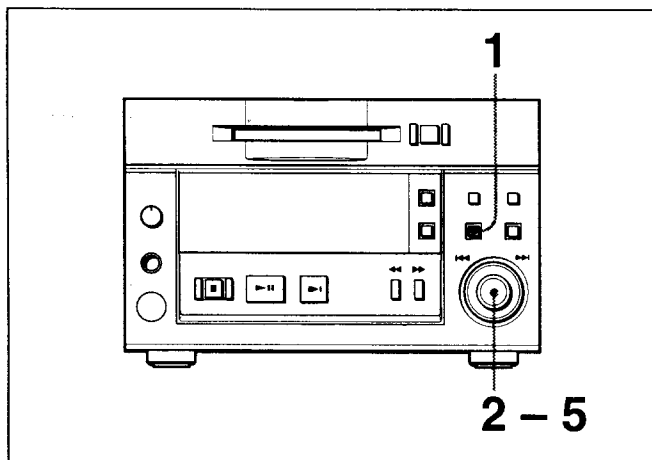
- 1 Locate the trimming position through Rehearsal playback.

For details, see "4-2-4 Rehearsal Playback" on page 4-3.

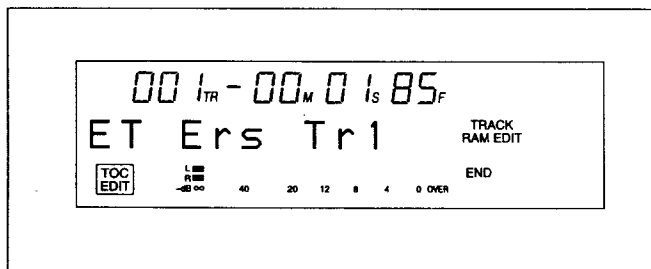
- 2 Press the EDIT/NO button.
- 3 Turn the AMS control until "010-01:ET In ?" appears.

- 4 Press the AMS control.
"Complete!!" appears and playback starts for confirming the results of the operation.

To erase a trimming specification at the end of a track

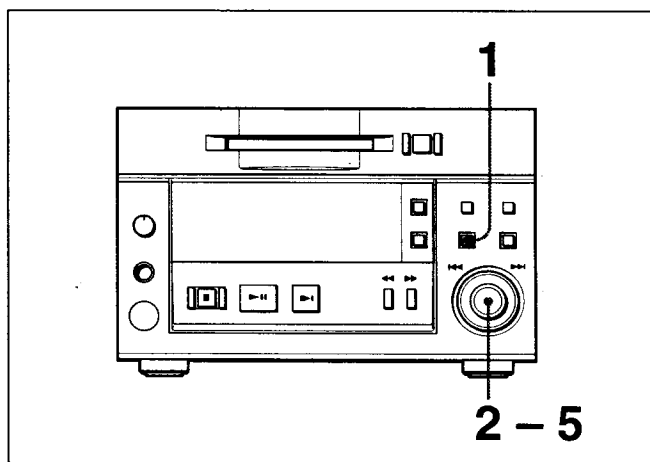


- 1 Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "010:End Trim ?" appears.
- 3 Press the AMS control, then turn the control to display "ET Erase ?."
- 4 Press the AMS control.
The display for selecting the track whose trimming specification is to be erased appears. The specified track begins playing repeatedly.



- 5 Turn the AMS control to select the track, then press the control.
"Complete!!" appears and playback starts for confirming the results of the operation.

To erase all end-trimming specifications on a disc



- 1 Press the EDIT/NO button while the MD deck is stopped, playing, or in playback pause. The Edit menu appears.
- 2 Turn the AMS control until "010:End Trim ?" appears.
- 3 Press the AMS control, then turn the control to display "ET All Ers ?."
- 4 Press the AMS control.
"ET ALL Ers ??" appears to ask whether you want to erase all end-trimming position settings or not.
- 5 Press the AMS control.
"Complete!!" appears.

6-1 The Overview of the Setup Menu

Setting items of the setup menu

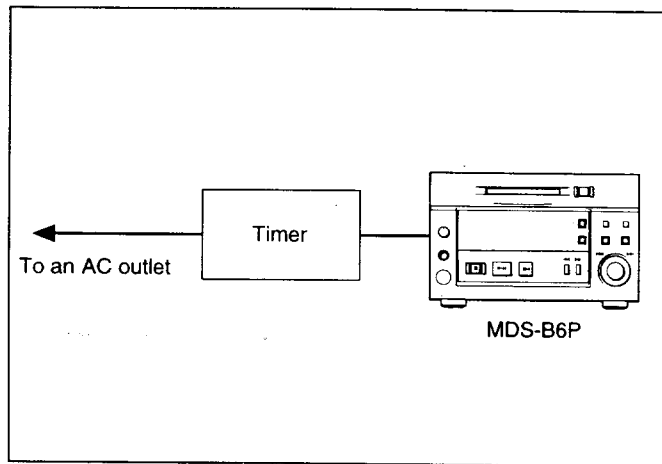
The Setup menu of the MDS-B6P includes the setting items shown below. Each menu item has the item number for your ease of setting.

Item number	Menu item	Contents	Setting values	Page
F01	Play mode	Playback mode selection	Continue, Shuffle, Program, Multi Access	4-8
F02	Repeat	Repeat play setting	Repeat Off, Repeat On	4-7
F03	Varispeed	Variable speed playback setting	VariSpeedOff, VariSpeedOn	4-13
F04	NextPlay	The next track select function setting	NextPlayOff, NextPlayOn	4-5
F05	Timer mode	Timer mode setting	Timer off, Timer Play	6-2
F06	Resume mode	Resume mode setting	Resume off, Resume Play, Resume Next	6-3
F07	Keyboard type	Keyboard type setting	KB JPN 106, KB ENG 101	3-3
F08	Baud rate	Baud rate setting (RS-232C)	9600 baud, 4800 baud, 2400 baud, 1200 baud	6-4
F09	Parity bit	Parity bit setting (RS-232C)	Parity Even, Parity Off, Parity Odd	6-4
F10	Stop Bit	Stop bit length setting (RS-232C)	Stop Bit 1, Stop Bit 2	6-4
F11	Autocue threshold	Detect threshold level for autocue function	AC (T) -50 dB (adjustable range from -72 dB to 0 dB)	6-5
F12	Autocue offset	Margin setting for autocue function	AC (O) 0s00f (adjustable range from -9s85f to +9s85f, 1 step = 1f)	6-5
F13	Rehearsal length	Rehearsal playback time setting	RH (L) 2s00f (adjustable range from 0s00f to 9s85f, 1 step = 1f)	6-6
F14	Rehearsal interval	Interval for rehearsal playback	RH (I) 1.0s (adjustable range from 0.0s to 8.0s, 1 step = 0.5s)	6-6
F15	Disc EOM	Disc end message function	D.EOM 5sec (adjustable range from 1 sec to 35 sec, 1 step = 1 sec)	6-7
F16	Track EOM	Track end message function	T.EOM 5sec (adjustable range from 1 sec to 35 sec, 1 step = 1 sec)	6-7
F17	Hours meter	Digital hours meter	S0000	6-8
F18	Kill Local	Disabling the buttons on the deck during remote controlling	Kill Almost, Kill All	6-9

* The left most value of each item is the factory setting. Pressing the EDIT/NO button during using the Setup menu returns the value to the factory setting.

6-2 Setting Up for Timer-Activated Function

Use the Setup menu to use the timer-activated playback function connecting the MDS-B6P to the timer.



Connecting a timer

3 Press the AMS control.
The indication flashes to show that you can change the setting.

4 Turn the AMS control to select the timer-activated mode from the values below.

Timer off: Timer-activated function is disabled.

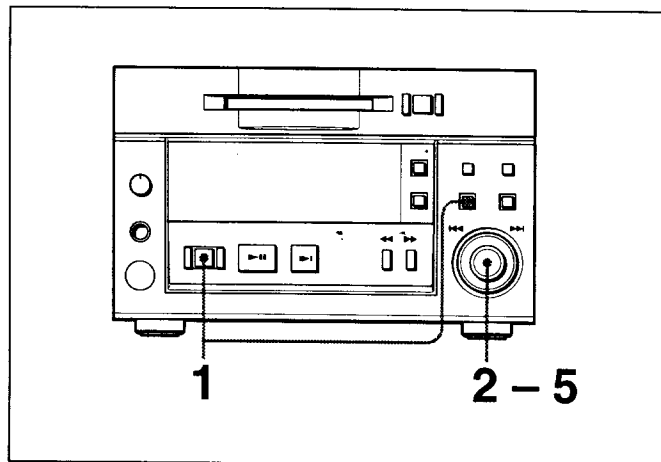
Timer Play: Timer-activated playback is set.

5 Press the AMS control to affect the selection and exit from the Setup menu.

Note

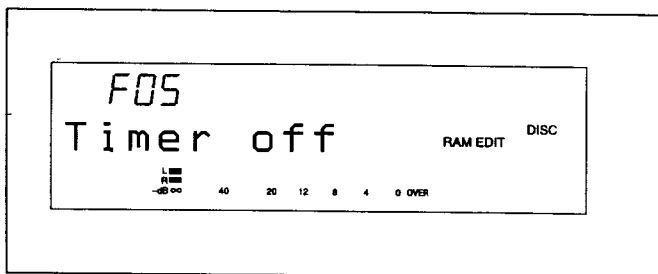
Since trimming specifications are not saved to the RAM when power to the MDS-B6P is cut off, head- or end-trimming will not take place during timer-activated playback. You should thus divide the tracks to specify the start and end of playback.

To set the timer-activated function



1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.

2 Turn the AMS control until the menu item F05 (“Timer off” or “Timer Play”) appears.



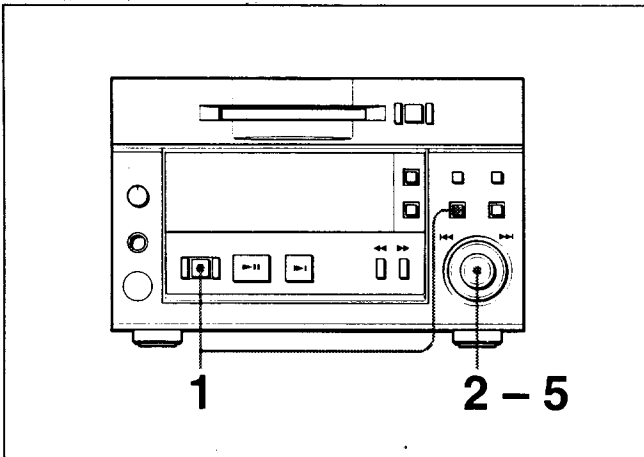
6-3 Setting the Playback Resume Mode

You can set how to resume playback when you press the PLAY/PAUSE button after the deck was stopped with the STOP button being pressed.

