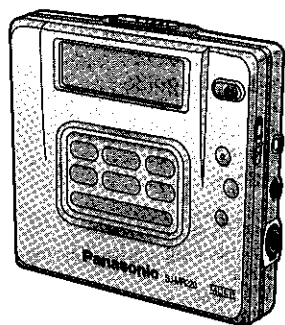


Portable MD Recorder

SJ-MR220

Operating Instructions



Panasonic®

Note:

"EB" on the packaging indicates the United Kingdom.

Before connecting, operating or adjusting this product, please read these instructions completely. Please keep this manual for future reference.

EB

MDLP



RQT6074-B

Dear Customer

Thank you for purchasing this product.
For optimum performance and safety, please
read these instructions carefully.

Table of contents

Location of controls	3
Power source	5
The HOLD function	8
Insert an MD	9
Using the Flatswitch	10
Before recording	12
Recording	13
MDLP Extended recording	20
Other recording functions	21
Playback (Basic play)	24
Other playback functions	26
Other useful functions	30
Editing MDs	32
Titling MDs	40
Using the unit with optional accessories	45
Some useful information about MDs	46
Troubleshooting guide	47
Displays	48
Cautions	49
Maintenance	49
Specifications	50

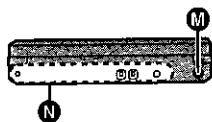
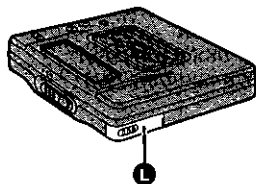
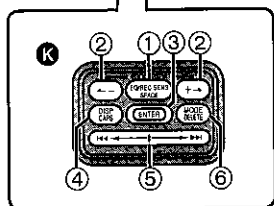
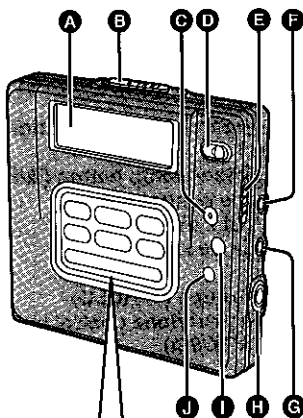
Supplied Accessories

Check the packing carton for these accessories.

Stereo earphones (LOBAB0000162)	1
Wired remote control (N2QGBD000013)	1
External battery case (RFA1537-S)	1
* Rechargeable Ni-Cd battery	1
Battery carrying case (RFA0475-Q)	1
Remove the rechargeable battery from its case before use.	
AC adaptor (RFEA008B-S)	1
Carrying case (RFC0069-H)	1
Line cable (K2KA39B00001)	1

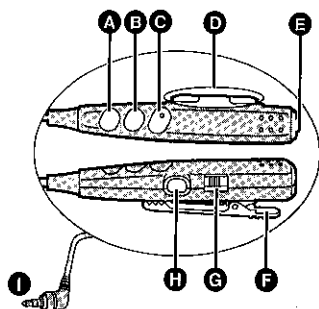
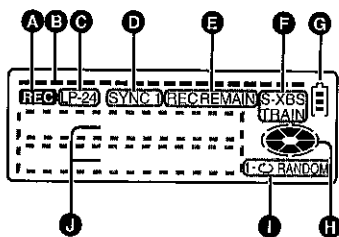
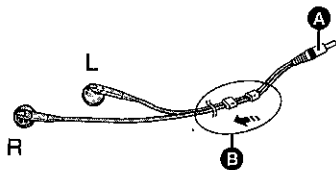
(Use numbers indicated in parentheses when asking for replacement parts.)
[Refer to "The rechargeable battery" (page 5) for the parts marked with an asterisk (*).]

Location of controls



Main unit

- A** Display
- B** Open switch (OPEN ►)
- C** Play/record/pause/operation on/character type button (►/||, CHARA)
- D** Recording pause/operation on/LP recording switch (REC →, LP MODE)
- E** Hold switch (HOLD →)
- F** Microphone jack [MIC (PLUG IN POWER)]
- G** Optical digital in/line in jack (OPT/LINE IN)
- H** Headphone jack (◡)
- I** Stop/operation off/edit cancel button (■, OPR OFF)
- J** Entering edit mode, completing edit, changing track mark mode button (EDIT, MARK MODE)
- K** Flatswitch
 - ① Tone/recording sensitivity/space button (EQ/REC SENS, SPACE)
 - ② Volume and cursor buttons (←, →, VOL/CURSOR)
 - ③ To confirm items selected with ⑤, to add track marks (ENTER)
 - ④ Display, capital/lower case button (DISP, CAPS)
 - ⑤ Menu select, track number select, character select (◀◀◀, →▶▶▶)
 - ⑥ Play and record mode/character delete button (MODE, DELETE)
- L** Rechargeable battery compartment cover (◀ OPEN)
- M** DC IN jack (DC IN 1.8 V ◊◊◊)
- N** Connection terminal for battery case

A**B****C**

Location of controls

Wired remote control **A**

- A** Skip/search (backward) button (◀◀)
- B** Skip/search (forward) button (▶▶)
- C** Play/record/stop button (■/▶)
- D** Volume control buttons (-, VOL, +)
- E** Earphone jack
- F** Clip
- G** Hold switch (→ HOLD)
- H** Track mark/tone control button (T.MARK/EQ)
- I** Plug

An operation tone sounds when buttons on the remote control are pressed. This tone is represented in these instructions by "♪".

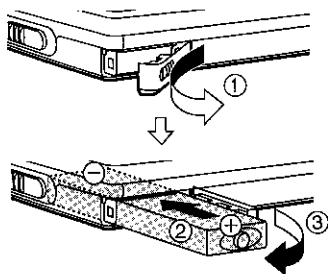
Display information **B**

- A** Recording indicator
- B** Level meter
- C** LP recording indicator
- D** Synchronized recording indicator
- E** Remaining recording/playing time indicator
- F** Sound quality indicator
- G** Battery indicator
- H** Disc mark
- I** Play mode indicator
- J** Track number, Text

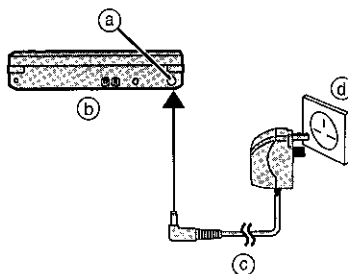
Stereo earphones **C**

- A** Plug
 - B** Slider
- Slide up to prevent tangling the cord when the earphones are not in use.

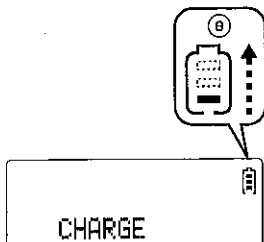
1



2



A



Power source

The rechargeable battery (included)

1 Put the battery into the unit.

The unit cannot recharge batteries other than the one supplied or recommended replacements.

2 Connect the AC adaptor.

- Ⓐ DC IN jack (DC IN 1.8 V $\diamond\text{---}\diamond$)
- Ⓑ Side panel of the unit
- Ⓒ AC adaptor (included)
- Ⓓ Household mains socket

Recharging begins.

"CHARGE" appears on the display while recharging. **A**

- ⓪ Scrolls

"CHARGE" disappears when the battery is fully charged. It takes approximately 2 hours to recharge the supplied battery.

3 Disconnect the AC adaptor from the [DC IN 1.8 V $\diamond\text{---}\diamond$] terminal and the household mains socket.

Note

- The unit can only be recharged while it is off.
- If "CHARGE" does not appear, disconnect the AC adaptor from [DC IN 1.8 V $\diamond\text{---}\diamond$], then reconnect it.
- The AC adaptor and battery may become warm during recharging but this is normal.

■ Recharging time and duration.

(See page 50.)

