

MiniDisc Deck

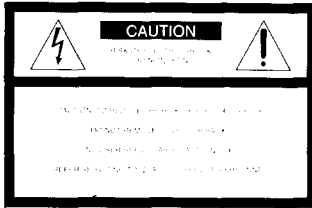
Operating Instructions



MDS-S35

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

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

Owner's Record

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

Model No. MDS-S35

Serial No. _____

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

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

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE, OR LOSSES OR EXPENSES RESULTING FROM ANY DEFECTIVE PRODUCT OR THE USE OF ANY PRODUCT.

Welcome!

Thank you for purchasing the Sony MiniDisc Deck. Before operating the deck, please read this manual thoroughly and retain it for future reference.

About This Manual

The instructions in this manual are for model MDS-S35.

Conventions

- Controls in the instructions are those on the deck; these may, however, be substituted by controls on the remote that are similarly named or, when different, appear in the instructions within brackets.
- The following icons are used in this manual:



Indicates a procedure that requires use of the remote.



Indicates tips for making the task easier and hints.

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Unpacking

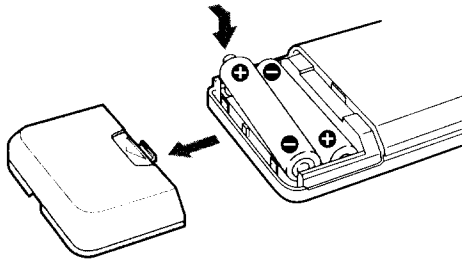
Check that you received the following items:

- Audio connecting cords (2)
- Remote commander (remote) (RM-D4M) (1)
- Sony SUM-3 (NS) batteries (2)

Inserting batteries into the remote

You can control the recorder using the supplied remote.

Insert two R6 (size AA) batteries by matching the + and - on the batteries. When using the remote, point it at the remote sensor  on the deck.



When to replace batteries

With normal use, the batteries should last for about six months. When the remote no longer operates the deck, replace all the batteries with new ones.

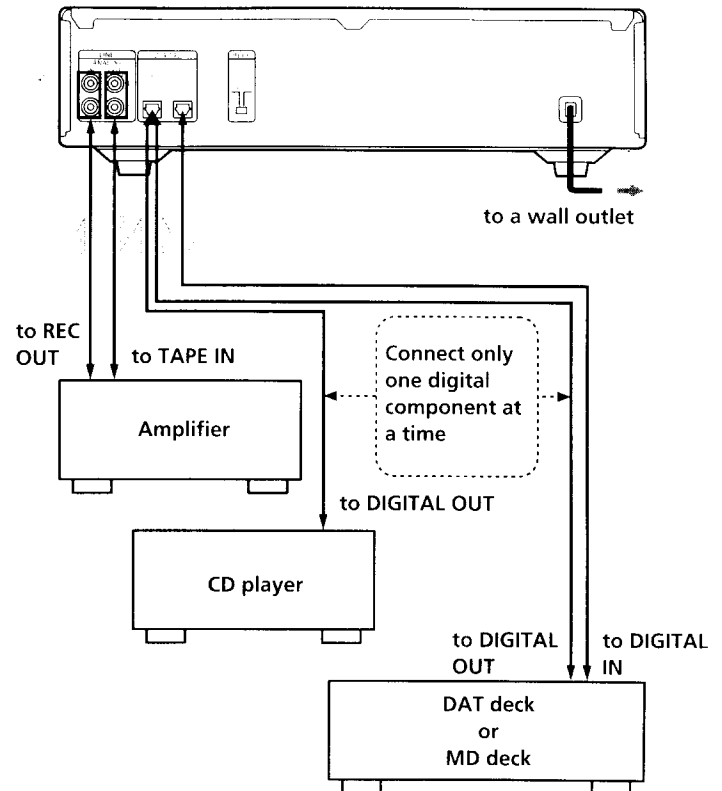
Notes

- Do not leave the remote near an extremely hot or humid place.
- Do not drop any foreign object into the remote casing, particularly when replacing the batteries.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you don't use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Hooking Up the System

Overview

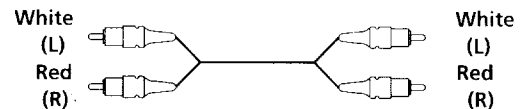
This section describes how to hook up the MD deck to an amplifier or other components such as a CD player or DAT deck. Be sure to turn off the power of each component before connection.



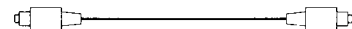
: Signal flow

What cords will I need?

- Audio connecting cords (supplied) (2)



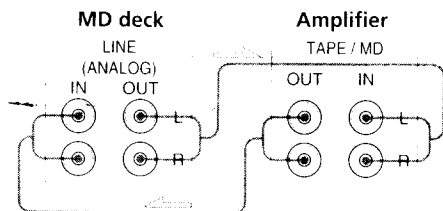
- Optical cable (not supplied) (2)



Hookups

• Connecting the deck to an amplifier

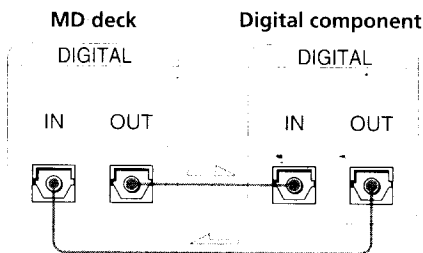
Connect the amplifier to the LINE IN/OUT jacks using the audio connecting cords (supplied), making sure to match the colour-coded cord to the appropriate jacks on the components: red (right) to red and white (left) to white. Be sure to make connections firmly to prevent hum and noise.



→: Signal flow

• Connecting the deck to a digital component such as a CD player, DAT deck, digital amplifier, or another MD deck

Connect the component through the DIGITAL IN/OUT connectors using the optical cable (not supplied). Take off the cap and plug in the optical cable.



→: Signal flow

Notes

- Digital programme sources with different sampling frequencies cannot be recorded through the digital input jack.
Only CD, MD (premastered) and DAT sources with a sampling frequency of 44.1 kHz can be recorded through the digital input connector. "Din Unlock" appears in the display when you attempt to record digital programme sources with a sampling frequency different from that of the MD (such as 32- or 48-kHz DAT or BS). To record these programme sources on an MD you must connect them through the analogue LINE IN jacks and set INPUT to ANALOG.
- If "Cannot Copy" appears in the display, recording through the digital jack is not possible.
In this case, record the programme source through the LINE IN and OUT jacks with INPUT set to ANALOG.
- When recording through the DIGITAL IN connector, you cannot adjust the recording level.

Connecting the AC power cord

Connect the AC power cord to a wall outlet or to the outlet of a timer.

Note

With the exception of a timer outlet, do not connect the AC power cord to a switched outlet.

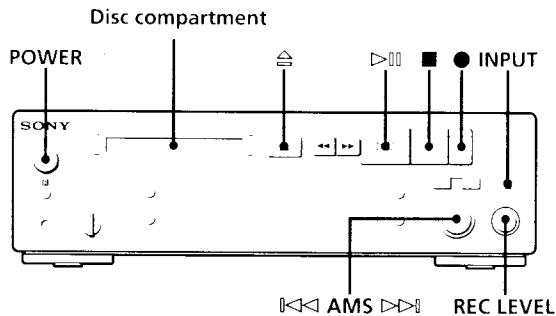
Where do I go next?

Now you're ready to use your deck.

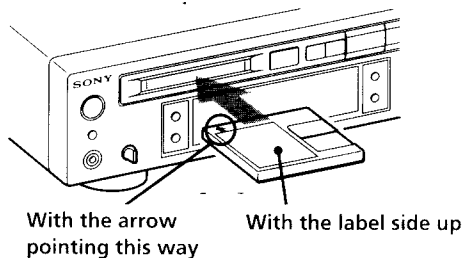
Before using the MD deck, turn on the amplifier and select the MD deck with the source selector on the amplifier.

Recording on an MD

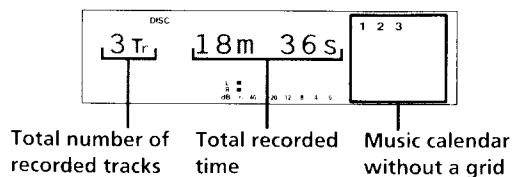
Before you begin, make sure you have correctly and firmly connected the deck to an audio component such as an amplifier or CD player as indicated on page 5.