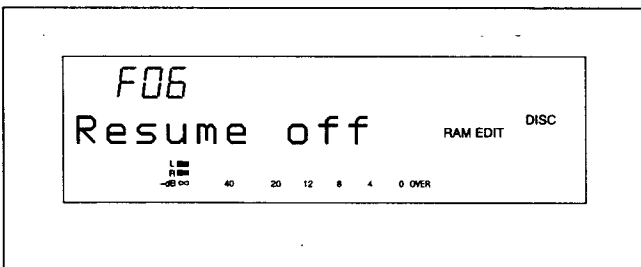
Note

When you use the shuffle play or Multi-Access function, the playback resume mode setting will be ignored.

To set the playback resume mode



- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.
- 2 Turn the AMS control until the menu item F06 (“Resume off”, “Resume Play” or “Resume Next”) appears.



- 3 Press the AMS control.
The indication flashes to show that you can change the setting.

- 4 Turn the AMS control to select the playback resume mode from the values below.

Resume off: Turns the playback resume mode off.

Resume Play: Pressing the PLAY/PAUSE button starts playback from where you stopped or paused playback.

Resume Next: Pressing the PLAY/PAUSE button starts playback from the beginning of the next track which follows the one you stopped playback.

- 5 Press the AMS control to affect the selection and exit from the Setup menu.

External equipment connected to the RS-232C connector at the rear of the MDS-B6P can be used to control the MDS-B6P. Use the Setup menu to set the baud rate, parity, and stop bit length of RS-232C interface before using this interface.

Values for each setting item are as follows.

Baud rate setting (F08: Baud rate)

9600 baud: baud rate 9600

4800 baud: baud rate 4800

2400 baud: baud rate 2400

1200 baud: baud rate 1200

Parity bit setting (F09: Parity bit)

Parity Even: Use even parity

Parity Off: Use no parity

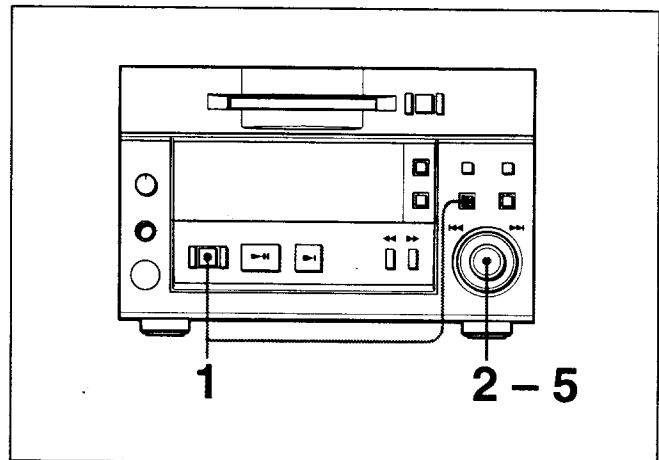
Parity Odd: Use odd parity

Stop bit length setting (F10: Stop Bit)

Stop Bit 1: Selects a stop bit length 1

Stop Bit 2: Selects a stop bit length 2

To set up for RS-232C interface



- 1** Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears in the display window.
- 2** Turn the AMS control until the menu item you want to set up appears.

F08: Baud rate
F09: Parity bit
F10: Stop Bit
- 3** Press the AMS control.
The indication flashes to show that you can change the setting.
- 4** Turn the AMS control to select the value.
- 5** Press the AMS button to affect the selection and exit from the Setup menu.

6-5 Setting the Auto Cue Function

Turning the AUTO CUE function on by pressing the A.MODE button enables the MDS-B6P to locate the beginning of a track by detecting the rise in the audio signal.

You can adjust the detect level for the rise in the audio signal to locate the beginning of a track more precisely in accordance with input signal.

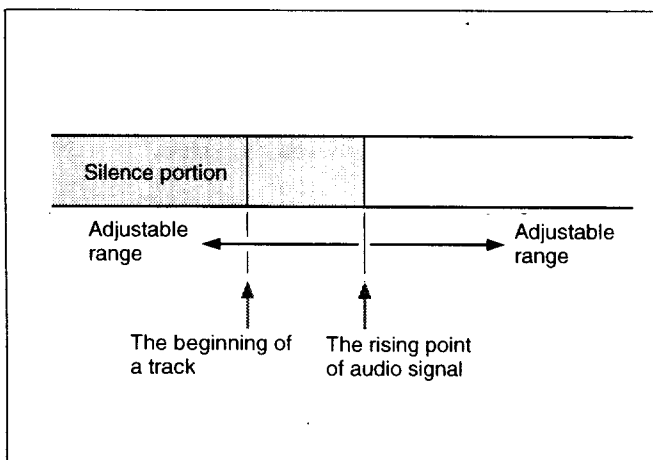
You can also shift the beginning of a track from the rise in the audio signal.

Threshold level for AUTO CUE function (F11: Autocue threshold)

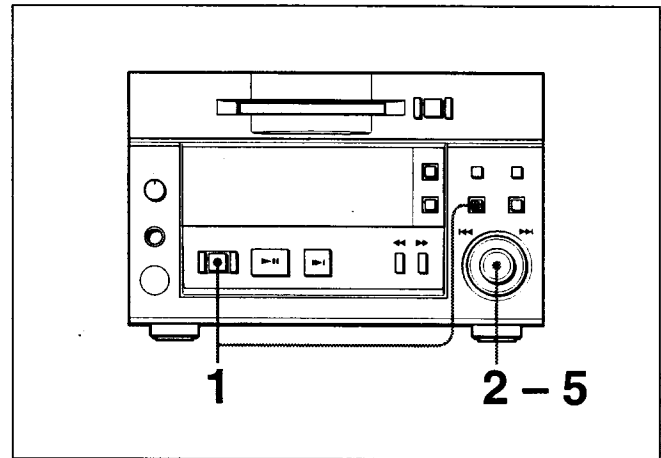
You can adjust the threshold level for detecting as a silence portion of audio signal. -50 dB (factory setting) is the threshold level used to detect the rise in audio signal from a silence portion. You can adjust this level according to the input signal ranging from -72 dB to 0 dB.

AUTO CUE offset function (F12: Autocue offset)

The AUTO CUE offset function allows you to adjust the margin between the beginning of a track and the rise in the audio signal. You can tune finely the starting point of playback using this function. You can shift up to 9 seconds 85 frames before or after the rise in the audio signal regarded as 0 second 0 frame (factory setting).



Setting Up the AUTO CUE function



- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears in the display window.
- 2 Turn the AMS control until the menu item you want to set up appears.
F11: Autocue threshold
F12: Autocue offset
- 3 Press the AMS control.
The indication flashes to show that you can change the setting.
- 4 Turn the AMS control to select the value.
- 5 Press the AMS button to affect the selection and exit from the Setup menu.

6-6 Setting the Rehearsal Playback Function

By pressing the REHEARSAL button, the MD deck starts the rehearsal playback from the position you pressed the REHEARSAL button for the specified time.

You can change the time length and interval for rehearsal playback using the setup menu.

See "4-2-4 Rehearsal Playback" on page 4-3 for details.

Rehearsal playback time setting (F13: Rehearsal length)

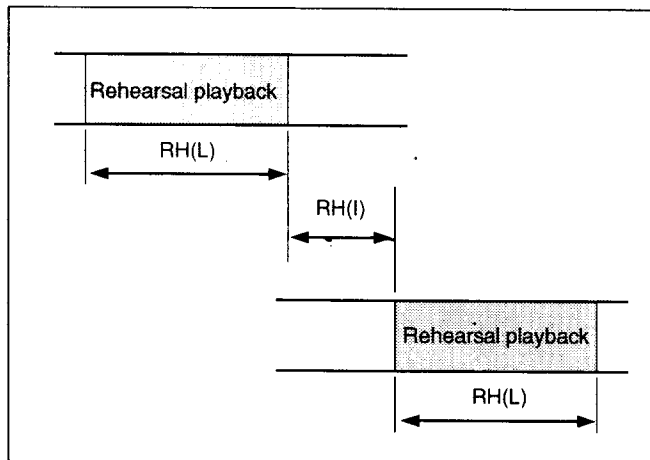
You can set the rehearsal playback time in frame ranging from 0 second 00 frame to 9 seconds 85 frames.

The factory setting is 2 seconds 00 frame.

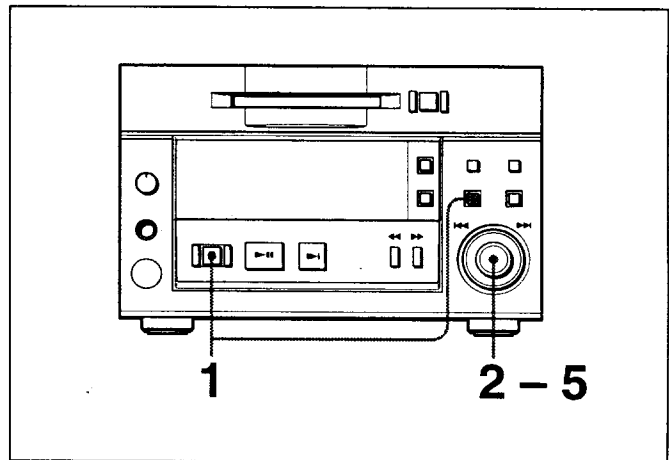
Rehearsal playback interval setting (F14: Rehearsal interval)

You can set the interval for rehearsal playback in 0.5 second ranging from 0.0 second to 8.0 seconds.

The factory setting is 1.0 second.



Setting the rehearsal playback function



- 1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appear.
- 2 Turn the AMS control until the menu item you want to set up appears.

F13: "RH (L) 2s00f" (Rehearsal playback time setting)
F14: "RH (I) 1.0s" (Interval for rehearsal playback)
- 3 Press the AMS control.
The indication flashes to show that you can change the setting.
- 4 Turn the AMS control to set the value.
- 5 Press the AMS control to affect the setting and exit from the Setup menu.