If the unit is to be used for long periods, such as during recording, use the AC adaptor to power it.

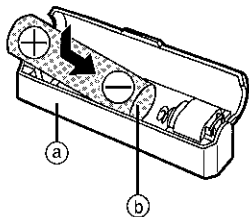
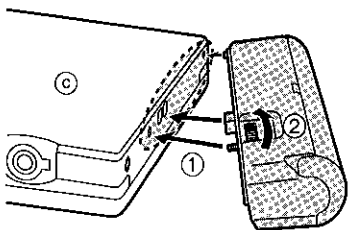
■ Rechargeable number of times

About 300.

The battery has reached the end of its useful life if play time dramatically reduces after recharging.

■ Replacement

Nickel-metal hydride rechargeable batteries (HHF-AZ01/HHF-1P)

1**2**

Power source

Dry cell battery (not included)

Use one LR6, AA, UM-3 alkaline battery.

1 Put the battery into the battery case.

(Press in and down towards the minus end.)

- (a) External battery case (included)
- (b) One LR6, AA, UM-3 battery (not included)

2 Attach the case to the unit.

- (c) Bottom of the unit

Note

Insert the rechargeable battery when recording on dry cell batteries.

■ For longer use

- Use the two types of batteries at the same time.
(Refer to page 50 for battery duration.)
- We recommend using Panasonic alkaline batteries.

Using the AC adaptor (included)

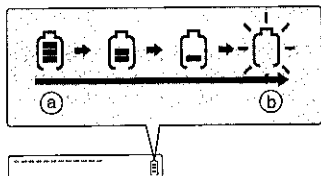
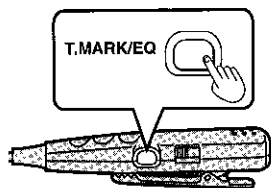
Connect the AC adaptor.

Refer to step 2 of "The rechargeable battery" (see page 5) for connection instructions.

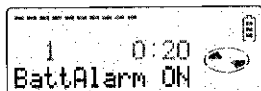
Note

- The unit is in the standby condition when the AC adaptor is connected. The primary circuit is always "live" as long as the AC adaptor is connected to an electrical outlet.
- Use only the supplied AC adaptor. Use of other adaptors can damage the unit. If the unit is not to be used for a long time disconnect the AC adaptor from the household mains socket and turn the unit off to save power.

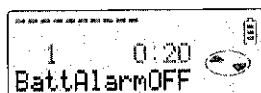
The unit may briefly make a noise when you connect the AC adaptor or insert batteries, but this is normal and not an indication of malfunction.

A**B**

c



d



Power source

■ The battery indicator

The illustration shows how the indicator appears as battery power runs down.

- a Full
- b Empty

■ When the Indicator starts flashing

The battery is almost flat and should be replaced or recharged.

■ The low battery alarm

This alarm sounds at 2-second intervals a total of three times when the battery indicator starts flashing. Replace or recharge the battery.

The alarm can be turned on and off.

ⓐ To turn the alarm on:

Press and hold [T.MARK/EQ] until "Batt Alarm ON" appears on the display while the unit is on.

ⓓ To turn the alarm off:

Press and hold [T.MARK/EQ] until "Batt Alarm OFF" appears on the display while the unit is on.

Note

The type of music and volume level may make it difficult to hear the alarm.

The HOLD function

This function stops the main unit and remote control from responding when a button is pressed.

(a) Hold mode

(b) Release

■ Guards against the following

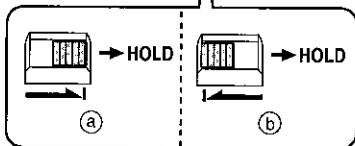
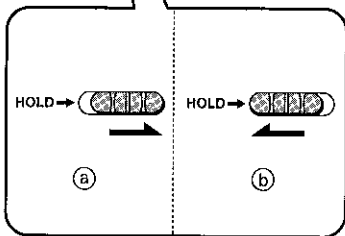
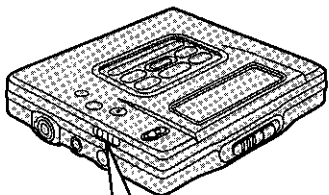
- The unit is powered on accidentally when not in use, causing the batteries to run down.
- A button is accidentally pressed during play or recording, interrupting the operation.

Note

There is a HOLD switch on both the main unit and remote control, each of which works independent of the other.

■ The "HOLD" display

This is displayed for about 2 seconds on the display when the main unit is on hold and a button is pressed. (If off, display appears only if [▶/II, CHARA] or [REC →, LP MODE] is operated.)



Insert an MD

■ Open the unit and insert an MD.

- ① Slide [OPEN ►] in the direction of the arrow to open the lid.
- ② Insert disc with label facing upward. **Push the disc in the center until it locks in place.**
- ③ Close the lid.

After you insert the MD, the unit turns on, reads the information from it, after a minute, the unit turns off.

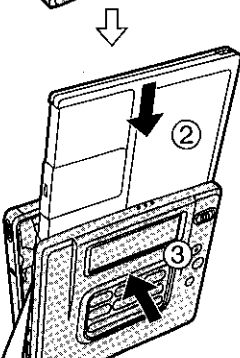
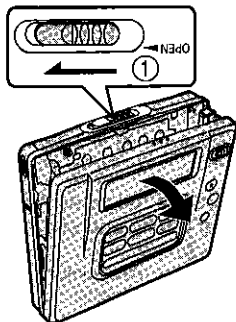
The name of the disc or song is shown on the display. The information scrolls from right to left across the display if it can not be displayed all at once.

Note

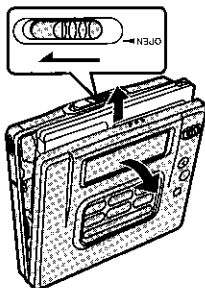
- "NO TITLE" is displayed when the disc contains no track or disc titles.
- "BLANK DISC" is displayed when you insert a blank MD.

■ Removing the disc **A**

Slide [OPEN ►] in the direction of the arrow and the disc springs out from the unit.



A



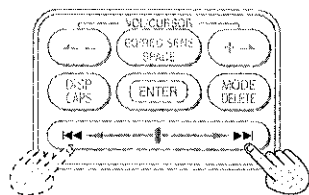
Using the Flatswitch

The flatswitch allows you to efficiently select tracks during editing and select characters when titling. (See pages 32–44.)

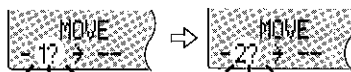
There are the following four ways of selecting tracks and characters

- ① Press **F**
 - a Skip one track number
 - b Skip one character
- ② Swipe **F**
 - a Skip three track numbers
 - b Skip three characters

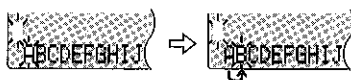
A



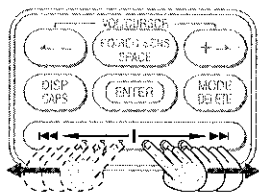
a



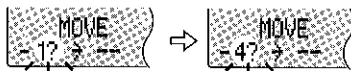
b



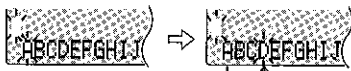
B

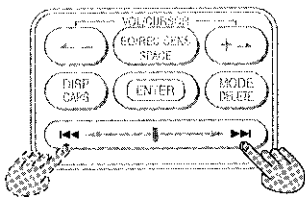
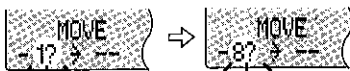
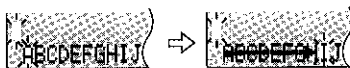
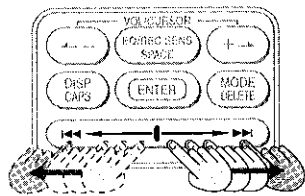
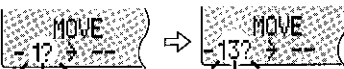
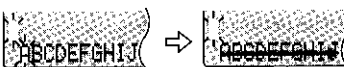


a



b



A**(a)****(b)****B****(a)****(b)**

Using the Flatswitch

③ Press and hold **A**

- (a) Skip track numbers faster
- (b) Skip characters faster

④ Swipe and hold **B**

- (a) Skip track numbers very fast
- (b) Skip characters very fast

Note

Do not press or swipe the flatswitch with pointed or hard objects.