- 1 Turn on the amplifier and the programme source, and set the programme selector on the amplifier to the programme source.
- 2 Press POWER to turn on the deck. The ON/STANDBY indicator goes off.
- 3 Insert the recordable MD with the label side up and the arrow pointing toward the opening into the disc compartment until the deck grips it. If you insert the MD while the deck is off, the deck will turn on automatically and "Welcome" will appear in the display.



The total number of recorded tracks, total recorded time, and music calendar without a grid appear in the display.



- 4 Set INPUT according to the input terminal connected to the programme source.

When you want to record through	Set INPUT to
LINE (ANALOG) IN	ANALOG
DIGITAL IN	DIGITAL

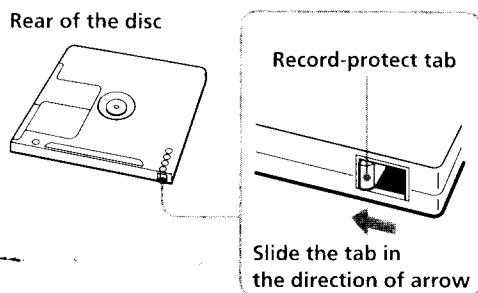
- 5 Locate the position on the MD where you want to start recording.
 - To record on a new (blank) recordable MD, skip this step, and go to Step 6.
 - To start recording from the end of the last recorded track, go to Step 6, or turn AMS (or press **AMS** or **▶▶**) until "End" appears.
 - To record over an existing track, turn AMS (or press **AMS** or **▶▶**) until the number of the track to be recorded over appears.
- 6 Press **●**. The deck is now ready for recording.
 - If you are recording from the end of the last recorded track, or using a new recordable MD, "New" alternates with the remaining time indication in the display.
 - If you are recording over an existing track, "TRACK" flashes and "Overwrite" alternates with the remaining time indication in the display.
- 7 When you've set INPUT to ANALOG in Step 4, turn REC LEVEL to adjust the recording level. (The fourth dot is satisfactory for most purposes. However, for a more precise adjustment, see "Adjusting the Recording Level" on page 8.)
- 8 Press **▶▶** (or **▶**) to start recording.
- 9 Start playing the programme source you want to record.
- 10 After finishing, press **■** to stop recording. Then press **⏏** to remove the MD or press POWER to change the deck to standby.

To	Press
Pause*	▶▶ (or)
Resume recording after pause	▶▶ (or ▶ or)
Remove the MD	⏏

* Whenever you pause recording, the track number increases by one. For example, if you paused recording while recording on track 4, the track number increases by one and recording continues on the new track when restarted.

To protect a MiniDisc against accidental erasure

To make it impossible to record on an MD, slide the tab in the direction of arrow, opening the slot. To allow recording, close the slot.



💡 You can start recording from the middle of a recorded track in Step 5

Press \triangleright (or \blacktriangleright) to start playback, press \triangleright (or \blacksquare) where you want to start recording, and then do the procedure starting from Step 6 on page 6. However, you will not be able to record from the middle of a recorded track if "PROGRAM" or "SHUFFLE" appears in the display.

Notes on Recording

If "Protected" appears in the display

The MD is record-protected. Close the slot to record on the disc (see "To protect a MiniDisc against accidental erasure" on this page).

If "Din Unlock" appears in the display

- The programme source is not connected to DIGITAL IN even though you've selected DIGITAL in Step 4 or the sampling frequency of the programme source does not match that of the MD deck (44.1 kHz). To continue, connect the programme source through DIGITAL IN or select ANALOG in Step 4 to record through LINE (ANALOG) IN.
- The digital signal has been interrupted (stopped) while you were recording. To continue recording, restart the digital programme source. To stop recording, press \blacksquare on the MD deck.

Depending on source being recorded, track numbers are marked in following ways:

- When recording from a CD or MD with INPUT at DIGITAL and the source connected through DIGITAL IN:
The deck automatically marks track numbers in the same sequence as the original. If, however, a track is repeated two or more times (e.g. by single-track repeat play) or two or more tracks with the same track number (e.g. from different MDs or CDs) are played, the track or tracks are recorded as part of a single, continuous track with a single track number. If the source is an MD, track numbers may not be marked for tracks of less than 4 seconds.

- When recording from source connected through LINE (ANALOG) IN with INPUT at ANALOG, and "LEVEL-SYNC" does not light up (see "Marking Track Numbers While Recording" on page 9) or when recording from DAT connected through DIGITAL IN with INPUT at DIGITAL: The source will be recorded as a single track. You can divide the track afterwards using the Divide Function (see "Dividing Recorded Tracks" on page 18) or mark track numbers during recording by using the Track Marking Function on page 9.
If "LEVEL SYNC" appears in the display, the deck automatically marks track numbers when recording analog source or digital recording of DAT (see "Marking track numbers automatically" on page 9).

If "TRACK" flashes in the display

The deck is recording over an existing track. "TRACK" lights continuously when the recorder reaches the end of the previously recorded portion.

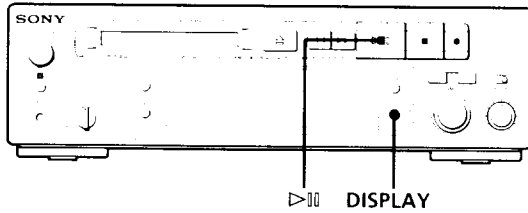
When "TOC" flashes in the display

The deck is currently updating the Table of Contents (TOC). Do not move the recorder or pull out the AC power cord. Changes to an MD made through recording are saved only when you update the TOC by ejecting the MD or changing the deck to standby by pressing POWER.

The MD deck uses the SCMS (Serial Copy Management System on page 27)

MDs recorded through DIGITAL IN cannot be copied onto other MDs through DIGITAL IN.

Useful Tips for Recording



Checking the remaining recordable time on the MD

- When you press DISPLAY while recording, the remaining recordable time on the MD appears.
- When you press DISPLAY repeatedly while the recorder is stopped, the display changes as follows: total recorded time, remaining recordable time on the MD, disc name (see page 12).

If "Auto Cut" appears in the display

The Auto Cut Function has been activated. This happens when there is no sound input for more than 30 seconds while INPUT is at DIGITAL and the source connected through DIGITAL IN. The deck changes to recording pause and the 30 seconds of silence are replaced by a blank of about 3 seconds.

If "Smart Space" appears in the display

The Smart Space Function has been activated. This happens when there has been an extended silence (of not more than 30 seconds) between two input signals when INPUT is at DIGITAL and the source connected through DIGITAL IN. The Smart Space Function instantaneously replaces the silence with a blank of about 3 seconds even as the deck continues recording.

Playing back tracks just recorded

Do this procedure to immediately playback tracks that have just been recorded.

Press (or) immediately after stopping recording.

Playback starts from the first track of the material just recorded.

To play from the first track of the MD after recording

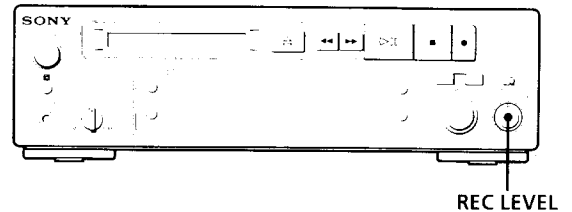
1 Press again after stopping recording.

2 Press (or)

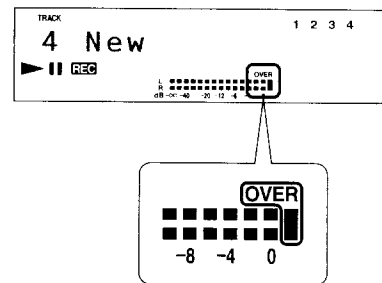
Playback starts from the first track of the MD.

Adjusting the Recording Level

When recording a sound source while INPUT is at ANALOG and the source connected through LINE (ANALOG) IN, use REC LEVEL to adjust the recording level before starting recording. You cannot adjust the recording level during digital recording.