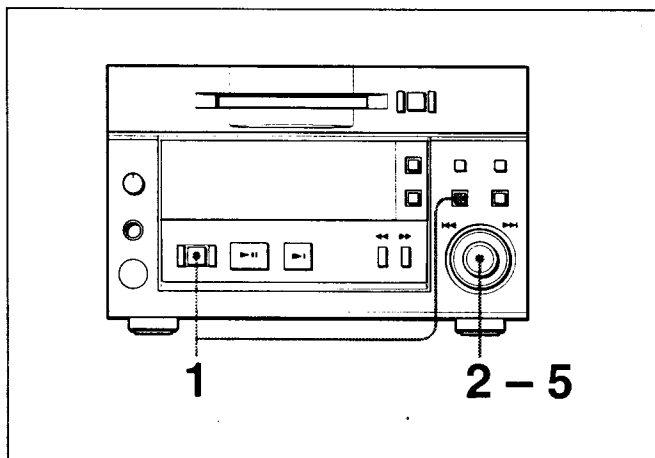
6-7 Setting the EOM Function

The EOM function enables the MD deck to put out the tally signal which tells the current track or the disc is getting closer to its end.

Use the Setup menu to set when the tally signal is put out before the end of the current track or the disc.

You can set the offset time before the end in 1 second ranging from 1 second to 35 seconds for the Disc EOM function and ranging from 1 second to 35 seconds for the Track EOM function.

To set the EOM function



- 1** Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.
- 2** Turn the AMS control until the menu item you want to set up appears.

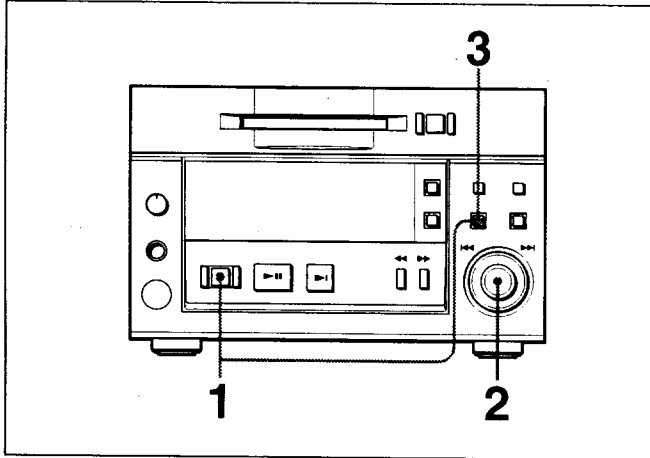
F15: "D.EOM 5sec" (Disc EOM function setting)
F16: "T.EOM 5sec" (Track EOM function setting)
- 3** Press the AMS control.
The indication flashes to show that you can change the setting.
- 4** Turn the AMS control to set the value.
- 5** Press the AMS control to affect the setting and exit from the Setup menu.

This function allows you to display the accumulated operating time of the spindle motor. Use this information as the basis for replacing the BU block.

Note

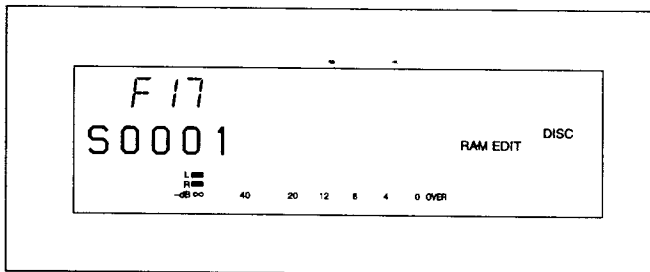
When the BU block is replaced, a new EEP-ROM is installed and the hours meter is zeroed. Since this resets the other menu functions as well, you must make the applicable settings again.

To display the digital hours meter



1 Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.

2 Turn the AMS control until the menu item F17.



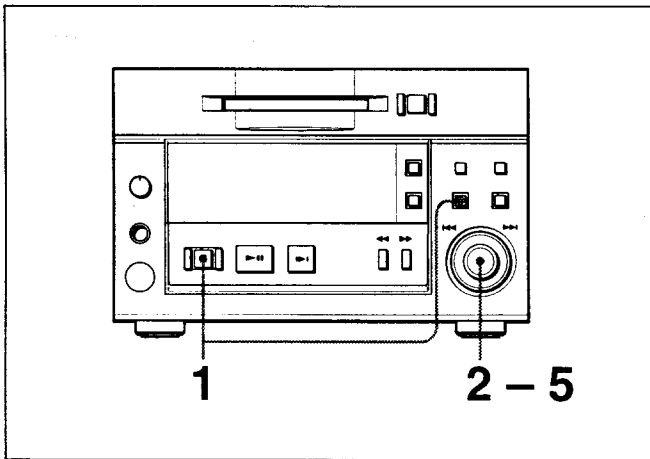
S: Accumulated spindle motor operating time

3 After checking the meter, press the EDIT/NO button to exit the Setup menu.

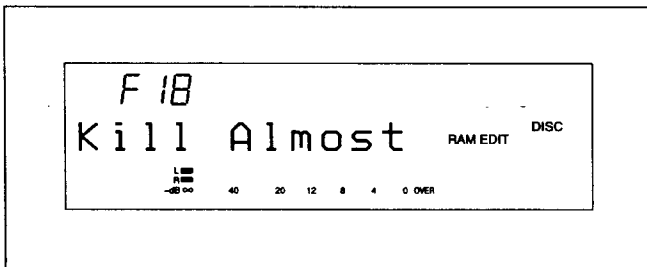
6-9 Disabling the Buttons While Controlling Remotely

When you control the MDS-B6P with the external equipment connected to the RS232C or REMOTE (25P) connector, you can disable the buttons on the front panel of the MDS-B6P to avoid unintentional touch of the operation buttons (Kill Local function). You can choose from two setting modes (“Kill Almost” and “Kill All”).

Disabling the buttons on the front panel



- 1** Press the EDIT/NO button while holding down the STOP button.
The Setup menu appears.
- 2** Turn the AMS control until the menu item F18 (“Kill Almost” or “Kill All”) appears.



- 3** Press the AMS control.
The indication flashes to show that you can change the setting.

- 4** Turn the AMS control to select the mode from the values below.

Kill Almost: Only the STOP, EJECT, and DISPLAY buttons are in effect.

Kill All: All the buttons on the front panel are disabled.

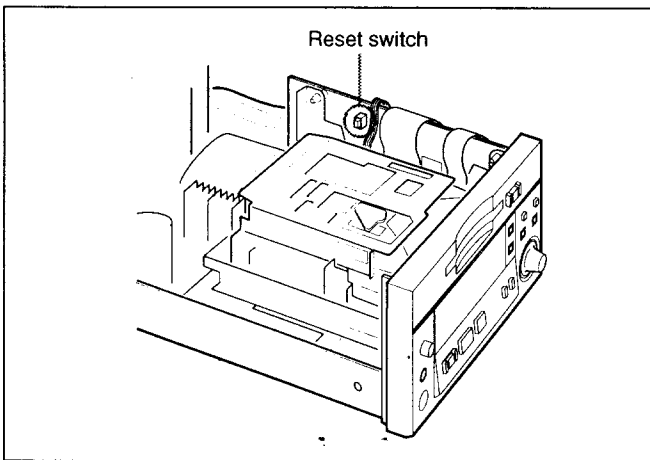
- 5** Press the AMS control to affect the setting and exit from the Setup menu.

7-1 Cleaning and Reset Switch

Use a soft cloth slightly moistened with a mild detergent solution to clean the cabinet and panel surface. Do not use solvents that may damage the surface such as paint thinner, benzine, or alcohol.

About the reset switch

Removing the screws with a Phillips screwdriver from both side of the MD deck (two screws on each side) and the rear panel (one screw) allows you to open the top panel of the MD deck. You may find the reset switch on the internal board. Pressing the reset switch allows you to reset the microcomputer.



Note

Do not press the reset switch in usual operations. Use the reset switch only when the microcomputer hangs to cause the malfunction of the deck, when the any button operations are not accepted, and the like.

7-2 Display Messages

The following tables explain in the various messages that appear in the display window.

Messages during specifying tracks for program playback and multi-access function

Message	Meaning
Program Full!	During specifying tracks for program playback, an attempt was made to specify more than 25 tracks. During specifying tracks for multi-access function, an attempt was made to specify more than 10 tracks.

Messages during editing the MD

Message	Meaning
Cannot Edit	An attempt was made under the condition* you cannot edit the MD.
Cannot Undo	The last operation is unable to cancel.
CP Full !!	An attempt was made to specify more than 256 cue points.
Impossible	The edit operation was invalid because of restriction on the system.
Name Full !!	An attempt was made to enter more characters than the restriction.
No Cue Point	No cue point was specified for the selected track.
No Head Trim	No head trim setting was specified for the selected track.
No End Trim	No end trim setting was specified for the selected track.

* The condition under which you cannot edit the MD is:
When using the program play, shuffle play, or Multi-Access function

Other messages

Message	Meaning
No Name	No title is specified for the track or the disc.
No Disc	There is no disc in the MD deck.
No Track	The inserted MD has a disc title but no tracks.
Disc Error	The MD is scratched or missing a TOC.
Blank Disc	A new (blank) or erased MD has been inserted.

Menu Item List

The Setup menu

Press the EDIT/NO button while holding down the STOP button to enter the Setup menu.

Number	Menu item	Setting	Page
F01	Play mode	Selecting the playback mode	4-8
F02	Repeat	Setting the repeat playback	7-7
F03	Varispeed	Turning on and off of the variable speed playback	4-13
F04	NextPlay	Setting the Next Play function	4-5
F05	Timer mode	Setting the timer mode	6-2
F06	Resume mode	Setting the resume mode	6-3
F07	Keyboard type	Setting the keyboard type	3-3
F08	Baud rate	Setting the baud rate	6-4
F09	Parity bit	Setting the parity bit	6-4
F10	Stop Bit	Setting the stop bit length	6-4
F11	Autocue threshold	Setting the threshold level for the AUTO CUE function	6-5
F12	Autocue offset	Setting the offset for the AUTO CUE function	6-5
F13	Rehearsal length	Setting the length for the rehearsal playback	6-6
F14	Rehearsal interval	Setting the interval for the rehearsal playback	6-6
F15	Disc EOM	Setting the disc EOM function	6-7
F16	Track EOM	Setting the track EOM function	6-7
F17	Hours meter	Digital time meter	6-8
F18	Kill Local	Setting for disabling the buttons on the deck during remote controlling	6-9

The Edit menu

Press the EDIT/NO button to enter the Edit menu.