Before recording

The two methods of recording

Digital

This method records the digital signals from CDs. Compared to analogue recording, this method makes it possible to make recordings of higher quality. Purchase an optical fiber cable (RP-CA2110A or RP-CA2210A, sold separately) to record digitally.

Analogue

Use this method to make analogue recordings of digital material, CDs and MDs, and to record analogue sources such as the radio. Use the included line cord to make analogue recordings.

■ Recording MDs

MDs are different to tapes

MDs give you control over how tracks are recorded and editing functions allow you to change the contents of an MD after recording. Unlike cassettes, it is not necessary to find an empty portion to record onto. All recordings start from the first available space. The MD fills up and when the disc is full, either because the time limit has been reached or 254 tracks have been recorded, recording is no longer possible. You can use the editing functions to erase and move your recordings around within the MD.

■ Limitations on digital recording

The serial copy management system (SCMS) prevents unlimited recording of digital material. Digital recordings are of high quality, but to protect the rights of the producer of the original material, it is only possible to make one digital recording of a digital recording. This also applies if you record analogue material digitally. That digital recording can be recorded digitally once more, but is blocked after that.

Analogue recordings are otherwise unaffected.

Glossary of terms

■ Track marks

These marks separate tracks. The period between track marks is counted as one track. This unit adds track marks in the following ways.

Auto mark mode

The unit automatically decides where track marks are to be put.

Manual mark mode

You can manually put the track marks where you want them to go.

Time mark mode (3 MIN, 5 MIN, 10 MIN)

Track marks are put at a preselected distance from each other.

■ TOC

Table of contents. Information stored on the MD about the tracks and times.

■ UTOC

User table of contents. This is information the user can edit, such as text and track positions. The message "UTOC Writing" appears on the display after recording and editing.

Recording

Connect while the unit is stopped.

Preparation

- Release HOLD. (See page 8.)
- Insert a recordable MD. (See page 9.)

1 **Digital recording** **A**

Connect this unit to a unit that has a digital output terminal.

- Ⓐ Digital output terminal (portable ↔ portable)
Purchase an optical fiber cable (RP-CA2210A, sold separately).
- Ⓑ Digital output terminal (deck ↔ portable)
Purchase an optical fiber cable (RP-CA2110A, sold separately).

~~Analogue recording~~ **B**

Connect this unit to a unit that has stereo LINE OUT terminals.

- Ⓒ LINE OUT terminal

Note

- Do not connect to the headphone jack.
- Disconnect other cables from the [MIC (PLUG IN POWER)] terminal when analogue recording.

2 Slide [REC →, LP MODE] to the right.

The unit comes on and enters the recording standby mode.

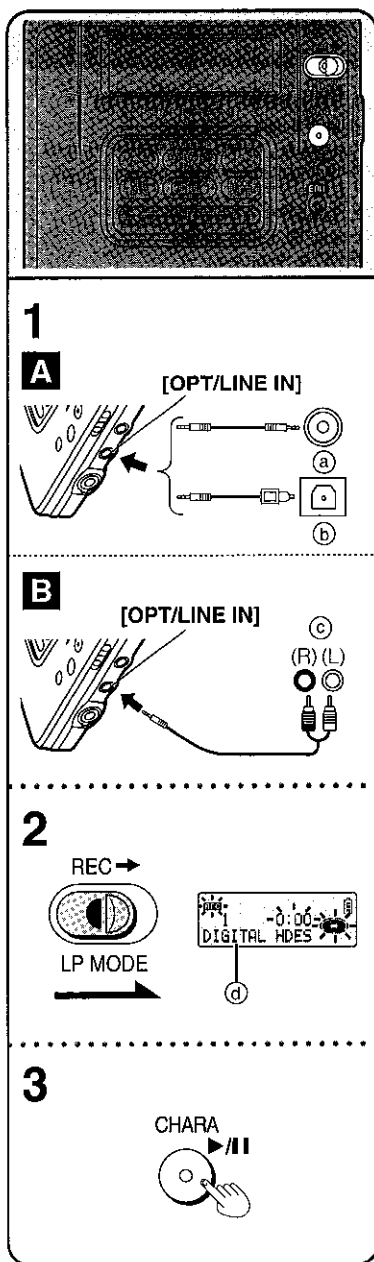
- Ⓓ "ANALOG" is displayed when analogue recording.

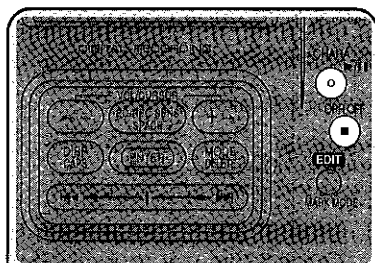
3 Press [▶/II, CHARA] to start recording.

If you have inserted an MD with recordings already on it, the unit prepares to record from the first available space.

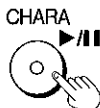
4 Start playback on the source to be recorded.

(Continued on next page)





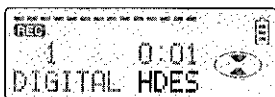
A



B



C



Recording

■ To pause recording

Press [**▶/||**, CHARA].

(The number of tracks increases by one.)
Recording restarts when pressed again.

■ To stop recording

Press [**■**, OPR OFF].

(UTOOC is recorded.)

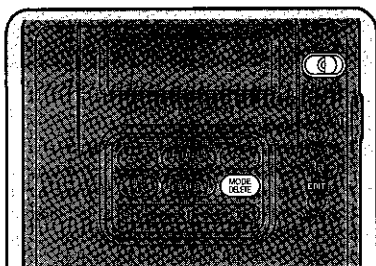
- The unit powers itself off automatically in about a minute.
- You can turn off the unit by pressing again [**■**, OPR OFF] on the main unit while stopped.

■ To record at the correct volume

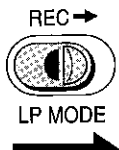
Adjust the recording sensitivity to suit the equipment you have connected.
(See page 22.)

High quality recording

You can take advantage of the unit's High Density Encoding System (HDES) when using normal stereo mode for recording, whichever input mode you choose to use; digital, analog, or microphone. HDES does not function when you use MDLP modes. "HDES" appears on the display when you put the unit in the recording standby mode.



2



3



Recording

Synchronizing recording with the playback equipment

Synchronized

This method starts and pauses recording at the same time as the source being recorded. Available with both digital and analogue recording.

One track synchronized

The first track on a CD is recorded and then the unit goes to recording standby. Recording starts again automatically when the first track on another CD is played. Available only when recording CDs digitally.

Preparation

- Release HOLD.
- Insert a recordable MD.

1 Connect this unit to other equipment.

2 Slide [REC →, LP MODE] to the right.

3 Press [MODE, DELETE] to select the recording mode.

Each time the button is pressed the mode changes and an indicator is shown in the following order.

Digital recording

SYNC → SYNC 1 → Normal (No display)



Analogue recording

SYNC → Normal (No display)



SYNC: Synchronized recording

SYNC 1: One track synchronized recording

Note

If you set the recording mode to "SYNC", recording begins immediately if the source is already playing.

4 Begin playback of the source.

Recording begins automatically.