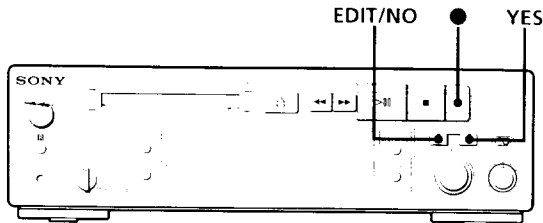
- 1 Do Steps 1 to 6 in "Recording on an MD" on page 6.
- 2 Play the portion of the programme source with the strongest signal level.
- 3 While monitoring the sound, turn REC LEVEL to adjust the recording level so that the peak level meters reach their highest point without turning on the OVER indication. Occasional lighting of "OVER" is acceptable.



- 4 Stop playing the programme source.
- 5 To start recording, do the procedure starting from Step 8 of "Recording on an MD" on page 6.

Marking Track Numbers While Recording (Track Marking)

You can mark track numbers either manually or automatically. By marking track numbers at specific points, you can quickly locate the points later using the AMS Function or Editing Functions.



Marking track numbers manually (Manual Track Marking)

You can mark track numbers at any time while recording on an MD.

Press ● at the place you want to add a track mark while recording.

Marking track numbers automatically (Automatic Track Marking)

The deck adds track marks differently in the following cases:

- When recording from CDs or MDs with INPUT at DIGITAL and the source connected through DIGITAL IN:
The deck marks track numbers automatically. When you record from a CD or MD, the track numbers are written as they are found on the original.
- When recording with INPUT at ANALOG and the source connected through LINE (ANALOG) IN, or when recording from DAT with INPUT at DIGITAL and the DAT connected through DIGITAL IN:
The deck marks a new track number whenever the signal level drops and rises to a certain point* (Automatic Track Marking). If "LEVEL-SYNC" does not light up, set the LevelSync to ON as follows:

- 1 Press EDIT/NO to display "LevelSync ?" during recording or recording pause.
- 2 Press YES twice to display "LevelSync ON."
"LEVEL-SYNC" appears in the display.

To cancel Automatic Track Marking

- 1 Press EDIT/NO during recording or recording pause.
"LevelSync ?" appears in the display.
- 2 Press YES.
- 3 Press EDIT/NO.
"LevelSyncOFF" appears in the display.

* The signal level must remain low for 2 or more seconds before a new track number is written.

💡 When you want to mark track numbers after you've done the recording

Use the Divide Function (see "Dividing Recorded Tracks" on page 48).

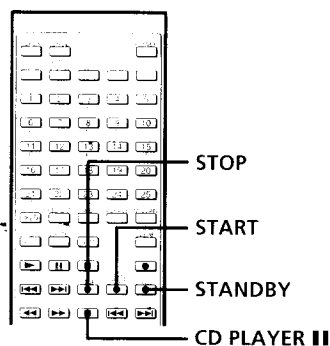
Note

If you turn off the deck or disconnect the AC power cord, the deck will recall the last setting (LevelSync ON or OFF) of the Automatic Track Marking Function the next time you turn on the deck.

Synchro-Recording With a Sony CD Player

By connecting your deck to a Sony CD player or Hi-Fi Component System, you can easily dub CDs onto MDs using the CD synchro buttons on the remote. If your deck is connected to a Sony CD player by the optical cable through DIGITAL IN (digital input), track numbers are automatically marked as appear on the original regardless of whether "LevelSync ON" or "LevelSyncOFF" is selected. If your deck is connected to a Sony CD player by audio connecting cords through LINE (ANALOG) IN (analogue input), track numbers are automatically marked when you select "LevelSync ON" (see "Marking Track Numbers While Recording" on page 9).

As the same remote controls both the CD player and the deck, you may have trouble operating both units if they are far from each other. If you do, place the CD player close to this deck.



- 1 Set the source selector on the amplifier to CD.
- 2 Do Steps 2 to 5 in "Recording on an MD" on page 6 to prepare the deck for recording.
- 3 Insert a CD into the CD player.
- 4 Select the playback mode (shuffle play, programme play, etc.) on the CD player.
- 5 Press STANDBY.
The CD player pauses for playing and the deck pauses for recording.
- 6 Press START.
The deck starts recording and the CD player starts playback.
The track number and elapsed recording time of the track appear in the display.

If the CD player does not start playing

Some CD player models may not respond when you press START on the remote of the deck. Press **II** on the remote of the CD player instead.

- 7 Press STOP to stop synchro-recording.

To pause recording

Press STANDBY or CD PLAYER **II**.

To restart recording, press START or CD PLAYER **II**.

A new track number is created each time you pause recording.

You can use the remote of the CD player during synchro-recording

When you press **■**, the CD player stop and the deck pauses for recording.

When you press **II**, the CD player pauses and the deck pauses for recording.

You can change CDs during synchro-recording

Do the following steps instead of Setp 7 above.

- 1 Press **■** on the remote of the CD player.
The deck pauses for recording.
- 2 Change the CD.
- 3 Press **▶** on the remote of the CD player.
Synchro-recording restarts.

You can also do synchro-recording with a Sony video CD player

Using the procedure for synchro-recording with a Sony CD player, you can do synchro-recording with a Sony video CD player also.

To select the video CD player, press button number 2 while pressing down the POWER button on the remote before starting the procedure.

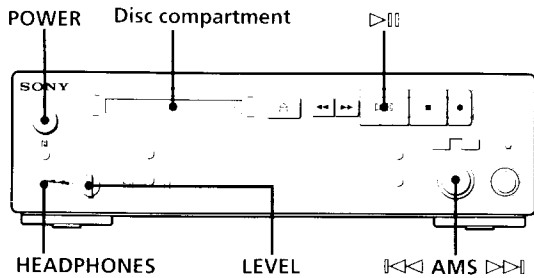
To select the CD player again, press button number 1 while pressing down the POWER button on the remote. The deck is factory set to a CD player for Synchro-recording.

You can check the remaining recordable time on the MD

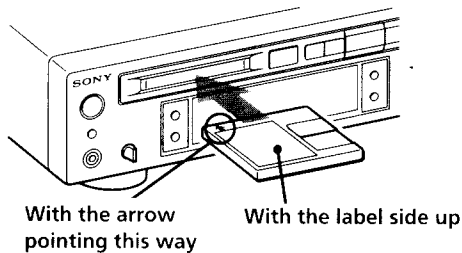
Press DISPLAY (see page 8).

Playing an MD

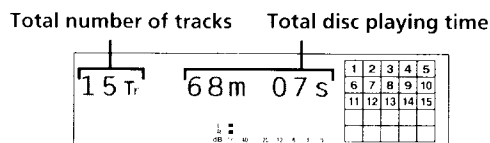
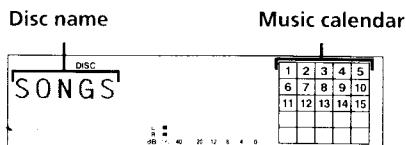
Before you begin, make sure you have connected the deck to an amplifier correctly and firmly as indicated on page 5.



- 1 Turn on the amplifier and set the source selector to MD deck.
- 2 Press POWER to turn on the deck. The ON/STANDBY indicator goes off.
- 3 Insert the MD with the label side up and the arrow pointing toward the opening into the disc compartment until the deck grips it. If you insert the MD while the deck is off, the deck will turn on automatically. "Welcome" appears in the display.



The disc name appears, followed by the total number of tracks (Tr) and total disc playing time. A music calendar showing all the track numbers appears within a grid if the MD is a premastered disc, or without a grid if the MD is a recordable disc.



If the total track number exceeds 25, ► appears to the right of number 25 in the music calendar.

To label a recordable disc and its tracks, see "Labelling Recordings" on page 21.

- 4 Press ► (or ►). The MD starts playing. The current track number, track title (if labelled), and elapsed playing time of the current track light up in the display.

To stop playback

Press ■.