Number	Menu item	Setting	Page
001	Name ? Nm In ? Nm Erase ? Nm All Ers? Nm Copy ?	Editing a title Entering a title Erasing a title Erasing all titles on the disc Copying a title	5-8
002	Erase ?	Erasing a track	5-3
003	Move ?	Moving a track	5-7
004	Combine ?	Combine tracks	5-6
005	Divide ?	Dividing a track	5-4
006	All Erase ?	Erasing all tracks on the disc	5-3
007	Undo ?	Canceling the last operation	5-2
008	Cue Point ? CP In ? CP Erase ? CP All Ers ?	Editing the cue points Specifying a cue point Erasing a cue point Erasing all cue points on the disc	5-10
009	Head Trim ? HT In ? HT Erase ? HT All Ers ?	Trimming the beginning of a track Specifying the trimming point for the head trim function Erasing a head trimming point Erasing all the head trimming points on the disc	5-12
010	End Trim ? ET In ? ET Erase ? ET All Ers ?	Trimming the end of a track Specifying the trimming point for the end trim function Erasing an end trimming point Erasing all the end trimming points on the disc	5-14
011	Program ?	Specifying the tracks for Program Play function	4-9
012	M-Access ?	Specifying the tracks for multi-access playback function	4-12
013	Speed ?	Setting the speed during the variable speed playback	4-13
014	Err Check ?	Checking an error for recorded data	4-14

Pin Assignments for REMOTE (25P) connector

You can choose from following four types of pin assignment when you control the MD deck by inputting the external parallel remote signal to REMOTE (25P) connector on the rear panel.

For front panel buttons

Pin number	I/O	Function
1	—	—
2	I	CUE/STDBY
3	I	FF
4	I	DISPLAY
5	O	STOP STATUS
6	I	NEXT (JOG+1)
7	I	STOP
8	O	DISC IN
9	I	Hi
10	I	Hi
11	I	JOG PUSH
12	—	—
13	O	5V
14	O	REC STATUS
15	O	CUE/STANDBY STATUS
16	O	REW
17	O	PLAY/PAUSE STATUS
18	O	EOM
19	I	PREVIOUS (JOG-1)
20	I	PLAY/PAUSE
21	O	ERROR STATUS
22	I	Hi
23	I	KILL LOCAL
24	—	—
25	O	GND

For auto signal output

Pin number	I/O	Function
1	I	PLAY/STOP (play during make)
2	I	PAUSE
3	O	PLAY STATUS
4	O	CUE TALLY
5	O	STOP STATUS
6	I	NEXT (JOG+1)
7	I	STOP
8	O	DISC IN
9	I	Low
10	I	Hi
11	—	—
12	—	—
13	O	5V
14	I	PLAY
15	O	PAUSE STATUS
16	O	LEVEL MONITOR
17	O	DISC EOM
18	O	EOM
19	I	PREVIOUS (JOG-1)
20	I	PLAY/PAUSE
21	O	ERROR STATUS
22	I	Hi
23	I	KILL LOCAL
24	—	—
25	O	GND

Pin Assignments for REMOTE (25P) connector

For instant playback (Multi-Access function)

Pin number	I/O	Function
1	I	No.1 PLAY
2	I	No.3 PLAY
3	I	No.5 PLAY
4	I	No.7 PLAY
5	I	No.9 PLAY
6	I	SELECT
7	I	STOP
8	O	DISC IN
9	I	Hi
10	I	Hi
11	I	LOAD
12	—	—
13	O	5V
14	I	No.2 PLAY
15	I	No.4 PLAY
16	I	No.6 PLAY
17	I	No.8 PLAY
18	I	No.10 PLAY
19	O	PLAY STATUS
20	I	PAUSE
21	O	ERROR STATUS
22	I	Low
23	I	KILL LOCAL
24	—	—
25	O	GND

For edit operations

Pin number	I/O	Function
1	I	EDIT
2	I	CUE/STANDBY
3	I	FF
4	I	DISPLAY
5	O	STOP STATUS
6	I	NEXT (JOG+1)
7	I	STOP
8	O	DISC IN
9	I	Low
10	I	Hi
11	I	JOG PUSH
12	—	—
13	O	5V
14	I	ENTER
15	O	CUE/STANDBY STATUS
16	I	REW
17	O	PLAY/PAUSE STATUS
18	I	REHEARSAL
19	I	PREVIOUS (JOG-1)
20	I	PLAY/PAUSE
21	O	ERROR STATUS
22	I	Low
23	I	KILL LOCAL
24	—	—
25	O	GND

RS-232C Protocol

RS-232C Protocol

The connection of MDS-B6P with an external personal computer allows MDS-B6P to be controlled from external equipment including the personal computer. This section describes its operating method from a viewpoint of electrical and software specifications.

Specifications

Format	Serial
Electrical characteristics	RS-232C compatible (not compatible with the 9-pin remote (RS-422A) such as Sony VTR for professional use)
Connector	D-sub, 9-pin, male, inch screw

Pin assignment and I/O signals

Pin No.	I/O	Signal	Description
1	—	N. C.	Not used.
2	I	RxDATA	Inputs reception data.
3	O	TxDATA	Outputs transmission data.
4	O	DTR	Notifies that the set is ready for communication.
5	—	GND	Ground
6	I	DSR	Acknowledges that the personal computer is ready for communication.
7	O	RTS	Notifies that the set requests data transmission.
8	I	CTS	Acknowledges that the personal computer requests data transmission.
9	—	N. C.	Not used.

Operating Method

Synchronous mode between MDS-B6P and the personal computer

Adjust the transmission rate, bit length, parity and stop bit length. The following provides a setting method.

Contents of menu set screen

Items	Contents
Transmission rate	1200, 2400, 4800, 9600 (bauds)
Parity	ODD, OFF, or EVEN
Stop bit length	Stop bit1 or Stop bit 2

- 1 Press the EDIT/NO button on the deck while holding down the STOP button.
The Setup menu appears in the display window.
- 2 Turn the AMS control to display the menu item you want to set (F08: baud rate, F09: parity bit, or F10: stop bit).
- 3 Press the AMS control.
- 4 Turn the AMS control to select the setting value.
- 5 Press the AMS control again to affect the selection. The settings are saved even after the power is turned off and on again.

Communication with the RS-232C interface terminal on the personal computer side

When connecting the RS-232C interface terminal of MDS-B6P with that of the personal computer, perform as follows:

Connect the DSR of MDS-B6P with DTR of the personal computer, and DTR of the set with DSR of the personal computer. These signals notify that both the MDS-B6P and the personal computer are ready for communication.

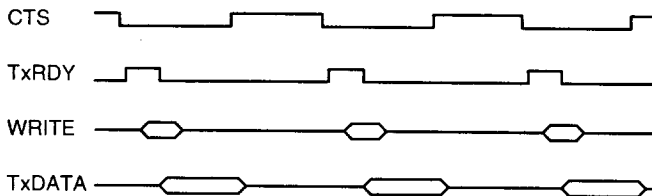
Also, connect the CTS of the MDS-B6P with RTS of the personal computer. The MDS-B6P does not transmit that data until the CTS is received (that is, the personal computer is ready). Likewise, connect the CTS of the personal computer with RTS of the MDS-B6P so that the communication that meets the processing capacity of the MDS-B6P can be made.

Connection of connectors

MD deck side			Personal computer side	
Pin No.	Signal		Signal	Description
2	RxDATA	←	TxDATA	Transmit Data
3	TxDATA	→	RxDATA	Receive Data
4	DTR	→	DSR	Data Set Ready
5	GND	—	GND	Signal Ground
6	DSR	←	DTR	Data Terminal Ready
7	RTS	→	CTS	Clear To Send
8	CTS	←	RTS	Request To Send

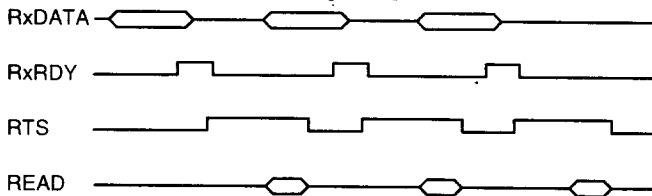
Timing chart

In transmitting data



When the CTS becomes enabled, the TxRDY (TxREADY) signal of the deck rises up and the deck returns 1 byte of data.

In receiving data



Upon reception of data, the RxRDY (RxREADY) signal of the MDS-B6P rises up and the set disables the RTS to read that data, then it enables the RTS again.

Transmission rate

The deck can use the transmission rate of maximum 9,600 bauds. As for practical figures at the SMPTE 29.97 Hz:

$$9600 \text{ (bit/sec)} / 11 \text{ (bit)} / 29.97 \text{ (1/sec)} = 29.12 \text{ (byte)}$$

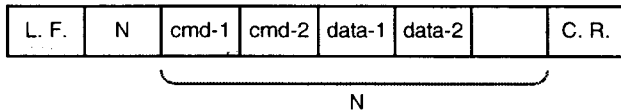
$$1 \text{ (sec)} / 9600 \text{ (bit/sec)} * 11 \text{ (bit)} = 1.145 \text{ (msec)}$$

Namely, in one frame, the maximum number of bytes is 29 and its byte interval is 1.145 msec. Upon reception of a command in one cycle, the set uses the RTS/CTS of hardware handshake to deassert that RTS (0) line so that it does not receive the next command block for subsequent 30 msec. This means that if the command blocks are transmitted at random, the contents of transmission accumulate or they are destroyed. Also, since the data is received by the interrupt processing of CPU, the communication ignoring handshake, transfer clock or transmission rate allows the set to receive data precedently, causing other processing not to be executed and resulting in stop of operation. (The deck will be recovered if data reception is canceled.) Thus, the above points should be taken into consideration when making a software using this interface.

Command transmission format

The command transmission format of the set is as shown below.

All codes conform to the ASCII format. (Use uppercase letters for A to F.) Add the line feed (L. F.) and carriage return (C. R.) at the top and end of command respectively. Also, the number of data "N" is given in the ASCII code.



Note

The MDS-B6P does not support a command that gives notice of data receive error.

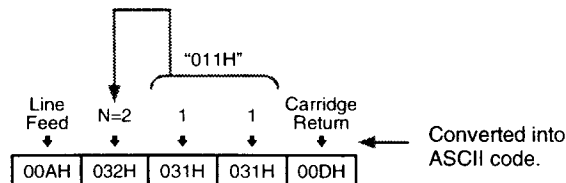
Examples of command

Example 1: If PLAY command is sent

The playback is automatically starts when the PLAY command is sent in the STOP or PAUSE status. The code of this command is "011H" as given in the command list starting from page A-11.