(Continued on next page)

Recording

■ To pause recording if you have selected

● Synchronized recording (SYNC)

This unit automatically pauses if the source is stopped or if 2 seconds of silence when analog recording, 5 seconds of silence when digital recording is detected. (The number of tracks increases by one.)

● One track synchronized recording (SYNC 1)

The unit automatically pauses after the first track finishes. (The number of tracks increases by one.)

Recording restarts as follows

● Synchronized recording (SYNC)

When sound is input again

● One track synchronized recording (SYNC 1)

When you change the CD and play track 1

■ To stop recording

Press [■], [OPR OFF].

● UTOC is recorded.

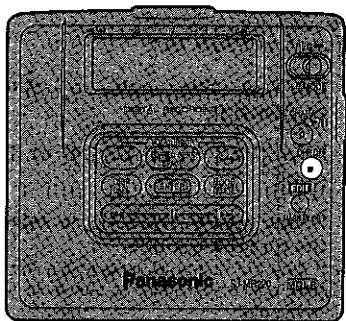
● The unit will turn off automatically after about 1 minute.

■ To turn the unit off

Press [■], [OPR OFF] while stopped.

Note

- One track synchronized recording does not function in the following cases:
 - When you start CD play from track 2 or later.
 - When the first track on a CD is not numbered 1 (on the second of a set of two CDs, for example).
- You cannot pause recording manually during synchronized and one track synchronized recording.
- You cannot use synchronized recording when using a microphone.
- The beginnings of tracks may be cut-off when you use synchronized recording. Use normal recording (pages 13 and 14) if this occurs.



Putting track marks

Track marks are put automatically as follows.

Digital recording

● **When recording from a CD or MD**

The track marks are put onto the MD corresponding to the tracks on the other disc. (Track marks may not correspond to track numbers with some discs.)

● **When recording from other digital sources**

5 seconds of silence is determined as the division between two tracks and a track mark is added.

To add track marks manually

See page 21.

Analogue recording

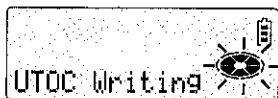
2 seconds of silence is determined as the division between tracks and a track mark is added.

To add track marks manually

See page 21.

Note

Track marks will not be added if the space between tracks is short or if there is noise in the space. Track marks may be added in error if there is a silent or especially quiet portion in a track. Use the editing functions after recording to add and remove track marks. (See pages 35 and 36.)



Recording

Making good recordings

- Power the unit with the AC adaptor while recording. If you intend to use batteries, recharge the rechargeable battery fully and use a new dry cell battery.
- If the unit turns off while recording, or when "U TOC Writing" is on the display, the recording will not be correctly recorded onto the disc. **A**

Do not open the lid or shake the unit while recording

Be especially careful while "U TOC Writing" is on the display. If the unit is moved at this time, the recording may not be correctly recorded onto the disc. You can damage the unit or disc if you try to force open the lid.

Note

Digital recording

- When recording from a portable CD player, use its AC adaptor to power it and turn off the anti-shock function.
- This unit has a sampling rate converter so recording from equipment with a different sampling frequency is possible.

Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

Recording

Recording from a microphone

Connect while the unit is stopped.

Preparation

- Release HOLD.
- Insert a recordable MD.

1 Connect the microphone.

Ⓐ Stereo microphone (not included)

Plug type: 3.5 mm stereo
Purchase a stereo microphone
(RP-VC200, sold separately).

Note

- Disconnect other cables from the [OPT/LINE IN] terminal.
- Keep the microphone away from the unit to avoid recording sounds from it.
- If howling occurs while you are using earphones, separate the microphone and earphones or reduce the volume.

2 Slide [REC →, LP MODE] to the right.

3 Press [▶/||, CHARA] to start recording.

4 Face the microphone towards the source of the sound.

■ To pause recording

Press [▶/||, CHARA].

(The number of tracks increases by one.)
Recording restarts when pressed again.

■ To stop recording

Press [■, OPR OFF].

(UTOC is recorded.)

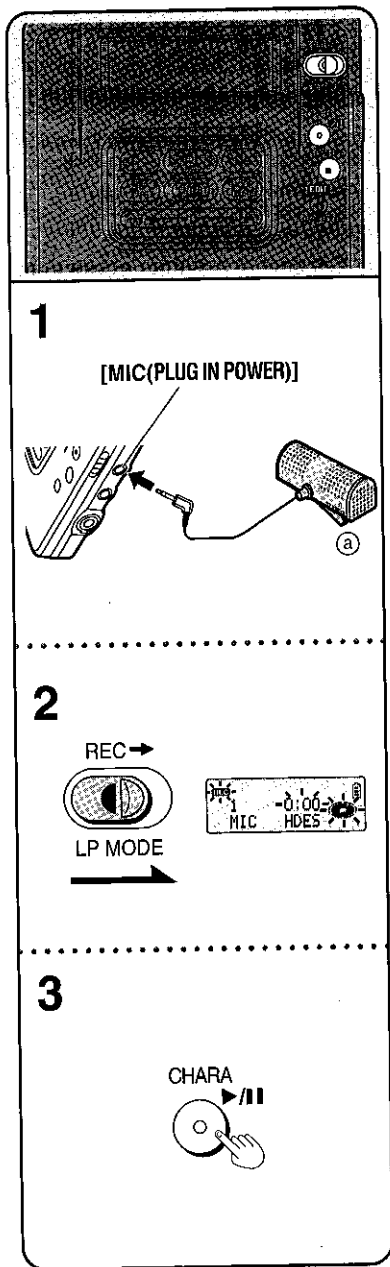
- The unit powers itself off automatically in about a minute.

■ To turn the unit off

Press [■, OPR OFF] while stopped.

■ Track marks

Add track marks manually or have the unit add them at selected intervals.
(See page 21.)



MDLP Extended recording

You can record two or four times the amount of material as normal stereo recording.

Preparation

- Release HOLD.
- Insert a recordable MD.

- 1 Connect to the other equipment.
- 2 Slide [REC →, LP MODE] to the right.
- 3 Slide [REC →, LP MODE] to select the recording mode.

The mode changes each time you slide the button.

LP2: LP2 stereo mode

LP4: LP4 stereo mode

No indication: Normal stereo mode

- 4 Press [▶/II, CHARA] to start recording.

5 Begin playback of the source.

After step 3, you can also select synchronized recording (digital or analog) or one track synchronized recording (digital) with [MODE, DELETE]. (See page 15.)

■ The recording times for each recording mode

The recording times for each mode are as follows when you use an 80-minute MD.

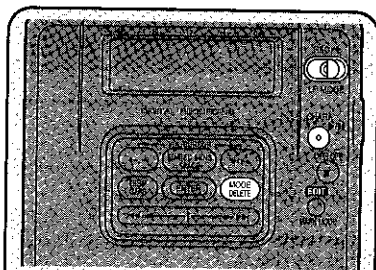
Normal stereo mode: Max. 80 minutes

LP2 stereo mode: Max. 160 minutes

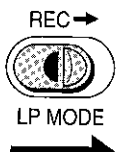
LP4 stereo mode: Max. 320 minutes

Note

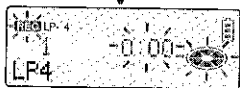
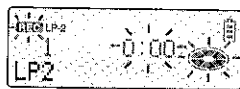
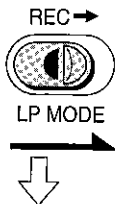
- You can record using normal stereo, LP2 stereo, and LP4 stereo on the same disc.
- "LP:" is added to the beginning of titles recorded with LP2 or LP4 but this is not displayed on this unit. When you use title station (see page 44) to copy the titles of such tracks, even tracks recorded with standard stereo mode will have "LP:" at the beginning of the title.
- LP4 mode uses a special compression method in order to achieve extended recording and this may rarely cause some noise when recording some material. Use standard stereo or LP2 mode for better sound quality.
- The mode reverts to normal stereo recording when you replace the battery or unplug the AC adaptor.