When you want to	Do the following:
Pause	Press ► (or ■)
Resume play after pause	Press ► (or ■ or ►)
Go to the next track	Turn AMS clockwise (or press ► on the remote)
Go back to the preceding track	Turn AMS counterclockwise (or press ◀ on the remote)
Remove the MD	Press ⏏

💡 You can locate and play back a track while the deck is stopped

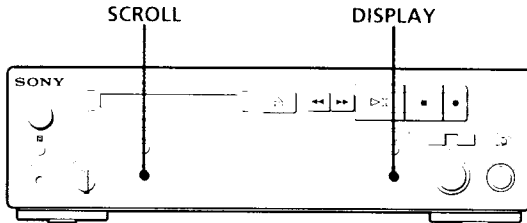
- 1 Turn AMS (or press ◀ or ►) until the number of the track you want to play appears.
- 2 Press AMS or ► (or ►).

💡 When you listen with headphones

Connect the headphones to the HEADPHONES jack. You can adjust the volume with the LEVEL control.

Using the Display

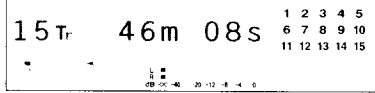
You can use the display to check disc and track information such as the total track number, total playing time of the tracks, remaining recordable time of the disc, and disc name in the display.



Checking the total track number, total disc playing time, remaining recordable time of the disc and the title of the disc

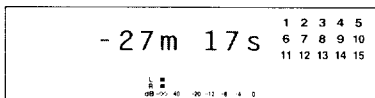
Each time you press DISPLAY while the deck is stopped, you can change the display as follows:

Total track number and total playing time of all recorded tracks



Press ↓

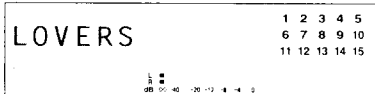
Remaining recordable time of the disc (Recorded MDs only)



The remaining recordable time of the disc is not shown for premastered MDs.

Press ↓

Disc name



Press

Note

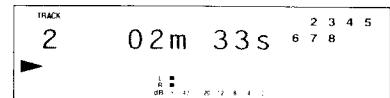
When you insert a new MD or turn off the deck and turn it on again, the last item displayed will reappear.

If, however, you disconnect the AC power cord, the display will show the total track number and total playing time of all recorded tracks the next time you turn on the deck, no matter what the last display was.

Checking remaining time and the title of a track

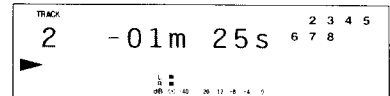
Each time you press DISPLAY while playing an MD, you can change the display as shown below. The track numbers in the music calendar disappear after they are played.

Track number and playing time of the current track



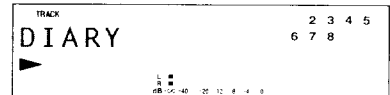
Press ↓

Track number and remaining time of the current track



Press ↓

Track name



If no title is recorded, "No Name" appears, followed by the elapsed playing time.

Press

💡 You can check the track name at any time while playing an MD by pressing SCROLL

Since the display shows up to 12 characters at a time, press SCROLL again to see the rest of the track title if the title has 13 characters or more.

Press SCROLL again to pause scrolling, and again to continue scrolling.

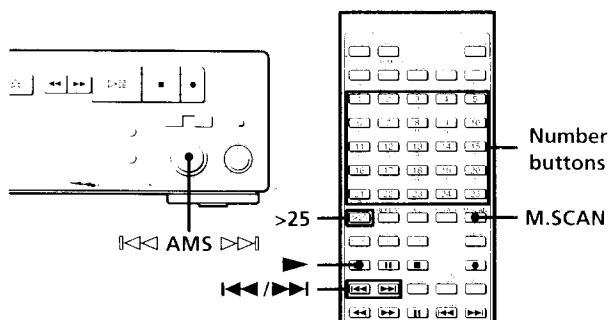
Note



When you insert a new MD or turn off the deck and turn it on again, the last item displayed will reappear.

If, however, you disconnect the AC power cord, the display will show the track number and playing time of the current track the next time you turn on the deck, no matter what the last display was.

Locating a Specific Track

You can quickly locate any track while playing a disc by using AMS (Automatic Music Sensor), **◀◀** and **▶▶**, number buttons or M.SCAN on the remote.



To locate	Do the following:
The next or succeeding tracks	Turn AMS clockwise or press ▶▶ repeatedly until you find the track
The current or preceding tracks	Turn AMS counterclockwise or press ◀◀ repeatedly until you find the track
A specific track directly 	Press number buttons to enter the track number
By scanning each track for 6 seconds (music scan) 	<ol style="list-style-type: none"> 1 Press M.SCAN before you start playing. 2 When you find the track you want, press ▶ to start playing.

To pause playing at the beginning of a track

Turn AMS (or press **◀◀** or **▶▶**) after pausing playback.

To go quickly to the beginning of the last track

Turn AMS counterclockwise (or press **◀◀**) while the display shows the total track number and total disc playing time (page 12).

When you directly locate a track with a number over 25

You must press >25 first, before entering the corresponding digits.

Press >25 once if it is a 2-digit track number, and twice if it is a 3-digit track number.

To enter "0," press button 10.

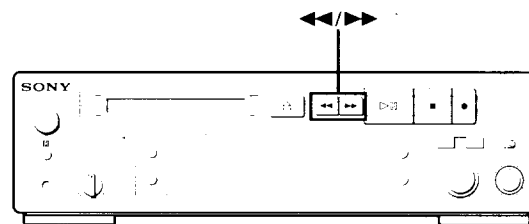
- Examples:
- To play track number 30
Press >25 once, then 3 and 10.
 - To play track number 100
Press >25 twice, then 1, 10 and 10.

You can extend the playing time during music scan

While the deck is stopped, press M.SCAN repeatedly until the playing time you want (6, 10 or 20 seconds) appears in the display. Each press changes the time in order of 6 to 20, then from 6 again.

Locating a Particular Point in a Track

You can also use **◀◀** and **▶▶** to locate a particular point in a track while playing an MD or during playback pause.



To locate a point	Press
While monitoring the sound	▶▶ (forward) or ◀◀ (backward) and keep pressing until you find the point
Quickly by observing the display during playback pause	▶▶ or ◀◀ and keep pressing until you find the point. There is no sound output during this operation.

If "OVER" appears in the display while you are pressing **▶▶** during playback pause

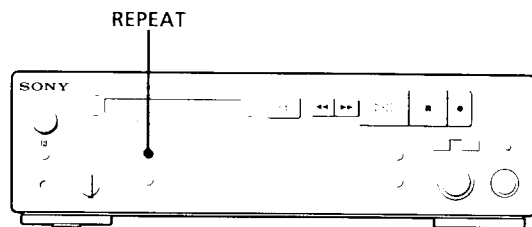
The disc has reached the end. Press **◀◀** (or **◀◀◀**) or turn AMS counterclockwise to go back.

Notes

- If the disc reaches the end while you are pressing **▶▶** during sound monitoring, the deck stops.
- Tracks that are only a few seconds long may be too short to scan using the search function. For such tracks, it is better to play the MD at normal speed.

Playing Tracks Repeatedly

You can play tracks repeatedly in any play mode.



Press REPEAT while playing an MD. "REPEAT" appears in the display. The deck repeats the tracks as follows:

When the MD is played in	The recorder repeats
Continuous play (page 11)	All the tracks
Shuffle play (this page)	All the tracks in random order
Programme play (page 15)	The same programme

To cancel repeat play

Press REPEAT several times until "REPEAT" disappears. The deck returns to the original playing mode.

Repeating the current track

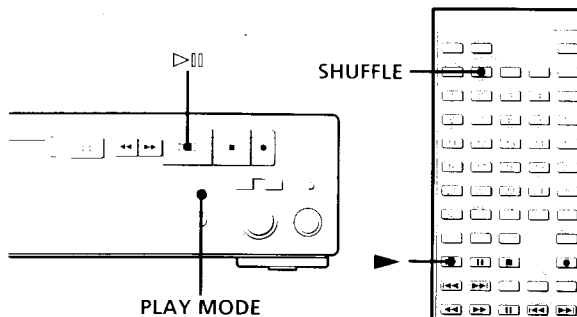
While the track you want to repeat is playing in continuous play, press REPEAT several times until "REPEAT 1" appears in the display.

Note

If you turn off the deck or disconnect the AC power cord, the deck will recall the last setting of the Repeat Function the next time you turn on the deck.

Playing in Random Order (Shuffle Play)

You can have the deck "shuffle" tracks and play them in random order.