The "0" is added at the top of each command, which means that if a command containing alphabets such as "OFFH" is used, the "F" indicates hexadecimal "F" but it is not an alphabet "F" of ASCII codes. Therefore, this "0" may be ignored in actual code conversion. This "011H" is sent in the specified command transmission format, as shown below.

N=2 because total number of data is 2



Example 2: If you specify the track number 123

For this purpose, two commands "TRACK No. LOCATE POINT PRESET" and "TRACK No. LOCATE" must be output.

- 1 The code of "TRACK No. LOCATE POINT PRESET" is "023H" according to "List of Commands" (see page A-10).
- 2 The following data is attached with this command.
DATA1 (10, 1) (*000-255, decimal number)
DATA2 (**, 100)

This specifies the track number to be played back (up to 255 tracks in one disc can be set).

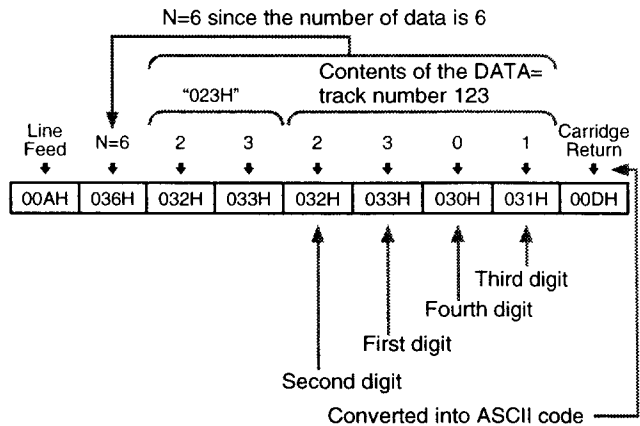
"10": Second digit of the track number to be specified

"1": First digit of the track to be specified

"***": Fourth digit of the track to be specified

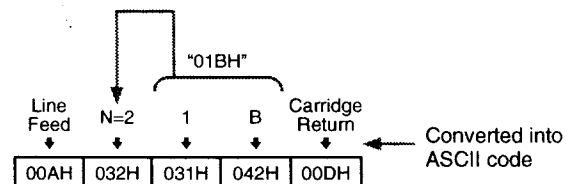
"100": Third digit of the track to be specified (always set to zero)

Accordingly, the commands to specify the track number 123 is "023H" and "the contents of DATA" as shown below.



- 3 The code of "TRACK No. LOCATE" is "01BH" according to "List of Commands" (see page A-10). This "01BH" is output in the specified command transmission format, as shown below.

N=2 since the number of data is 2



- 4 Under this condition, if the AUTO PAUSE function is turned off, The MDS-B6P locates and plays the track number 123 immediately. When the AUTO PAUSE function is turned on, The MDS-B6P locates the track and pauses at the beginning of the track.

Primary RS-232C-controllable functions supported by the MDS-B6P

1 Supported functions

Items	Descriptions	Reference commands
Basic Operations	STOP	010H
	PLAY(playback)	011H
	PAUSE ON/OFF (pauses/cancels pauses)	010H
	CUE STANDBY (returns to the point where the play started and pauses)	010H
	CUE (scans forward or backward in fast playback)	016H
	NEXT/PREVIOUS (locates tracks ahead of or before the current point)	01AH
	TRACK LOCATE (plays the specified track)	01BH
	Sets the track order for program play (changes the track order to be played temporarily) and sensing the contents of the setting.	024H
	Sets or clears the program play data (program area).	02CH
Mode settings	EJECT (ejects a disc)	010H
	TIMER PLAY (starts play automatically when the power is turned on)	034H
	AUTO PAUSE (pauses after playing each track)/AUTO CUE (locates the rising point of the sound at the beginning of the tracks)	030H
	Sets the duration for the EOM function (outputs the status of the end of a track/disc).	032H
	Turns on or off the AUTO DISPLAY (displays the track title and time information alternately).	031H
Status detection	Misoperation prevention mode (disables most of the buttons and controls on the MDS-B6P).	04CH
	Detects the model name and the software version.	08FH
	Detects that the power is turned on .	074H
	Detects that the disc is inserted or not, the type of the disc (pre mastered or recordable), and the record-protect slot is open or closed.	0D6H
	Detects the total number of tracks and the total disc playing time.	0DDH
	Detects the operation status (playing, stopped, pausing, cueing, or disc has been ejected).	0D0H
	Detects the current program number.	0D5H
	Detects that the next track is located during playing.	076H
	Detects the setting of the EOM function.	076H
	Detects that an error message is output.	070H
	Detects that a caution is output.	071H
Detects that an illegal message is output.	072H	

Items	Descriptions	Reference commands
Time information	Detects the total operation time of the spindle motor.	05EH
	Detects the elapsed time of the current track.	0D8H
	Detects the remaining time of the track being played or paused.	0DCH
Character information	Detects the disc title.	0D7H
	Detects the title of the current track.	0D9H
Editing functions	TRACK ERASE (Erases the current or specified track.)	013H
	ALL ERASE (Erases the contents of the disc at one time.)	013H
	DIVIDE (Divides a track.)	017H
	COMBINE (Combines tracks.)	018H
	MOVE (Change places of tracks.)	019H

2 Functions not supported

- Inserting a disc (Disc insertion is performed only through the manual operation.)
- Detection of the total elapsed time and total remaining time of the disc.
- Displaying all the titles on the disc (Titles are displayed only one at a time.)

List of Commands

□ indicates that the data is attached to the command.

Upper digit Lower digit	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		STOP, PAUSE, CUE STANDBY, EJECT		AUTO PAUSE, AUTO CUE SELECT	MECHA STATUS SENSE			ERROR SENSE REQUEST				AUTO PAUSE, AUTO CUE RETURN		MECHA STATUS RETURN		
1		PLAY		AUTO DISPLAY SELECT				CAUTION SENSE REQUEST				AUTO DISPLAY RETURN				
2				END OF MESSAGE TIME PRESET				ILLEGAL SENSE REQUEST				END OF MESSAGE TIME RETURN				
3		ERASE									TRACK No. LOCATE POINT PRESET					
4				TIMER PLAY SELECT				POWER ON STATUS			PGM TRACK NO. PRESET	TIMER PLAY RETURN				
5						TRACK No. STATUS SENSE					MULTI ACCESS PRESET			TRACK No. STATUS RETURN		
6		CUE				DISC STATUS SENSE		MODE CHANGE STATUS			NEXT AMS SET			DISC STATUS RETURN		
7		DIVIDE				DISC NAME SENSE	DISC NAME IN							DISC NAME RETURN		
8		COMBINE				CURRENT TRACK TIME SENSE		ERROR SENSE						CURRENT TRACK TIME RETURN		ERROR SENSE RETURN
9		MOVE				CURRENT TRACK NAME SENSE	TRACK NAME IN	CAUTION SENSE						CURRENT TRACK NAME RETURN		CAUTION SENSE RETURN
A		TRACK LOCATE						ERROR DATA CLEAR				PLAY MODE SELECT				
B		TRACK No. LOCATE						CAUTION DATA CLEAR				REPEAT MODE SELECT				
C					SWITCH ENABLE SELECT	CURRENT TRACK REMAIN TIME SENSE					PGM MODE SET			SWITCH ENABLE RETURN		
D						TOTAL TRACK No. TOTAL TIME SENSE		ERROR STATUS RETURN			MULTI ACCESS SET			TOTAL TRACK No. TOTAL TIME RETURN		
E						hour METER SENSE		CUE POINT STATUS RETURN				KILL LOCAL MODE SELECT		hour METER RETURN		
F		INFORMATION REQUEST							INFORMATION RETURN							

Command Descriptions

INFORMATION REQUEST

Command: 00FH

Function : Requests the information such as model name and version of the MDS-B6P.

Data: None

RETURN command: 08FH

STOP, PAUSE, CUE, STANDBY, EJECT

Command: 010H

Function : Activates the STOP, PAUSE, CUE, STANDBY or EJECT function.

- STOP function
Stops the motor and rotation of the disc. The mechanism becomes completely stationary.
- PAUSE function
The MDS-B6P stores the audio signals in the buffer memory while in the PAUSE mode, therefore the audio signals are immediately played without the time lag when the deck changes to PLAY mode. Also, while pausing at the beginning of a track, the silent portion at the beginning of the track is skipped if the AUTO CUE function is turned on. This enables the playback starting exactly from the rising point of the sound. Note that the AUTO PAUSE function is automatically turned on when the AUTO PAUSE function is turned on. For details, see "AUTO PAUSE, AUTO CUE SELECT" Command: 030H.
- CUE STANDBY function
When this command is output, the deck locates the position where the playback started the last time and pauses at the point. This function is useful for relocating a certain point in a track after confirming the point by listening.
- EJECT function
The deck ejects the disc. This command is active only when the deck is stopped. There is no command for inserting the disc since the disc insertion is possible only through manual operation. Therefore, you cannot insert the disc once ejected by command operation using an external remote controller.

Data: 1

DATA1

000H: STOP

001H: CUE STANDBY

002H: PAUSE ON

003H: PAUSE OFF

0004: EJECT (disc ejection only, active only when the deck is stopped)

RETURN command: None

PLAY

Command: 011H

Function : Starts playback.

Note

Even when the deck is pausing, the deck starts playback whenever the PLAY command is sent without sending the PAUSE OFF command.

Data: None

RETURN command: None

ERASE

Command: 013H

Function : Erases (a) track(s).

When the "003H: TRACK ERASE" or "004H: ALL ERASE" described below is output, the current track or the entire contents of the disc are erased in an instant.

Data: 1 (3)

DATA1

003H: TRACK ERASE (Erases a specified track.) (See "Note on the TRACK ERASE command" below.)

004H: ALL ERASE (Erases all tracks on a disc.)

RETURN command: None

Note on the TRACK ERASE command

Output this command only when the deck is stopped or pausing. If it is output during playback, confusion may occur due to deletion of (a) track(s).

- When erasing a specific track while the deck is stopped, send the following data after sending DATA1 (003H): DATA2 (10, 1) (*000—255 (in decimal number)), DATA3 (**, 100)
- When erasing a specific track while the deck is pausing, send DATA1 (003H).