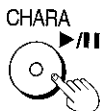
2



3



4



Other recording functions

Ways of adding track marks

Apart from auto mark mode where the unit automatically adds the track marks during recording, there are also the manual and time mark mode methods.

Press **[EDIT, MARK MODE]** while the unit is in the recording standby mode to select the required marking mode. **[A]**

The mode changes each time the button is pressed.

AUTO ←

Track marks are added automatically when the track changes.

↓

MANUAL

Track marks can be added manually where required.

↓

3 MIN

Track marks inserted at 3 minute intervals.

↓

5 MIN

Track marks inserted at 5 minute intervals.

↓

10 MIN

Track marks inserted at 10 minute intervals.

■ To add track marks manually

[B]

Press **[ENTER]** (main unit) or **[T.MARK/EQ]** (remote control) when a track mark is required during recording.

[A] Main unit

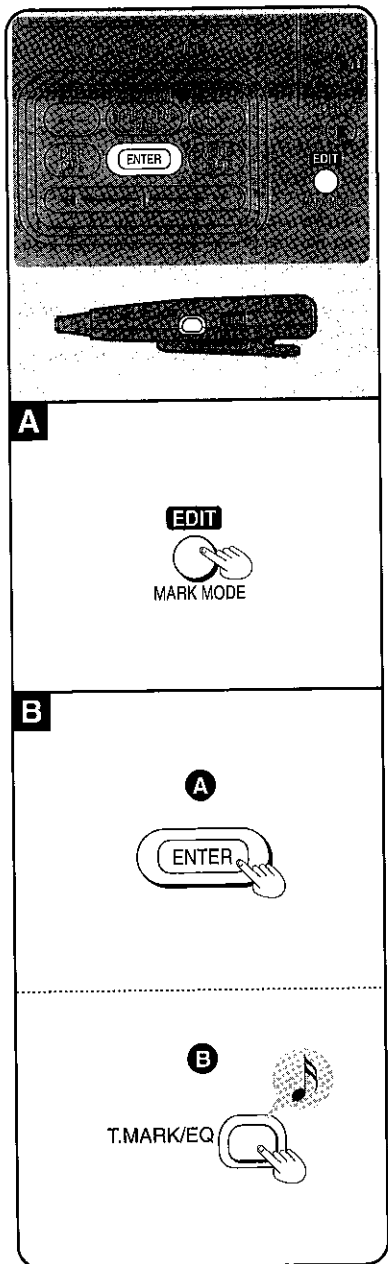
[B] Remote control

: Beep

Track marks are added even if "MANUAL" has not been selected.

Note

"AUTO" cannot be selected when recording with a microphone.



Other recording functions

Adjusting recording sensitivity

You can adjust the sensitivity of the unit when recording with any of the input methods: digital, analog, or with microphone.

Press [EQ/REC SENS, SPACE] while in recording standby mode. [A]

The mode changes each time the button is pressed.

REC SENS H ←

↓
REC SENS L

↓
Manual setting

REC SENS H recommended when:

- Analogue recording from portable equipment
- Digital recording from satellite tuners etc.
- Microphone recording of meetings

REC SENS L recommended when:

- Analogue recording from stereo systems
- Normal digital recording
- Microphone recording of loud live performances etc.

To adjust recording level manually

1 Begin playback of the source.

2 Press [◀◀] or [▶▶]. [B]

Adjust so the meter reaches to between -12 dB and -4 dB.

ⓐ Level meter

▶▶: Recording level increases.

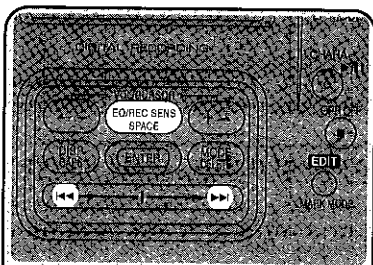
(The level meter also increases in length.)

◀◀: Recording level decreases.

(The level meter also decreases in length.)

Note

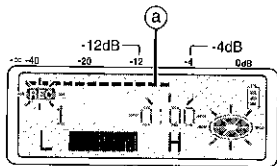
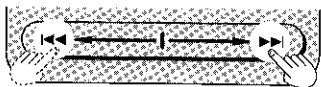
- The unit adjusts the recording level automatically when you set the sensitivity to L or H when using a microphone or analogue connection.
- The setting is cleared when you finish recording. Adjust again if necessary before starting the next recording.
- When using digital connection, the volume from the earphones does not change when you adjust recording sensitivity.



A



B



Other recording functions

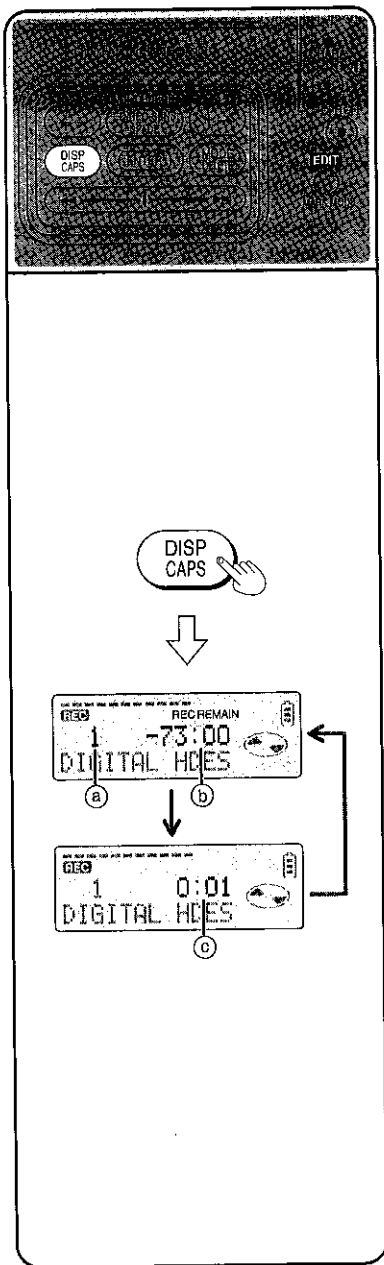
Checking the remaining time on the MD

This function allows you to check the time available for recording before you start recording or while recording is in progress. The available time for recording corresponds to the currently selected recording mode: LP2 or LP4.

Press [DISP, CAPS] while in recording standby mode or during recording.

The display changes each time this is done to show the remaining recording time and elapsed recording time.

- Ⓐ Number of track recording
- Ⓑ Available time for recording
- Ⓒ Elapsed recording time

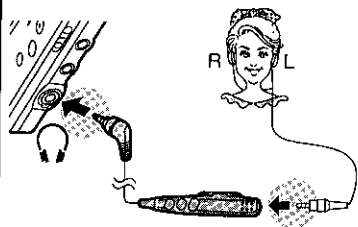


Playback (Basic play)

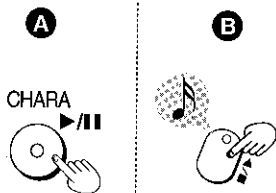
Preparation

- Release HOLD.
- Insert an MD.

1



2



- 1 Connect the earphones to the remote control then insert the remote control's plug into the headphone jack (🔊) on the unit. (Plug in firmly.)
Plug type: 3.5 mm stereo

- 2 Press [▶/⏸, CHARA] (main unit) or [▶] (remote control) to start play.

- A Main unit
B Remote control
🔊: Beep

The unit stops automatically when all the tracks on the disc have been played.