1 Press PLAY MODE repeatedly (or SHUFFLE once) until "SHUFFLE" appears in the display.

2 Press ▷|| (or ►) to start Shuffle Play. "♫" appears in the display while the deck is "shuffling" the tracks.

To cancel Shuffle Play

Press PLAY MODE repeatedly (or CONTINUE once) until "SHUFFLE" disappears.

You can specify tracks during Shuffle Play

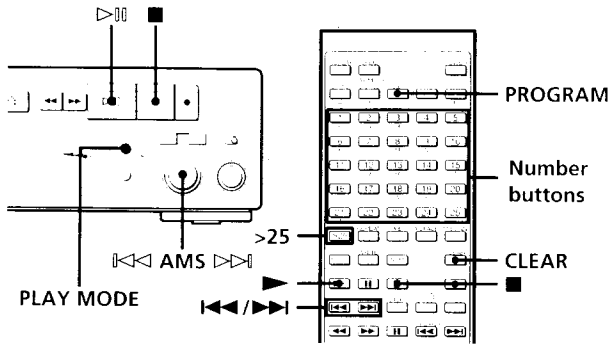
- To play the next track, turn AMS clockwise (or press ►►).
- To play from the beginning of the current track again, turn AMS counterclockwise (or press ◀◀). You cannot use AMS (or ◀◀) to go to tracks that have already been played.

Note

If you turn off the deck or disconnect the AC power cord while the Shuffle Play Function is selected, the Shuffle Play Function will be still selected the next time you turn on the deck.

Creating Your Own Program (Program Play)

You can specify the playback order of the tracks on an MD and create your own programs containing up to 25 tracks.



- 1 Press PLAY MODE repeatedly (or PROGRAM once) until "PROGRAM" appears in the display.
- 2 Do either a) or b):
 - a) When using the remote
Press the number buttons to enter the tracks you want to program in the order you want.
To program a track with a number over 25, use the >25 button (see page 13).
 - b) When using the controls on the deck
 - 1 Turn AMS until the track number you want appears in the display.
 - 2 Press AMS or PLAY MODE.
- 3 Repeat Step 2 to enter other tracks. Each time you enter a track, the total program time is added up and appears in the display.
- 4 Press ▷ (or ►) to start Program Play.

To cancel Programme Play

Press PLAY MODE repeatedly (or CONTINUE once) until "PROGRAM" disappears.

💡 You can program the same track repeatedly

While the track number appears in the display, press AMS as many times as you want.

💡 **The program remains even after Program Play ends**
When you press ▷ (or ►), you can play the same program again.

Note

- The display shows "----" instead of the total playing time when the total playing time of the program exceeds 100 minutes.
- The program created by the Program Play Function is lost when you turn off the deck or disconnect the AC power cord. The program is, however, recalled during timer playback.


Checking the track order

You can check the order of tracks in your program during playback or playback pause.

Turn AMS (or press ◀◀ or ▶▶) during playback or playback pause. The track numbers appear in the order they were programmed.

Changing the track order

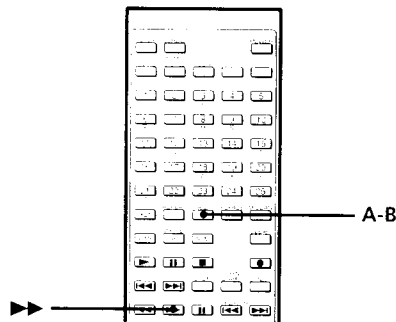
You can change the order of the tracks in your program before you start playing.

To	Do the following:
Erase the last track in the program 	Press CLEAR. Each time you press the button, the last track will be cleared.
Add tracks to the end of the program	Do the procedure on this page starting from Step 2
Change the whole program completely	1 Press ■ while the deck is stopped. 2 Do the procedure on this page starting from Step 2.

Repeating a Specific Portion (A-B Repeat)

You can play a specific portion of a track repeatedly. This might be useful when you want to memorize lyrics.

Note that you can only repeat a portion within the boundaries of a single track.



- 1 While playing a disc, press A-B at the starting point (point A) of the portion to be played repeatedly. "A-B" of "REPEAT A-B" flashes in the display.
- 2 Continue playing the track or press **▶▶** until you reach the ending point (point B), then press A-B again. "A-B" of "REPEAT A-B" lights continuously. The deck starts to play the specified portion repeatedly.

To cancel A-B Repeat

Press REPEAT.

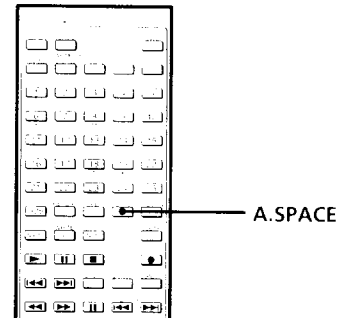
Setting new starting and ending points

You can repeat the portion immediately after the currently specified portion by changing the starting and ending points.

- 1 Press A-B while "REPEAT A-B" appears. The current ending point B becomes the new starting point A and "A-B" of "REPEAT A-B" flashes in the display.
- 2 Continue playing the track or press **▶▶** until you reach the new ending point (point B), then press A-B again. "A-B" of "REPEAT A-B" lights continuously and the deck starts playing repeatedly the newly specified portion.

Useful Tips When Recording From MDs to Tape

The Auto Space and Auto Pause Functions described in this section make recording from MDs to tape more easy.



Inserting blank spaces while recording to tape (Auto Space)

The Auto Space Function inserts a 3-second blank space between each track while recording from MDs to tapes, allowing you to use the AMS function during later playback.

Before the start of recording, press A.SPACE repeatedly until "A.SPACE" appears in the display.

To cancel Auto Space

Press A.SPACE repeatedly until "A.SPACE" disappears.

Note

If the Auto Space Function is on while recording a selection containing multiple track numbers, (for example, a medley or symphony), blank spaces will be inserted within the selection whenever the track number changes.

Pausing after each track (Auto Pause)

When the Auto Pause Function is on, the deck pauses after playing each track. Auto Pause is convenient when recording single tracks or multiple, non-consecutive tracks.

Press A.SPACE repeatedly until "A.PAUSE" appears in the display.

To restart playback

Press **▶||** (or **||**).

To cancel Auto Pause

Press A.SPACE repeatedly until "A.PAUSE" disappears.

Note

If you turn off the deck or disconnect the AC power cord, the deck will recall the last setting of the Auto Space and Auto Pause Functions the next time you turn on the deck.

Notes on Editing

If "Protected" appears in the display

The deck could not erase the specified track because the record-protect slot on the MD is open. Erase the track after closing the slot.

When "TOC" flashes in the display

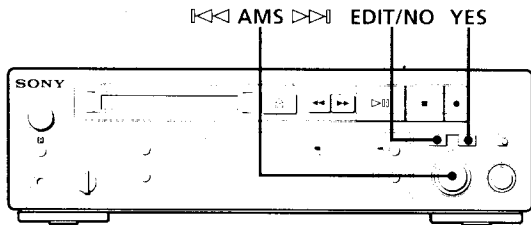
Do not move the deck or pull out the mains lead. After editing, "TOC" lights continuously until you eject the MD or turn off the power. "TOC" flashes while the deck is updating the TOC. When the deck finishes updating the TOC, "TOC" goes off.

Erasing Recordings (Erase Function)

Do the procedures below to erase following:


- A single track
- All tracks
- Parts of a track

Note, however, that once erased, MD data cannot be recovered.

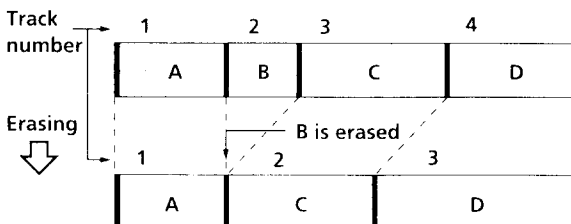


Erasing a single track

You can erase a track simply by specifying the respective track number. When you erase a track, the total number of tracks on the MD decreases by one and all tracks following the erased one are renumbered. Since erasing merely updates the TOC, there is no need to record over material.

 To avoid confusion when erasing multiple tracks, you should proceed in order of high to low track number to prevent the renumbering of tracks that have not been erased yet.