CUE

Command: 016H

Function : Starts cueing while monitoring the sound in faster speed than normal playback.

Notes

- The cueing is possible only when the deck is playing.
- The pitch of the playback sound does not change. However, the playback sound is chopped and you might not be able to recognize the detail of the track.
- You cannot change the cueing speed.
- On the MDS-B6P, cueing is performed by holding the ◀◀ or ▶▶ button while it is playing.

Data: 1

DATA1

002H: fast forward scan

002H: fast backward scan

RETURN command: None

DIVIDE

Command: 017H

Function : Divides a track. This command is accepted in the PLAY or PAUSE mode.

DATA: 1

DATA1

000H: Divides a track at the position where the deck is currently playing or pausing.

001H: Starts the rehearsal to divide a track at the position where the deck is currently playing or pausing.

002H: Shifts the rehearsal starting point in forward direction.

003H: Shifts the rehearsal starting point in reverse direction.

004H: Divides a track at the current rehearsal starting point.

005H: Changes the unit for moving the rehearsal starting point in the following order: frame → Sec → Min.

Note

Sending this command in the PLAY mode could change the track numbers, resulting in confusion.

RETURN command: None

COMBINE

Command: 018H

Function : Combines succeeding tracks. This command is accepted in the STOP, PLAY or PAUSE mode.

DATA: 1 (3)

DATA1

000H: If there are no DATA2 and DATA3: A track currently being played or paused and the previous track are combined.

If there are DATA2 and DATA3: When in the STOP mode, a track specified by the DATA2 and DATA 3 and the previous track are combined.

001H: Starts rehearsal play for combining the tracks at the position where the two tracks will be joined. If there are DATA2 and DATA3, the rehearsal playback at the position where the track specified by DATA2 and DATA3 and the previous track will be joined starts.

002H: The tracks are combined at the rehearsed position

DATA2 (10, 1)

DATA3 (**, 100)

Specify the track No. to be combined in the STOP mode.

Note

Sending this command in the PLAY mode could change the track numbers and may result in confusion. Therefore, operation should be performed in the PAUSE status.

RETURN command: None

MOVE

Command: 019H

Function : Moves a specific track to the desired position to change the order of play. Issue this command in the STOP, PLAY or PAUSE mode.

DATA: 2 (4)

DATA1 (10, 1)

DATA2 (**, 100) destination (001-255, decimal number)

DATA3 (10, 1)

DATA4 (**, 100) the track to be moved (001-255, decimal number)

Notes

- If the MOVE command is executed in the PLAY or PAUSE mode, DATA: 2 is required. Sending this command in the PLAY mode could change the track numbers and may result in confusion.
- If the MOVE command is executed in the STOP mode, DATA: 4 is required.

RETURN command: None

TRACK LOCATE

Command: 01AH

Function : Skips the tracks in forward or reverse direction.

DATA: 1

DATA1

000H: NEXT

001H: PREVIOUS

RETURN command: None

TRACK No. LOCATE

Command: 01BH

Function : Locates a specific track. This command is used together with the "TRACK No. LOCATE POINT PRESET" (023H) command described below to locate a track preset by the 023H command.

Note

Although the deck does not provide this function, the devices used for recording or playback supports this function by operating the 10 keys on the remote controller.

DATA: None

RETURN command: None

TRACK No. LOCATE POINT PRESET

Command: 023H

Function : Specifies the track to be located.

This command is used together with the "TRACK No. LOCATE" (01BH) command listed above.

DATA: 2 (1)

DATA1 (10, 1) (001 to 255, decimal number)

DATA2 (**, 100)

DATA1=0FFH: TRACK No. LOCATE POINT SENSE

However, when DATA1 is 0FFH, TRACK No. LOCATE POINT SENSE becomes active to request the RETURN command 0A3H.

RETURN command: 0A3H

PGM TRACK No. PRESET

Command: 024H

Function : Selects the tracks for program play.

The tracks can be set for each program area. (program area 1-25).

In this case, set the track order and program area.

DATA: 4 (2)

DATA1 (10, 1)

DATA2 (**, 100)

Track No. (001 to 255) (DATA1: 0FFH)
(DATA2: ** for PGM SENSE)

DATA3 (10, 1) track order (STEP) (01 to 25)

DATA4 (10, 1) program area (00 to 39)

Note

If DATA3 and DATA4 are omitted (DATA: 2), the program area is 00, and the tracks are assigned sequentially to the area where no track number has been assigned.

RETURN command: 0A4H

MULTI ACCESS PRESET

Command: 025H

Function : Registers tracks for multi-access function into the slot.

DATA: 3

DATA1 (10, 1)

DATA2 (**, 100) : (track number 001 to 255)

DATA3 (10, 1) : slot No. 1 to 10

DATA1 : 0FFH for sense

RETURN command: A5H

Notes

- Set from the slot No.1. If you set from other than the slot No.1, Tr 1 is assigned to the slot which has not assigned a track.
- If you set the slot which has already been assigned a track, it will be overwritten and the previous setting will be lost.
- This command overwrites only the specified slot and the settings in the other slots remains. If you want to set fewer slots than in the previous setting, clear the slots using the command 2DH before setting (see the example below).

Example:

Previous setting: /1-2-3-4-5/

If you want to assign Tr 9, 8, and 7 to the slot 1, 2, and 3 respectively without clearing the slots using the command 2DH, the slot No.1, 2, and 3 are overwritten and the slot No.4 and 5 remain, resulting the setting of "/9-8-7-4-5/". If you clear the slots using the command 2DH before setting, the setting results in "/9-8-7/".

NEXT AMS SET

Command: 026H

Function : Sets the Next AMS function.

DATA: 3

DATA1 : (10, 1)

DATA2: (**, 100)

: Tr No. 001-255

: Tr No. 001-255 (when playback mode is continuous play)

: slot No. 1-10 (when playback mode is multi access play)

: step No. 1-25 (when playback mode is program play)

DATA3: 000H : next AMS off

: 001H : next AMS on

DATA1 : 0FFH for sense

RETURN command: A6H

Notes

- To set the Next AMS function, set the DATA1 or DATA2 to "Tr No. DATA3 = 01H."
- To change the Tr No. setting, set the Tr No. DATA3 to 01H you want to change to DATA1 or DATA2.
- To turn the Next AMS off, set the DATA3 = 00H.

PGM MODE SET

Command: 02CH

Function : Sets the data in a specific program area for program play.

DATA: 2 (1)

DATA1

000H : PROGRAM SET

001H : PROGRAM SET PAUSE

002H : PROGRAM SET PLAY (active only when the AUTO PAUSE and AUTO CUE functions are off)

0CCH : PROGRAM CLEAR (Program area = 00, if there is no DATA2)

0EEH : PROGRAM MODE RESET (There is no DATA2)

(This command is accepted in the STOP mode only)

0FFH : PROGRAM MODE SENSE (There is no DATA2)

DATA2 (10, 1)

Program area (00 to 39)

(In the case of PROGRAM CLEAR command, the program area = 0AA means that all program areas are cleared.)

Note

In the PROGRAM SET, PAUSE, PLAY or PROGRAM CLEAR mode, the program area is 00 if there is no DATA2.

RETURN command: 0ACH

MULTI ACCESS SET

Command: 02DH

Function: Plays, memorizes, and clears the track data specified for multi-access function.

DATA: 1

DATA1: (10, 1): Instant playback of slot No.1-10

DATA1: (10, 1): 0AAH: Loading the track data into the memory

DATA1: (10, 1): 0CCH: Clearing the setting

DATA1: (10, 1): 0FFH: Used for sense to show the slot number currently played.

RETURN command: ADH

Notes

- Merely presetting using the command 25H will not set the track data into memory. The DATA1: 0AAH of this command should be executed to set the track data into memory before instant playback.
- Clearing the track data in the memory using 0CCH must be done while the MD deck is stopped.
- The sensing must be done during playback or pause status.

AUTO PAUSE, AUTO CUE SELECT

Command: 030H

Function:

• AUTO PAUSE function:

The PAUSE status is set at the beginning of next track automatically when certain track is finishes playing. This function is used when you do not want continuous play or when you want to locate a specific track but not to play it immediately. Also, this function is active in repeat play or program play operation.

Further, the use of TRACK No. LOCATE command causes the PAUSE status to be set when the specified track is located.

• AUTO CUE function:

When locating a track, if there is a silent part at the beginning of track, this function skips that part up to the sound rising part and pauses the deck. This function is used in the PAUSE status at the beginning of a track to adjust finely the transmission of PLAY command with the sound rising timing.

DATA: 1

DATA1

000H: AUTO PAUSE OFF

001H: AUTO PAUSE ON

002H: AUTO CUE ON

0FFH: sense

RETURN command: 0B0H

AUTO DISPLAY SELECT

Command: 031H

Function : Switches the display on the deck between title display and the time display. Since the title and time are displayed simultaneously at all times, the deck does not respond to this command.

DATA: 1

DATA1

0FFH: (always returns 001H = AUTO DISPLAY ON)

RETURN command: 0B1H

END OF MESSAGE TIME PRESET

Command: 032H

Function : This function outputs the status from RS-232C connector when the remaining time up to the end of track becomes several seconds (settable range: 1 to 35 sec. in the Track EOM and 1 to 10 sec. in the Disc EOM) during playing of a certain track.

The use of this function enables control of other external equipment, expecting the end of track.

Note

To turn off this function, set the EOM to 000H.

DATA: 1

DATA1 -

000H: EOM MODE OFF

If Track EOM is set:

(10, 1) {*000 to 035, decimal number}

If Disc EOM is set: (E, X)

X=0: one second before the end of the disc

X=1: two seconds before the end of the disc

:

X=9: ten seconds before the end of the disc

0FFH: EOM SENSE

RETURN command: 0B2H

TIMER PLAY SELECT

Command: 034H

Function : Starts playing automatically when the power is turned on. This function expects a simple control by an external timer device that turns on/off the AC power supply.

DATA: 1

DATA1

000H: TIMER PLAY OFF

001H: TIMER PLAY ON

002H: TIMER PLAY RESUME PLAY

003H: TIMER PLAY RESUME NEXT

OFFH: sense

RETURN command: 0B4H

PLAY MODE SELECT

Command: 03AH

Function : Selects the play mode.

DATA: 1

DATA1

000H: CONTINUE

001H: SHUFFLE

002H: PROGRAM

003H: MULTI ACCESS

OFFH: sense

Note

Use this command while the MD deck is stopped.