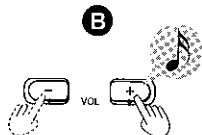
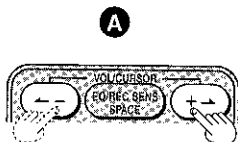
- 3 Adjust the volume.

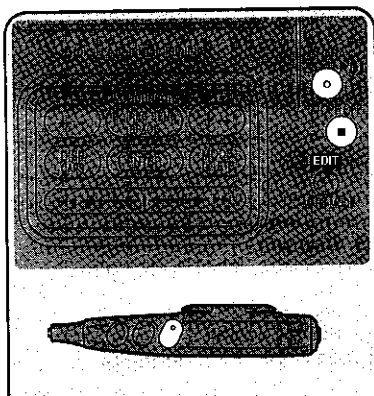
- A Main unit
B Remote control
🔊: Beep

+ : To increase the volume level
- : To decrease the volume level
Volume range is 0-25.

(Press and hold to change the volume successively.)

3





Playback (Basic play)

■ To pause play

Press [▶/||, CHARA] (main unit) during play.

Playback restarts when pressed again.

■ To stop the disc

Press [■, OPR OFF] (main unit) or [▶/||] (remote control) during play.

A Main unit

B Remote control

: Beep

The unit powers itself off automatically in about a minute.

■ To turn the unit off

Press [■, OPR OFF] (main unit) while stopped.

■ Resume function

The unit stores the point at which play was stopped and if [▶/||, CHARA] on the main unit or [▶/||] on the remote control is pressed again, play begins from that point. This does not work if the unit is opened or if the battery is removed. The unit starts play from the first track in these cases.

■ Extended playback

●MDLP

You can play tracks recorded with MDLP mode. (See page 20.) "LP-2" or "LP-4" is displayed.

●Monaural playback

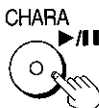
If a disc was recorded monaurally, the unit automatically switches to monaural playback mode.

The unit selects the play mode according to the recording mode: normal stereo, 2 x play stereo (LP2), 4 x play stereo (LP4) or monaural.

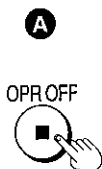
Note

This unit is vibration resistant but sound may skip if the vibration is constant.

A

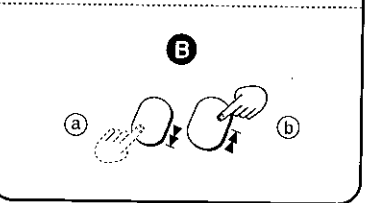
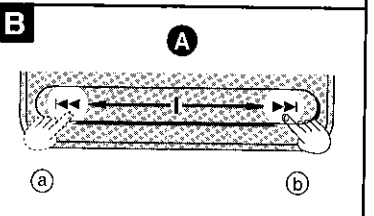
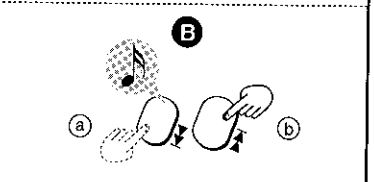
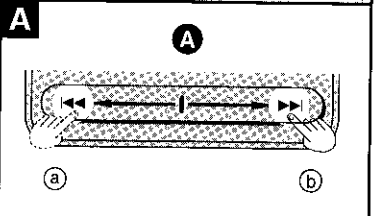
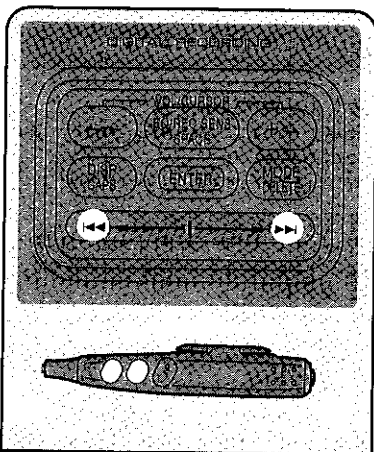


B



C





Other playback functions

Skip

This function skips tracks and play begins from the beginning of the selected track.

A Main unit

Press [, ] during play.


(a) Backward

(b) Forward


B Remote control

Press [, ] during play.

(a) Backward

: Beep Beep Beep

(b) Forward

: Beep Beep



For your reference:

You can skip more than one track by repeating this operation. The first skip backwards takes you to the beginning of the current track. Pressing the button in quick succession takes you back to previous tracks.

Search

This function allows you to fast-forward or rewind through tracks.



A Main unit

Press and hold [, ] during play.

(a) Backward

(b) Forward

B Remote control

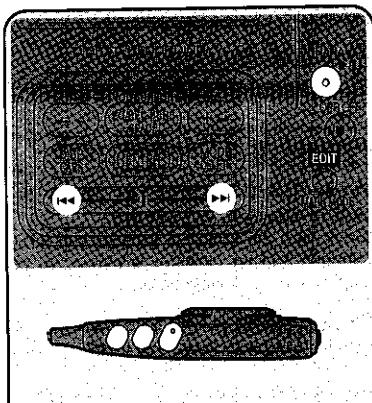
Press and hold [, ] during play.

(a) Backward

(b) Forward

For your reference:

- You cannot fast-forward past the end of the last track. If you release the button at this point, the unit stops.
- You cannot rewind beyond the beginning of the first track. The unit starts playing the first track if the button is released at this point.



Other playback functions

Track skip **A**

- A** Main unit
B Remote control

Start play from a selected track.

While stopped

- 1** Press [**⏮**] (backward) or [**⏭**] (forward) to select the track.

- (a)** Backward
 🎵: Beep Beep Beep
(b) Forward
 🎵: Beep Beep

- 2** Press [**▶/⏸**, CHARA] (main unit) or [**▶/▶**] (remote control).

🎵: Beep

Group skip **B**

- A** Main unit
B Remote control

Start play from a selected group.
 (See page 37 to make groups.)

While stopped

- 1** Press and hold [**⏮**] (backward) or [**⏭**] (forward) to select the group.

- (a)** Backward
 🎵: Beep Beep Beep
(b) Forward
 🎵: Beep Beep

Continue to press and hold to skip successive groups.

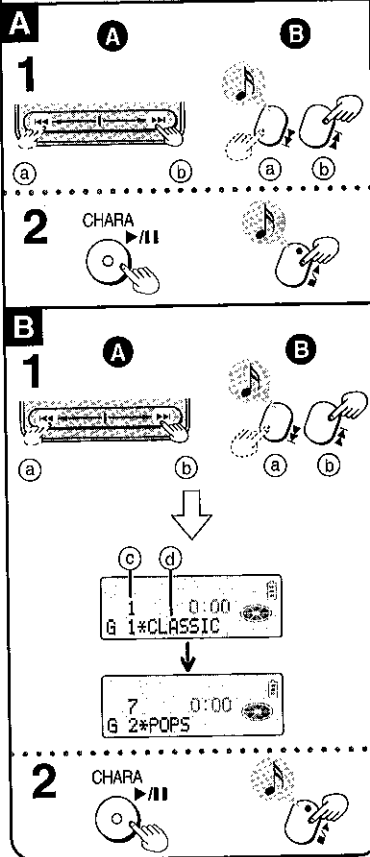
- (c)** Track number
(d) Group name

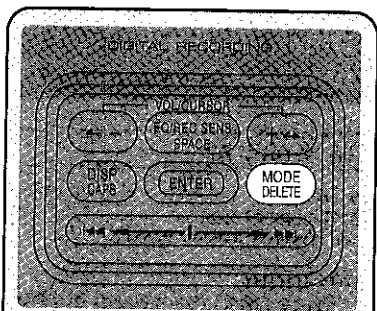
- 2** Press [**▶/⏸**, CHARA] (main unit) or [**▶/▶**] (remote control).

🎵: Beep
 Plays from the first track in the selected group through to the end of the disc.