Example: Erasing B



- 1 Turn AMS until the track number you want to erase appears in the display.
- 2 Press EDIT/NO repeatedly until "Erase?" appears in the display.
The track number you selected starts flashing in the music calendar.
- 3 Press YES.
When the track selected in Step 1 has been erased, "Complete" appears for a few seconds and the total number of tracks in the music calendar decreases by one.
If you erase a track during playback, the track following the deleted track begins playing afterwards.
- 4 Repeat Steps 1 to 3 to erase more tracks.

To cancel the Erase Function

Press EDIT/NO, ■, or turn AMS to change the track number.

Note

If "Erase!!?" appears in the display, the track was recorded or edited on another MD deck and is record-protected. If this indication appears, press YES to erase the track.

Erasing all tracks on an MD

Erasing a recordable MD deletes the disc name, all recorded tracks and titles (see page 22).

- 1 While the deck is stopped, press EDIT/NO repeatedly until "All Erase?" appears in the display.
- 2 Press YES.
All tracks in the music calendar start flashing.
- 3 Press YES again.
When the disc name, all recorded tracks and titles on the MD have been erased, "Complete" appears for a few seconds and the music calendar disappears.

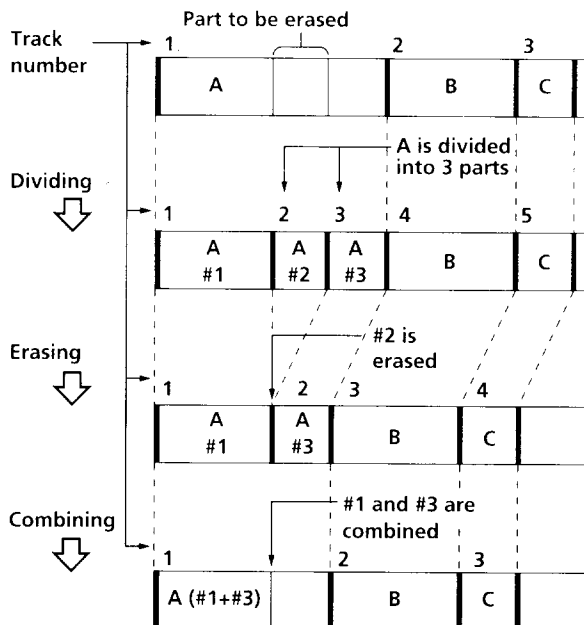
To cancel the Erase Function

Press EDIT/NO or ■.

Erasing a part of a track

By using the Divide (see this page), Erase (see page 17) and Combine (see page 19) Functions, you can erase specific portions of a track.

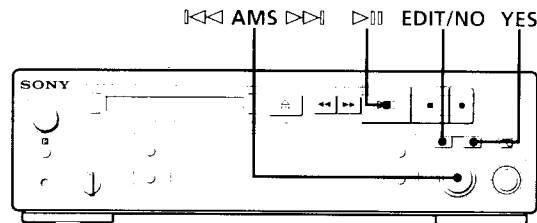
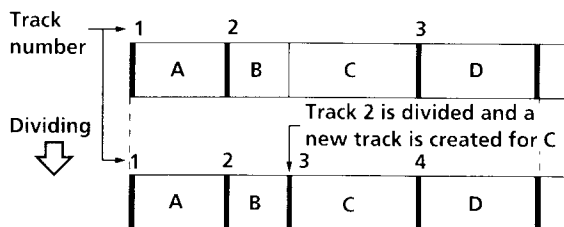
Example: Erasing a part of track A



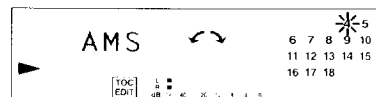
Dividing Recorded Tracks (Divide Function)

With the Divide Function you can assign a track number at places that you want to randomly access afterwards. Use this function to add tracks to MDs recorded from an analogue source (and therefore contain no track numbers), or to divide an existing track into multiple portions. When you divide a track, the total number of tracks on the MD increases by one and all tracks following the divided track are renumbered.

Example: Dividing track 2 to create a new track for C



- 1 While playing the MD, press $\triangleright \parallel$ (or \parallel) at the point where you want to create a new track. The deck pauses playing.
- 2 Press EDIT/NO repeatedly until "Divide?" appears in the display.
- 3 Press YES to divide the track. "Rehearsal" alternates with "Position ok?" in the display, the track to be divided starts flashing in the music calendar, and the starting portion of the new track begins playing repeatedly.
- 4 If the starting position is incorrect, press EDIT/NO. (If it is correct, go to Step 7.)



- 5 While monitoring the sound, turn AMS to find the starting position of the new track.
The starting portion of the new track is played back repeatedly.
"Rehearsal" alternates with "Position ok?" in the display.
The starting position can be moved within a maximum range of -128 to +127 steps of about 0.06 second each within a track.
- 6 If the starting position is still incorrect, repeat Step 5 until it is correct.
- 7 Press YES or AMS when the position is correct.
When the track has been divided, "Complete" appears for a few seconds and the newly created track begins playing. The new track will have no track title even if the original track was labelled.

To cancel the Divide Function

Press ■.

You can undo a track division

Combine the tracks again (see "Combining Recorded Tracks" on this page), then redivide the tracks if necessary.

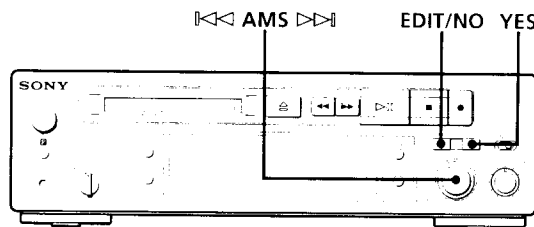
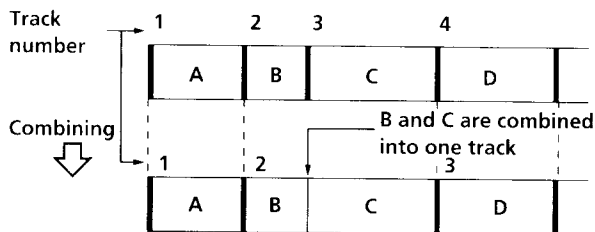
You can divide a track while recording

Use the Track Marking Function (see page 9).

Combining Recorded Tracks (Combine Function)

Use the Combine Function while the deck is stopped, playing or in pause to combine consecutive tracks on a recorded MD. This function is useful for combining several songs into a single medley, or several independently recorded portions into a single track. When you combine two tracks, the total number of tracks decrease by one and all tracks following the combined tracks are renumbered.

Example: Combining B and C



- 1 Turn AMS until the second track of the two to be combined appears.
For example, when combining tracks 3 and 4, turn AMS until 4 appears.
- 2 Press EDIT/NO repeatedly until "Combine?" appears in the display.
- 3 Press YES.
"Rehearsal" alternates with "Track ok?" in the display and the two tracks to be combined start flashing in the music calendar. The place where the two tracks will join (i.e., the end of the first track and the beginning of the second track) repeatedly plays back.
- 4 If the place is correct, press YES.
When the tracks have been combined, "Complete" appears for a few seconds and the total number of tracks in the music calendar decreases by one.
If both of the combined tracks have track titles, the title of the second track is erased.

- 2 Select the character type as follows:

To select	Press
Lowercase letters	CAPS repeatedly until "Selected abc" appears in the display
Uppercase letters	CAPS repeatedly until "Selected ABC" appears in the display
Numbers	NUM repeatedly until "Selected 123" appears in the display

- 3 Enter one character at a time.
After you enter a character, the cursor shifts rightward and waits for the input of the next character.
- 4 Repeat Steps 2 and 3 until you have entered the entire title.

If you entered the wrong character

Press ◀ or ▶ until the character to be corrected starts flashing.
Press CLEAR to erase the incorrect character, then enter the correct one.

- 5 Press NAME again.
The entered title appears on the left side of the display window after the label has been recorded.

To cancel labelling

Press ■.

Changing an existing title

- 1 Press NAME, then do the following:

To change	Make sure that the deck is
A track title	Playing or pausing the track whose title is to be changed
A disc name	Stopped

- 2 Keep pressing CLEAR (or EDIT/NO on the recorder) until the current title is erased.
- 3 Enter the new title.
Do Steps 3 to 5 of "Labelling Recordings" on page 21, or Steps 2 to 4 of "Labelling tracks and MDs with the remote" on this page.
- 4 Press NAME.