RETURN command: 0BAH

REPEAT MODE SELECT

Command: 03BH

Function : Selects the repeat mode.

DATA: 1

DATA1

000H: REPEAT OFF

001H: REPEAT ON

OFFH: sense

Note

Use this command while the MD deck is stopped.

RETURN command: 0BBH

KILL LOCAL MODE SELECT

Command: 03DH

Function : Selects the Kill Local function mode.

DATA: 1

DATA1

000H: KILL ALMOST

001H: KILL ALL

OFFH: sense

Note

Use this command while the MD deck is stopped.

RETURN command: 0BDH

SWITCH ENABLE SELECT (KILL LOCAL function)

Command: 04CH

Function : Enables/disables operation buttons on the front panel of the deck. Select the DISABLE (KILL LOCAL function) when you want to prevent misoperation. Also, the deck provides the KILL LOCAL function in the parallel remote control mode, and the function is active if either RS-232C control or parallel control is turned on.

DATA: 1

DATA1

000H: DISABLE

001H: ENABLE

OFFH: SWITCH ENABLE SENSE

RETURN command: 0CCH

MECHA STATUS SENSE

Command: 050H

Function : Demands to output the status information of mechanism.

For the description of statuses, see "MECHA STATUS RETURN": 0D0H on page A-??.

DATA: None

RETURN command: 0D0H

TRACK No. STATUS SENSE

Command: 055H
Function : Demands to output current track number.
DATA: None
RETURN command: 0D5H

DISC STATUS SENSE

Command: 056H
Function : Demands to output information including a disc is inserted or not, if it is premastered or recordable disc, and if the record-protect slot is open or not.
DATA: None
RETURN command: 0D6H

DISC NAME SENSE

Command: 057H
Function : Demands to output the disc title (character information).
DATA: 1, or none (in this case, DATA=000H)
DATA1
000H: 1 to 8 characters from the beginning
001H: 9 to 16 characters from the beginning
002H: 17 to 24 characters from the beginning
:
:
:
009H: 73 to 80 characters from the beginning
00AH: 81 to 88 characters from the beginning
00BH: 89 to 96 characters from the beginning
00CH: 97 to 100 characters from the beginning
RETURN command: 0D7H

CURRENT TRACK TIME SENSE

Command: 058H
Function : Demands to output the elapsed time of a track in PLAY or PAUSE mode. The "minute/second" and "minute/second/sub-second" can be selected.

Note

The MD format of the deck does not contain the time code. For this reason, the set does not support the slave operation by means of external cycle or phase modulation.

DATA: 1
DATA1
000H: Output of minute/second
001H: Output of minute/second/sub-second
RETURN command: 0D8H

CURRENT TRACK NAME SENSE

Command: 059H
Function : Demands to output the title (character information) of the current track in PLAY or in PAUSE mode.
DATA: 1, or none (in this case, DATA1=000H)
DATA1
000H: 1 to 8 characters from the beginning
001H: 9 to 16 characters from the beginning
002H: 17 to 24 characters from the beginning
:
:
:
009H: 73 to 80 characters from the beginning
00AH: 81 to 88 characters from the beginning
00BH: 89 to 96 characters from the beginning
00CH: 97 to 100 characters from the beginning
RETURN command: 0D9H

Command Descriptions

CURRENT TRACK REMAIN TIME SENSE

Command: 05CH

Function : Demands to output the remaining time from current point in PLAY or PAUSE mode to the end of track.

Note

This function outputs the time in minute/second only, and the sub-second time is not output.

DATA: None

RETURN command: 0DCH

TOTAL TRACK No., TOTAL TIME SENSE

Command: 05DH

Function : Demands to output the total number of tracks and total time of a disc.

DATA: None

RETURN command: 0DDH

HOUR METER SENSE

Command: 05EH

Function : Demands to output total operation hours of spindle motor.

Note

On the deck, the time is displayed in the MENU mode.

DATA: 1

DATA1

000H: Operation hours of spindle motor

RETURN command: 0DEH

DISC NAME IN

Command: 067H

Function : Enters disc title.

DATA: 2 to 9

DATA1

000H: 1 to 8 characters from the beginning

001H: 9 to 16 characters from the beginning

002H: 17 to 24 characters from the beginning

⋮
⋮

009H: 73 to 80 characters from the beginning

00AH: 81 to 88 characters from the beginning

00BH: 89 to 96 characters from the beginning

00CH: 97 to 100 characters from the beginning

0CCCH: Erases the disc title.

DATA2: The first character set in DATA1

DATA3: The second character set in DATA1

DATA4: The third character set in DATA1

DATA5: The fourth character set in DATA1

DATA6: The fifth character set in DATA1

DATA7: The sixth character set in DATA1

DATA8: The seventh character set in DATA1

DATA9: The eighth character set in DATA1

Notes

- When you want to input a disc title fewer than 8 characters, decrease the number of DATA as required. For example, if you want enter "ABC", set the number of DATA to four and make each DATA as follows:

DATA1: 000H

DATA2: A

DATA3: B

DATA4: C

As the character part is ASCII data, the actual data sent is as follows:

Line Feed	N=7	"067H"		"00H"		A	B	C	Carriage Return
00AH	037H	036H	037H	030H	030H	041H	042H	043H	00DH

- DATA1=0CCCH erases the disc title and will not be accepted during recording.

TRACK NAME IN

Command: 069H

Function : Enters track title.

DATA: 2 to 9

DATA1

000H: 1 to 8 characters from the beginning

001H: 9 to 16 characters from the beginning

002H: 17 to 24 characters from the beginning

⋮
⋮

009H: 73 to 80 characters from the beginning

00AH: 81 to 88 characters from the beginning

00BH: 89 to 96 characters from the beginning

00CH: 97 to 100 characters from the beginning

0CCCH: Erases a track title.

0AAH: Erases all titles (of both tracks and disc) on the disc.



DATA2: The first character set in DATA1
 DATA3: The second character set in DATA1
 DATA4: The third character set in DATA1
 DATA5: The fourth character set in DATA1
 DATA6: The fifth character set in DATA1
 DATA7: The sixth character set in DATA1
 DATA8: The seventh character set in DATA1
 DATA9: The eighth character set in DATA1

Notes

- When you want to input a track title fewer than 8 characters, decrease the number of DATA as required. For example, if you want enter "ABC", set the number of DATA to four and make each DATA as follows:

DATA1: 000H
 DATA2: A
 DATA3: B
 DATA4: C

As the character part is ASCII data, the actual data sent is as follows:

Line Feed	N=7	"069H"		"00H"		A	B	C	Carriage Return
00AH	037H	036H	039H	030H	030H	041H	042H	043H	00DH

- During playback, pause, recording, or AMS status, a track name will be entered to the currently played or selected track.
- While the MD deck is stopped, a track name will be entered to the track specified with the command 023H (Track No. LOCATE POINT PRESET). The command 023H have to be issued before entering a track title.
- DATA1=0CCH erases a track title.
- DATA1=0AAH erases all the track and disc titles on the disc and will not be accepted during recording.

ERROR SENSE REQUEST

Command: 070H

Function : The deck outputs this information to indicate that an error (failure or trouble) occurred within the deck.

If this information is output, the controller should issue the "ERROR SENSE": 078H command to sense its contents.

DATA: None

RETURN command: 078H

CAUTION SENSE REQUEST

Command: 071H

Function : The deck outputs this information to indicate that it is in caution status (it cannot operate any more due to external causes). If this information is output, the controller should issue the "CAUTION SENSE": 079H command to sense its contents.

DATA: None

RETURN command: 079H

ILLEGAL SENSE REQUEST

Command: 072H

Function : The deck outputs this information to indicate that the it is in illegal status (an illegal command is received).

DATA: None

RETURN command: None

POWER ON STATUS

Command: 074H

Function : The deck notifies that its power has been turned on.

If this information is output, the controller should issue various SENSE commands such as 00FH, 050H, 055H, 078H and 079H to sense the deck, software version and other information that are not checked periodically.

DATA: None

RETURN command: ***

MODE CHANGE STATUS

Command: 076H

Function : The deck notifies that the mode has changed as indicated with DATA1.

DATA: 1

DATA1

000H: MECHA STATUS CHANGE

Upon this request from the deck, the controller should issue the "MECHA STATUS SENSE": 050H.

DATA: 4

DATA1 (10, 1)
DATA2 (**, 100) track No. (001 to 255)
DATA3 (10, 1) track order (STEP) (01 to 25)
DATA4 (10, 1) program area (00 to 39)

REQUEST command: 024H

MULTI ACCESS PRESET RETURN

Command: 0A5H

Function : Returns information for the "MULTI ACCESS PRESET": 025H.

DATA: 3

DATA1 (10, 1)
DATA2 (**, 100) track No. (001 to 255)
DATA3 (10, 1) slot No. (1-10)

REQUEST command: 025H

NEXT AMS RETURN

Command: 0A6H

Function : Returns information for the "NEXT AMS SET": 026H.

DATA: 3

DATA1 (10, 1)
DATA2 (**, 100) Track No. (001 to 255)
DATA3: 000H: NEXT AMS OFF
001H: NEXT AMS ON

REQUEST command: 026H

Note

DATA1 and DATA2 is undefined when the NEXT AMS is turned off.

PGM MODE RETURN

Command: 0ACH

Function : Returns information for the "PGM MODE SET": 02CH.

DATA: 2

000H: PGM MODE OFF
001H: PGM MODE ON

REQUEST command: 02CH

MULTI ACCESS SLOT RETURN

Command: 0ADH

Function : Returns information for the "MULTI ACCESS SET": 02DH.

DATA: 1

DATA1: (10, 1): the slot currently played back

REQUEST command: 02DH

AUTO PAUSE, AUTO CUE RETURN

Command: 0B0H

Function : Returns information for the ON/OFF of AUTO PAUSE or AUTO CUE function.

DATA: 1

DATA1
000H: AUTO PAUSE OFF
001H: AUTO PAUSE ON
002H: AUTO CUE ON
003H: AUTO SPACE ON

REQUEST command: 030H

AUTO DISPLAY RETURN

Command: 0B1H

Function : Returns information for the ON/OFF of AUTO DISPLAY function.

DATA: 1

DATA1
001H: AUTO DISPLAY ON
The deck always returns AUTO DISPLAY ON (0001H).

REQUEST command: 031H

END OF MESSAGE TIME RETURN

Command: 0B2H

Function: Returns information for the setting of END OF MESSAGE function.

Note

Set this to 000H to turn off the EOM function.