For your reference:

- If you skip backward while the first group or track is selected, you will skip to the last track or group.
- If you skip forward while the last group or track is selected, you will skip to the first track or group.





Other playback functions

Repeat and Random play

Press [MODE, DELETE] when the unit is stopped or playing.

Every time the button is pressed the mode changes and an indicator is shown on the display in the following order.

1 track repeat (1-)

One track is played over and over.

All track repeat ()

All tracks on the disc are repeated.

Random (RANDOM)

All tracks are played randomly once each then the unit stops automatically.

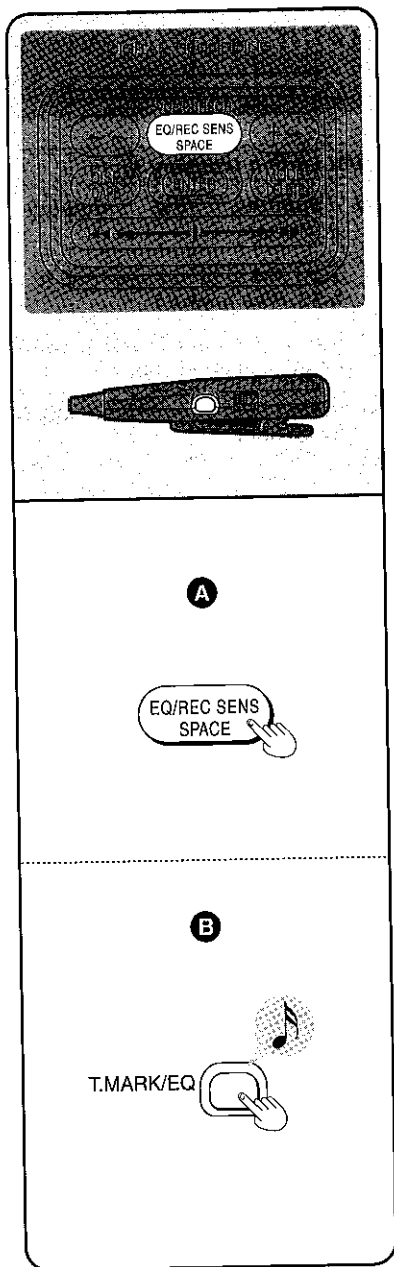
Normal (no indicator is shown)

Note

If you have selected the mode while stopped, press [▶/||, CHARA] (main unit) or [▶/||] (remote control) to start playback.

For your reference:

- When the unit is in the all track repeat mode, you can skip and search beyond the first and last track.
- You cannot skip or search back to a track that has already been played when in random mode.
- The modes are cleared after changing discs.



Other playback functions

Sound quality

Press [EQ/REC SENS, SPACE] (main unit) or [T.MARK/EQ] (remote control) when the unit is stopped or playing.

- A Main unit
- B Remote control

♪: Beep

Every time the button is pressed the mode changes in the following order.

XBS-1

Increases the power of the bass sounds.



XBS-2

Further increases the power of the bass.



TRAIN

Reduces sounds that may annoy others when you are using the unit in a public place.



NORMAL (cancel)

Note

If you selected the mode when stopped, press [▶/||, CHARA] (main unit) or [■/▶] (remote control) to start playback.

Other useful functions

About the display

■ Adjusting the display's contrast

- 1 Turn the unit on and put it in hold. (See page 8.)
- 2 Press and hold [▶/||, CHARA] on the main unit and...
- 3 Press [←, →, VOL/CURSOR] (main unit).
+: darker, -: lighter

The operation tone of the remote control

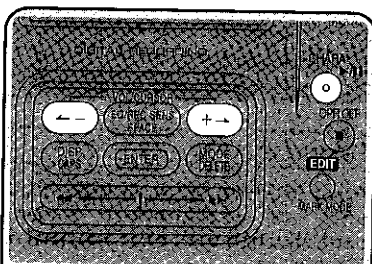
The tone can be turned on and off.

Press and hold [■/▶] (remote control) until the following display appears.

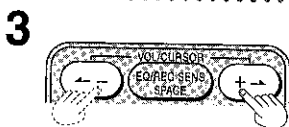
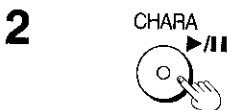
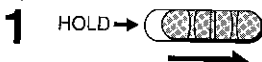
- Ⓐ To turn on
- Ⓑ To turn off

Note

If the above is done during play, play stops and power automatically goes off in about 1 minute.



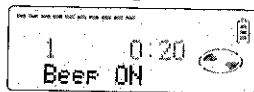
A



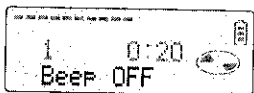
B



Ⓐ



Ⓑ



Other useful functions

Change the display

Press [DISP, CAPS] when the unit is stopped or playing.

- (a) Remaining playing time
- (b) Group name
- (c) Remaining recording time
- (d) Disc title
- (e) Total number of tracks
- (f) Total playing time
- (g) Track number
- (h) Elapsed playing time
- (i) Track name

A While stopped

B While playing

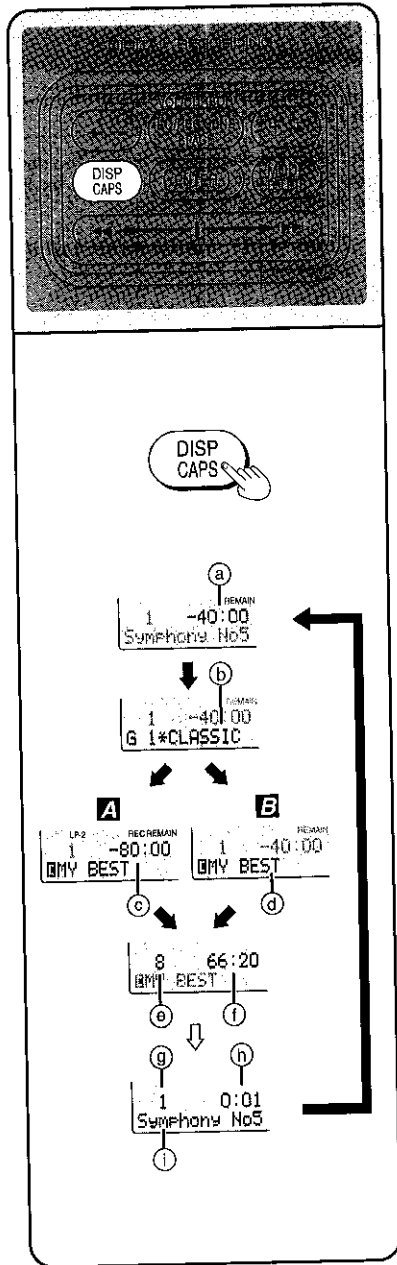
- ◆ Changes each time the button is pressed
- ◇ Changes automatically after a few seconds

Note

The remaining recording time shown corresponds to the recording mode (normal, LP2 or LP4) currently selected.

For your reference:

- "*" indicates group names. "□" indicates disc names.
- "NO TITLE" appears when a track, group, or disc has no title.
- "□---*" indicates that the current track is not in a group.



Editing MDs

MOVE (Moving tracks)

Rearrange the order of the tracks. The new order is recorded onto the MD so the tracks are always played in that order.

1 Press [EDIT, MARK MODE] while stopped.

2 ① Press [\lll , \ggg] to select "MOVE?".

② Press [ENTER].

Now the display is in the mode to select track to be moved.

3 ① Press or swipe [\lll , \ggg] to select the track to be moved.

Ⓐ Track number decreases

Ⓑ Track number increases

② Press [ENTER].

Ⓒ Track being moved

Ⓓ New position

Now the display is in the mode to select the new position.

4 ① Press or swipe [\lll , \ggg] again to select the new position.