Erasing all titles on a disc (Name Erase Function)

Use this function to erase all titles on an MD simultaneously.

Note that once erased, titles cannot be recovered.

- 1 Keep pressing EDIT/NO while the deck is stopped until "All Erase ?" appears in the display.
- 2 Press EDIT/NO again. "Name Erase ?" appears in the display.
- 3 Press YES.
All titles are erased.

To cancel the Name Erase Function

Press ■.



You can erase all recorded tracks and titles
See "Erasing all tracks on an MD" on page 17.

Precautions

On safety

- The use of optical instruments with this product will increase eye hazard.
- Should any solid object or liquid fall into the cabinet, unplug the deck and have it checked by qualified personnel before operating it any further.

On power sources

- Before operating the deck, check that the operating voltage of the deck is identical with your local power supply. The operating voltage is indicated on the nameplate at the rear of the deck.
- The deck is not disconnected from the mains as long as it is connected to the wall outlet, even if the deck itself has been turned off.
- If you are not going to use the deck for a long time, be sure to disconnect the deck from the wall outlet. To disconnect the AC power cord, grasp the plug itself; never pull the cord.
- The AC power cord must be changed only at the qualified service shop.

On operation

If the deck is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the deck. Should this occur, the deck may not operate properly. In this case, remove the MD and leave the deck turned on for about an hour until the moisture evaporates.

On the MiniDisc cartridge

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

On cleaning

Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

If you have any questions or problems concerning your recorder, please consult your nearest Sony dealer.

Display Messages

The following table explains the various messages that appear in the display.

Message	Meaning
Blank Disc	A new (blank) or erased MD has been inserted.
Cannot Copy	An attempt was made to make a second copy from a digitally dubbed MD (see page 27).
Cannot EDIT	An attempt was made to edit the MD during Programme or Shuffle Play or the inserted disc contains Japanese characters.
Disc Error	The MD is scratched or missing a TOC.
Disc Full	The MD is full (see "System Limitations" on page 24).
Impossible	An attempt was made to combine tracks while playing back the first track.
Name Full	The titling capacity of the MD has reached its limit (about 1,792 characters).
NO DISC	There is no MD in the recorder.
No Track	The inserted MD has a disc title but no tracks.
Protected	The inserted MD is record-protected.
Retry	The first recording attempt failed due to a disturbance or scratch on the MD, and a second attempt is being made.
Retry Error	Due to vibrations to the recorder or scratches on the MD, several recording attempts were made but with no success.
Sorry	An attempt was made to combine tracks that cannot be combined.
STANDBY (flashing)	The latest material recorded was not saved correctly on the MD, or certain data, such as the previous playback conditions, were not saved.

System Limitations

The recording system in your MiniDisc deck is radically different from those used in cassette and DAT decks and is characterized by the limitations described below. Note, however, that these limitations are due to the inherent nature of the MD recording system itself and not to mechanical causes.

"Disc Full" lights up even before the MD has reached the maximum recording time (60 or 74 minutes)

When 255 tracks have been recorded on the MD, "Disc Full" lights up regardless of the total recorded time. More than 255 tracks cannot be recorded on the MD. To continue recording, erase unnecessary tracks or use another recordable MD.

"Disc Full" lights up before the maximum number of tracks is reached

Fluctuations in emphasis within tracks are sometimes interpreted as track intervals, incrementing the track count and causing "Disc Full" to light up.

The remaining recording time does not increase even after erasing numerous short tracks

Tracks under 12 seconds in length are not counted and so erasing them may not lead to an increase in the recording time.

Some tracks cannot be combined with others

Track combination may become impossible when tracks are edited.

The total recorded time and the remaining time on the MD may not total the maximum recording time (60 or 74 minutes)

Recording is done in minimum units of 2 seconds each, no matter how short the material. The contents recorded may thus be shorter than the maximum recording capacity. Disc space may also be further reduced by scratches.

Tracks created through editing may exhibit sound dropout during search operations.

Track numbers are not recorded correctly

Incorrect assignment or recording of track numbers may result (1) when CD tracks are divided into several smaller tracks during digital recording, or (2) while recording certain CDs with the "LEVEL-SYNC" indication on (i.e., the automatic track marking function on).

"TOC Reading" appears for a long time

If the inserted recordable MD is brand new, "TOC Reading" appears in the display longer than for MDs that have been used.

Limitations when recording over an existing track

- The correct remaining recording time may not be displayed.
- You may find it impossible to record over a track if that track has been recorded over several times already. If this happens, erase the track using the Erase Function (see page 17).
- The remaining recording time may be shortened out of proportion to the total recorded time.
- Recording over a track to eliminate noise is not recommended since this may shorten the duration of the track.
- You may find it impossible to label a track while recording over it.

The correct recorded/playing time may not be displayed during playback of monoaural-format MDs.

Troubleshooting

If you experience any of the following difficulties while using the recorder, use this troubleshooting guide to help you remedy the problem. Should any problem persist, consult your nearest Sony dealer.

The deck does not operate or operates poorly.

- ➔ The MD may be damaged ("Disc Error" appears). Take the MD out and insert it again. If "Disc Error" remains, replace the MD.

The deck does not play back.

- ➔ Moisture has formed inside the deck. Take the MD out and leave the deck in a warm place for several hours until the moisture evaporates.
- ➔ The deck is not on. Press POWER to turn the deck on.
- ➔ The MD is inserted in the wrong direction. Slide the MD into the disc compartment with the label side up and the arrow pointing towards the opening until the deck grips it.
- ➔ The MD may not be recorded (the music calendar does not appear). Replace the disc with one that has been recorded.

The deck does not record.

- ➔ The MD is record-protected ("Protected" appears). Close the record-protect slot (see page 7).
- ➔ The deck is not connected properly to the sound source. Make connections properly to the sound source.
- ➔ The recording level is not adjusted properly (in case of input through LINE IN). Turn REC LEVEL to adjust the recording level properly (see page 8).
- ➔ A premastered MD is inserted. Replace it with a recordable MD.
- ➔ There is not enough time left on the MD. Replace it with another recordable MD with fewer recorded tracks, or erase unnecessary tracks.
- ➔ There has been a power failure or the mains lead has been disconnected. Data recorded to that point may be lost. Repeat the recording procedure.

An incompletely inserted MD cannot be pulled out.

- ➔ When the MD is inserted half-way, the mechanism locks onto the MD and the \odot button will not operate. To remove the MD, first insert the completely, then press the \odot button.

The sound has a lot of static.

- ➔ Strong magnetism from a television or a similar device is interfering with operations. Move the deck away from the source of strong magnetism.

Note

If the recorder does not operate properly even after you've attempted the prescribed remedies, turn off the power, then reinsert the plug into the power outlet.

Specifications

MD deck section

System	MiniDisc digital audio system
Disc	MiniDisc
Laser	Semiconductor laser ($\lambda=780$ nm) Emission duration: continuous
Laser output power	Less than 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.
Laser diode properties	Material: GaAlAs Emission duration: continuous Laser output: less than 44.6 μ W (This output is the value measured at a distance of 200 mm from the lens surface on the optical pick-up block.)
Revolutions	400 rpm to 900 rpm (CLV)
Error correction	Advanced Cross Interleave Reed Solomon Code (ACIRC)
Sampling frequency	44.1 kHz
Modulation system	EFM (Eight-to-Fourteen Modulation)
Number of channels	2 stereo channels
Frequency response	5 to 20,000 Hz \pm 0.5 dB
Signal-to-noise ratio	Over 98 dB (during playback)
Wow and flutter	Below measurable limit

Inputs

	Jack type	Input impedance	Rated input	Minimum input
LINE IN	Phono jacks	Over 47 kilohms	500 mVrms	158 mVrms
DIGITAL IN	Square optical connector jack	Optical wave length 660 nm	—	—

Outputs

	Jack type	Rated output	Load impedance
LINE OUT	Phono jacks	2 Vrms (at 50 kilohms)	Over 10 kilohms
DIGITAL OUT	Square optical connector jack	-18 dBm	Wave length: 660 nm
HEADPHONES	Stereo mini jack	10 mW	32 ohms

Additional Information

General

Power requirements	120V AC, 60Hz
Power consumption	19 W
Dimensions (approx) (w/h/d)	280 × 82.5 × 286.5 mm incl. projecting parts
Mass (approx)	2.4 kg

Supplied accessories

Audio connecting cords (2 phono plugs – 2 phono plugs) (2)
Remote commander (remote) RM-D4M (1)
Sony SUM-3 (NS) batteries (2)

Optional accessories

Recordable MDs: MDW-60 (60 min), MDW-74 (74 min)
Optical cable: POC-15A

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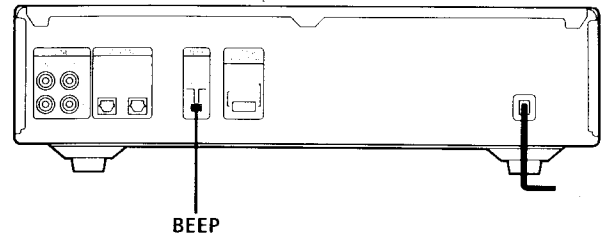
Design and specifications are subject to change without notice.