DATA1

000H: EOM MODE OFF
001H: EOM RETURN

When it is set at the end of track: (10, 1) { *000 to 035, decimal number }

When it is set at the end of disc: (E, X)

X=0: one second before the end of the track

X=1: two seconds before the end of the track

⋮

X=9: ten seconds before the end of the track

REQUEST command: 032H

TIMER PLAY RETURN

Command: 0B4H

Function : Returns information for the setting of
TIMER PLAY function.

DATA: 1

DATA1

000H: TIMER PLAY OFF

001H: TIMER PLAY ON

002H: TIMER PLAY RESUME PLAY

003H: TIMER PLAY RESUME NEXT

REQUEST command: 034H

PLAY MODE RETURN

Command: 0BAH

Function : Returns information for the "PLAY MODE
SELECT": 03AH.

DATA: 1

DATA1

000H: CONTINUE

001H: SHUFFLE

002H: PROGRAM

003H: MULTI ACCESS

REQUEST command: 03AH

REPEAT MODE RETURN

Command: 0BBH

Function : Returns information for the "REPEAT
MODE SELECT": 03BH.

DATA: 1

DATA1

000H: REPEAT OFF

001H: REPEAT ON

REQUEST command: 03BH

KILL LOCAL MODE RETURN

Command: 0BDH

Function : Return information for the "KILL LOCAL
MODE SELECT": 03DH.

DATA: 1

DATA1

000H: KILL ALMOST

001H: KILL ALL

REQUEST command: 03DH

SWITCH ENABLE RETURN (KILL LOCAL function)

Command: 0CCH

Function : Returns information for the "SWITCH
ENABLE SELECT (KILL LOCAL function)":
04CH.

DATA: 1

DATA1

000H: DISABLE

001H: ENABLE

REQUEST command: 04CH

MECHA STATUS RETURN

Command: 0D0H

Function : Returns information for the "MECHA
STATUS SENSE": 050H.

DATA: 1

DATA1

bit7: REC bit (in RECORD mode)

bit6: TOC WRITING (writing TOC on disc)

bit5: CUE bit (during fast forward scan)

bit4: STOP bit (in STOP mode)

bit3: REVERSE bit (during fast rewind scan)

001H: PLAY

010H: PAUSE ON

012H: STOP

013H: EJECT

014H: DISC OUT (disc has been ejected)

023H: CUE (during fast forward scan)

02BH: CUE (during fast rewind scan)

052H: TOC WRITING

080H: REC STANDBY, REC PAUSE

Note

Each "bitX" listed above expresses the DATA definition listed under "bitX" in binary notation. Therefore, the commands actually returned are the DATA only such as "001H" and "023H".

REQUEST command: 050H

TRACK No. STATUS RETURN

Command: 0D5H

Function : Returns information for the "TRACK No. STATUS SENSE": 055H.

DATA: 3

- DATA1 bit0: EOM STATUS
- DATA2 (10, 1) {001 to 255, decimal number}
- DATA3 (**, 100)

REQUEST command: 055H

DISC STATUS RETURN

Command: 0D6H

Function : Returns information for the "DISC STATUS SENSE": 056H.

DATA: 1

- bit4: REC PROTECT (record protect status)
- bit3: PRE RECORDED DISC (a premastered disc is loaded)
- bit0: DISC PRESENT (a disc is loaded)

REQUEST command: 056H

DISC NAME RETURN

Command: 0D7H

Function : Returns information for the "DISC NAME SENSE": 057H.

DATA: 9

- DATA1
 - 000H: 1 to 8 characters from the beginning
 - 002H: 9 to 16 characters from the beginning
 - ⋮
 - ⋮
 - 00BH: 89 to 96 characters from the beginning
 - 00CH: 97 to 100 characters from the beginning
- DATA2
 - First character set by DATA1
- DATA3
 - Second character set by DATA1

DATA4

Third character set by DATA1

DATA5

Fourth character set by DATA1

DATA6

Fifth character set by DATA1

DATA7

Sixth character set by DATA1

DATA8

Seventh character set by DATA1

DATA9

Eighth character set by DATA1

REQUEST command: 057H

CURRENT TRACK TIME RETURN

Command: 0D8H

Function : Returns information for the "CURRENT TRACK TIME SENSE": 058H. The elapsed time of the track in PLAY or PAUSE mode.

DATA: 3 (4)

- DATA1
 - 000H: Outputs minute/second
 - 002H: Outputs minute/second/sub-second
- DATA2
 - (Minute) 0 to 74
- DATA3
 - (Second) 0 to 59
- DATA4
 - (Sub-second) 0 to 85

REQUEST command: 058H

CURRENT TRACK NAME RETURN

Command: 0D9H

Function : Returns information for the "CURRENT TRACK NAME SENSE": 059H.

DATA: 9

- DATA1
 - 000H: 1 to 8 characters from the beginning
 - 002H: 9 to 16 characters from the beginning
 - ⋮
 - ⋮
 - 00BH: 89 to 96 characters from the beginning
 - 00CH: 97 to 100 characters from the beginning

DATA2

First character set by DATA1

DATA3

Second character set by DATA1

DATA4

Third character set by DATA1

DATA5

Fourth character set by DATA1

DATA6

Fifth character set by DATA1

DATA7

Sixth character set by DATA1

DATA8

Seventh character set by DATA1

DATA9

Eighth character set by DATA1

REQUEST command: 059H

CURRENT TRACK REMAIN TIME RETURN

Command: 0DCH

Function: Returns information for the "CURRENT TRACK REMAIN TIME SENSE": 05CH.

DATA: 2

DATA1 (minute)

DATA2 (second)

REQUEST command: 05CH

TOTAL TRACK No., TOTAL TIME RETURN

Command: 0DDH

Function: Returns information for the "TOTAL TRACK No., TOTAL TIME SENSE": 05DH.

DATA: 4

DATA1 (10, 1) TOTAL TRACK No.

DATA2 (**, 100) TOTAL TRACK No.

DATA3 (minute) TOTAL TIME

DATA4 (second) TOTAL TIME

REQUEST command: 05DH

HOUR METER RETURN

Command: 0DEH

Function: Returns information for the "HOUR METER SENSE": 05EH.

DATA: 4

DATA1

000H: Total operation hours of spindle motor

DATA2 (10, 1)

DATA3 (1000, 100)

DATA4 (**, 10000)

REQUEST command: 05EH

ERROR SENSE RETURN

Command: 0F8H

Function: Returns information for the "ERROR SENSE": 078H.

DATA: 2

DATA1 (**, ***)

DATA2 (, *)

Note

Read the above case as *-**,*** (Example: 1-05, 2-50).

In case of no error:

DATA1 (0, 0)

DATA2 (, 0)

REQUEST command: 078H

ERROR code:

1-04: An error occurred in RAM (Random Access Memory: write/read memory).

CAUTION SENSE RETURN

Command: 0F9H

Function: Returns information for the "CAUTION SENSE": 079H.

DATA: 2

DATA1 (**, ***)

DATA2 (, *)

Note

Read the above case as *-** ***.

In case of no caution:

DATA1 (0, 0)

DATA2 (, 0)

REQUEST command: 079H

ERROR code:

- 1-05: Backup Data Clear
- 1-11: Digital IN Unlock
- 1-13: Protected (disc is record-protected)
- 1-14: Disc Full (no area remains for recording)
- 1-16: Retry (recording is retried because of vibration and flaw in disc)
- 1-17: Disc Error (many flaws or no TOC in disc)
- 1-18: Cannot Edit (editing is impossible)
- 1-19: Impossible or Sorry (editing is impossible)

General

Power requirements	AC 120 V, 60 Hz (for the U.S. and Canada) AC 220 to 230 V AC, 50/60Hz (for the European countries)
Power consumption	25 W
Operating temperature	5°C to 35°C (41°F to 95°F)
Storage temperature	-20°C to +55°C (-4°F to 131°F), without moisture condensation
Dimensions (w/h/d)	About 212 × 139 × 375 mm (8 ⁵ / ₁₆ × 5 ⁷ / ₁₆ × 14 ⁷ / ₈ inches)
Weight	About 5 kg (11 lb)

Laser characteristics

Laser	Semiconductor laser ($\lambda=780$ nm)
	Emission duration: continuous
Laser output power	Max. 44.6 μ W*

* This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.

Digital audio signal format

System	MiniDisc digital audio system
Disc	MiniDisc
Modulation format	EFM (Eight to Fourteen Modulation)
Digital audio channel	2 channels, 1 channel
Sampling frequency	44.1 kHz
Error correction	ACIRC (Advanced Cross Interleave Reed Solomon Code)
Rotation mode	CLV (about 400 to 900 r.p.m.)

Output connectors

Analog output (LINE)

Connector	XLR-3, FEMALE
Output impedance	Approx. 150 ohms, balanced
Reference level	+4 dBs (factory setting) (+8 dBs to -12dBs)
Maximum level	+24 dBs
Load impedance	More than 10 kilo ohms

Digital output (COAXIAL)

Connector	RCA PHONO
Reference level	0.5 Vp-p
Load impedance	75 ohms

Digital output (AES/EBU)

Connector	XLR-3, MALE
Load impedance	110 ohms

Remote connectors

REMOTE (25P)

Connector	D-SUB 25-pins (female)
Format	Parallel
Input level	L: ground short (less than 100 ohms) H: open collector (high impedance)
Output level	L: less than 0.8 V (Imax: 50 mA) H: 10 k pull-up (5 V)
+5 V output	Imax. 200 mA*

* When connecting the keyboard, the total value of the +5 V output and keyboard power consumption must be lower than Imax. 200 mA.

RS-232C

Baud rate	Max 9600 (1200 baud/2400 baud/4800 baud/9600 baud, changeable by button operation)
Word length	Length 8 bits
Stop bit	Stop bit 1/Stop bit 2, changeable by button operation
Parity	Parity Odd/Parity Even/Parity Off, changeable by button operation

Audio characteristics

Frequency response	20 Hz to 20 kHz, ± 0.5 dB
Signal-to-noise ratio	More than 95 dB (with A-weight filter, when playing back premastered disc)
Total harmonic distortion	Less than 0.05% (at reference level*, 1 kHz, when playing back premastered disc)
Wow and flutter	Below measurable limit ($\pm 0.001\%$, W.Peak)

* The reference level is the level at -20 dB from the full bit on the peak level meter scale.

Supplied accessories

Keyboard template (1)
AC power cord (1)
Operation manual (1)

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