Beep Output During Operations

Your deck can output various beeps to allow you to verify deck operations by sound.

The beeps are output from both the deck itself and the headphones.

Rear of the recorder



Switch BEEP to ON.

A high- or low-pitched beep is output to indicate the following operations.

Operation	Beep sound
The deck has been turned on.	One short beep (high)
The deck has been turned off.	Two short beeps (high)
An operation button was pressed with no MD loaded.	Three short beeps (high), followed by one continuous beep (high)
● was pressed but the MD is full.	One continuous beep (high)
● was pressed and the deck has changed to recording pause.	Consecutive beeps (low) are emitted, one for each 10 minutes of remaining time on the MD*, followed by single beeps every few seconds.
▷ (or ► or) was pressed and the deck has started recording.	One short beep (high)
The deck is recording or in recording pause and the peak level meter level has exceeded the recommended level** ("OVER" lights up).	One continuous beep (low)
The deck is recording and the remaining time on the MD has dropped below 3 minutes**.	Several short beeps (high)
▷ (or ► or) was pressed and the deck has started playing.	One short beep (high)
■ was pressed.	One short beep (low)

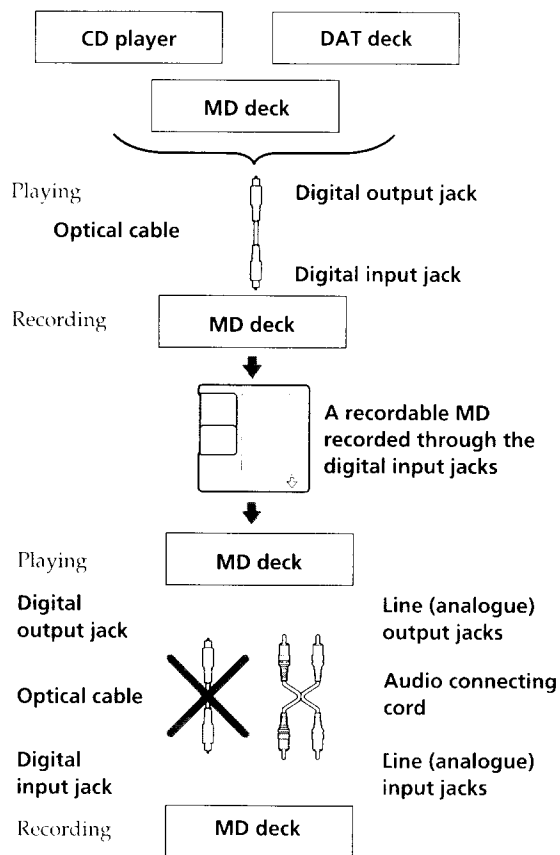
PLAY MODE was pressed while the deck is stopped, and continuous (normal) play mode has been selected (cancelling Shuffle or Programme Play mode).	One short beep (low)
EDIT/NO was pressed while the deck is stopped, and "All Erase ?" has appeared in the display.	One short beep (high)
EDIT/NO was pressed while the deck is recording, and "LevelSync ?" has appeared in the display**.	One short beep (high)
EDIT/NO was pressed while the deck is playing, and "Erase ?" has appeared in the display.	One short beep (high)

* One beep for each 10 minutes of remaining time (e.g., one beep for 10 to 20 minutes, two beeps for 20 to 30 minutes, and three beeps for 30 to 40 minutes. No beep is output for a remaining time of 10 minutes or less.
 ** This beep is output only through the headphones; no beep is output from the deck.

Guide to the Serial Copy Management System

This MD deck uses the Serial Copy Management System which allows only a first-generation digital copy to be made of prerecorded software via the MD deck's digital input/output jacks. An outline of this system appears below:

- 1 You can record from digital programme sources (CDs, prerecorded MDs, and DAT equipment with a sampling frequency of 44.1 kHz) onto a recordable MD via the MD deck's digital input jack. You cannot, however, record from the recorded MD onto another recordable MD via the MD deck's digital output jack.

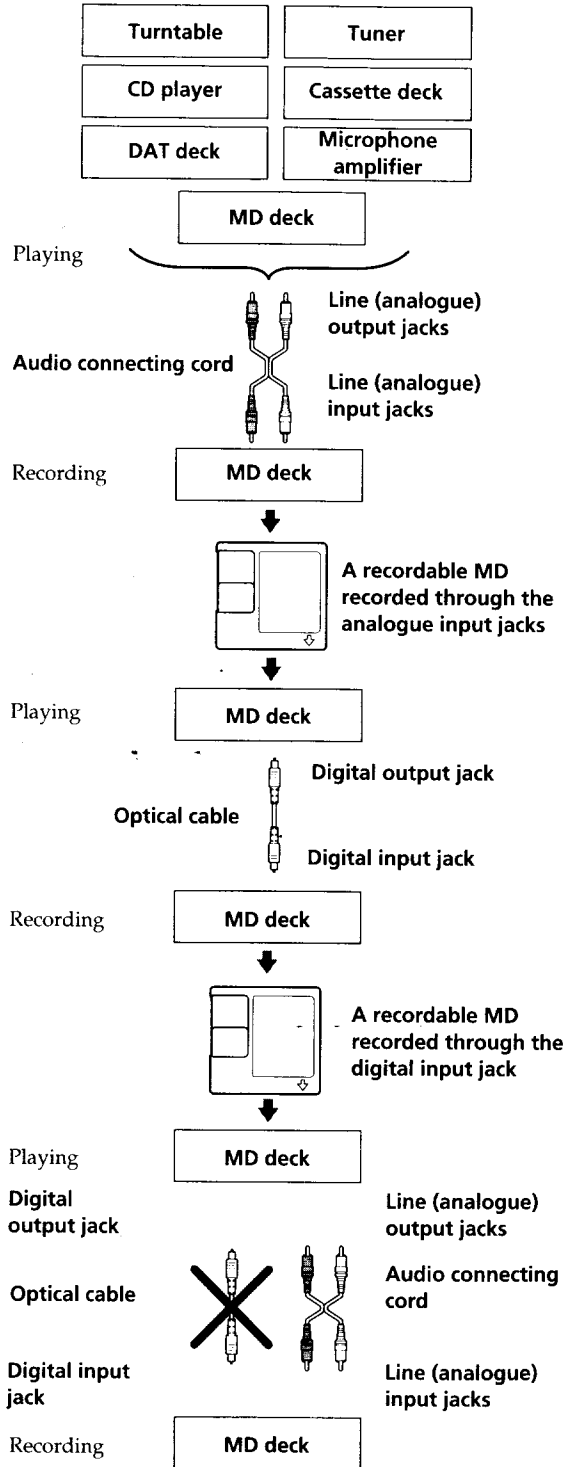


Note

There are no copy generation restrictions on recording between two MD decks connected via their respective analogue input/output jacks.

Additional Information

- 2 You can record from an MD recorded via the MD deck's analogue input jacks to another recordable MD via the MD deck's digital output jack. You cannot, however, make a second-generation MD copy via the MD deck's digital output jack.



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

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
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