Ⓐ Track number decreases

Ⓑ Track number increases

② Press [ENTER].

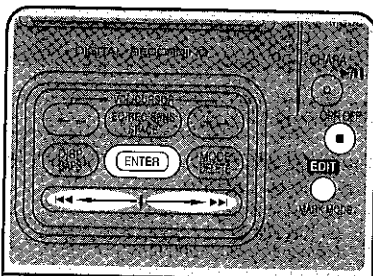
The display asks you to confirm your selection.

5 Press [EDIT, MARK MODE].

When "UTOC Writing" goes out editing is complete and the unit stops.

To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 5.

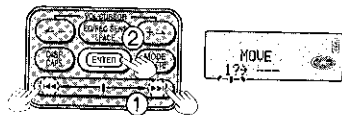


1

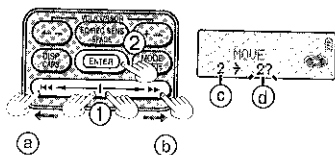
EDIT



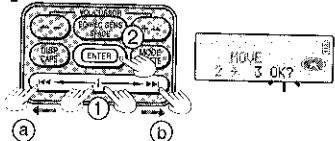
2



3



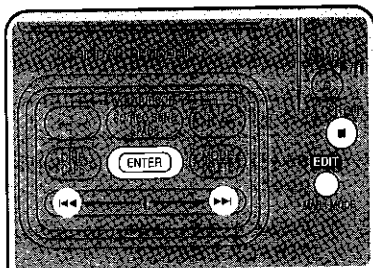
4



5

EDIT



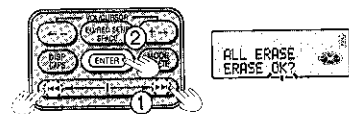


A

1



2



3



Editing MDs

- When performed while playing or paused

- 1 Press [EDIT, MARK MODE] while the track you want to move is playing or paused.
- 2
 - ① Press [◀◀, ▶▶] to select "MOVE?".
 - ② Press [ENTER].
- 3
 - ① Press or swipe [◀◀←, →▶▶] to select the new position.
 - ② Press [ENTER].

The display asks you to confirm your selection.
- 4 Press [EDIT, MARK MODE].
When "UTOC Writing" goes out editing is complete and the unit stops.

ERASE (Erasing tracks)

Erase one track at a time with TRACK ERASE, or erase all the tracks on the MD with ALL ERASE. When tracks are erased with TRACK ERASE, the tracks following move back to fill in the space and the number of tracks reduces by one each time the operation is performed.

ALL ERASE

- 1 Press [EDIT, MARK MODE] while stopped.
- 2
 - ① Press [◀◀, ▶▶] to select "ALL ERASE?".
 - ② Press [ENTER].

The display asks you to confirm your selection.
- 3 Press [EDIT, MARK MODE].
When "UTOC Writing" goes out editing is complete and the unit stops.
("BLANK DISC" appears on the display.)

To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 3.

Note

ALL ERASE cannot be used while the disc is playing or paused.

TRACK ERASE

1 Press [EDIT, MARK MODE] while stopped.

2 ① Press [◀◀, ▶▶] to select "TRACK ERASE?".

② Press [ENTER].

Now the display is in the track selection mode.

3 ① Press or swipe [◀◀←, →▶▶] to select the track to erase.

Ⓐ Track number decreases

Ⓑ Track number increases

② Press [ENTER].

The display asks you to confirm your selection.

4 Press [EDIT, MARK MODE].

When "UTOC Writing" goes out editing is complete and the unit stops.

To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 4.

■ **When performed while playing or paused**

1 Press [EDIT, MARK MODE] while the track you want to erase is playing or paused.

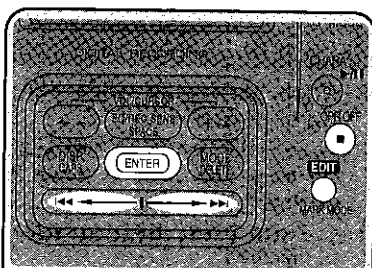
2 ① Press [◀◀, ▶▶] to select "TRACK ERASE?".

② Press [ENTER].

The display asks you to confirm your selection.

3 Press [EDIT, MARK MODE].

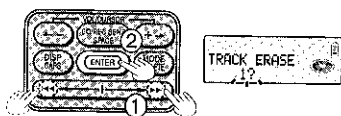
When "UTOC Writing" goes out editing is complete and the unit stops.



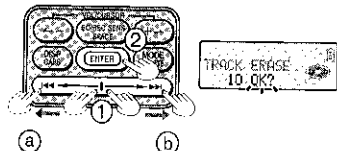
1



2



3



4



COMBINE (Combining 2 tracks)

Remove a track mark from between two tracks, effectively making them one track.

(If you combine tracks 2 and 3, for example, the track will take the number 2 and also retain the title for track 2.)

1 Press [EDIT, MARK MODE] while playing the latter of the two tracks you want to combine (or while paused).

2 **① Press [◀◀, ▶▶] to select "COMBINE?".**

② Press [ENTER].

Ⓐ track before

Ⓑ track playing

The display asks you to confirm your selection. In the example, the last eight seconds of track 2 and the first eight seconds of track 3 play repeatedly. (16 seconds if the track is monaural or recorded with LP2, 32 seconds if the track is recorded with LP4)

3 Press [EDIT, MARK MODE].

When "UTOC Writing" goes out editing is complete and the unit stops.

To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 3.

■ When performed while stopped

1 Press [EDIT, MARK MODE].

2 **① Press [◀◀, ▶▶] to select "COMBINE?".**

② Press [ENTER].

Now the display is in the mode to select the tracks to be combined.

3 **① Press or swipe [◀◀←, →▶▶] to select the two tracks to combine.**

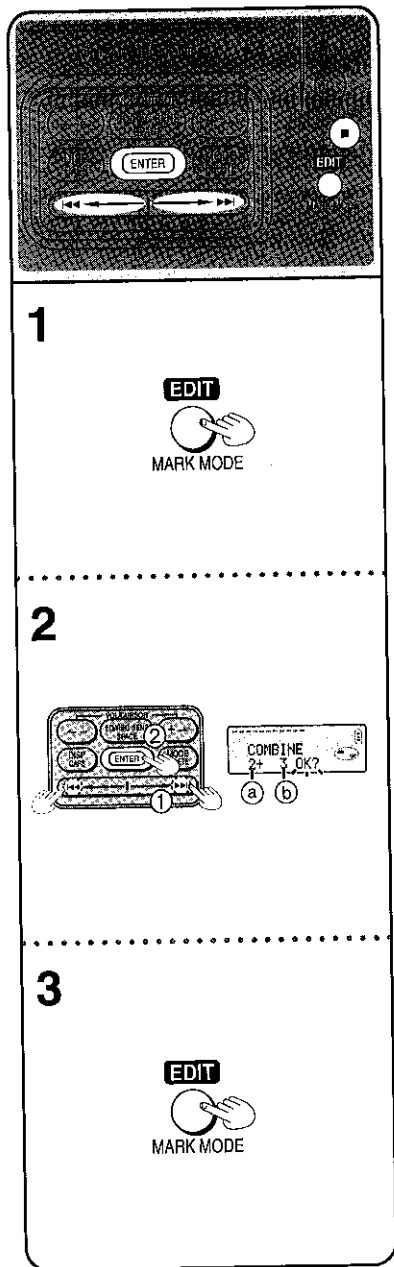
② Press [ENTER].

4 Press [EDIT, MARK MODE].

When "UTOC Writing" goes out editing is complete and the unit stops.

Note

- The combined track takes the title of the former of the two tracks.
- COMBINE does not work while playing track 1.
- You cannot combine tracks recorded using different modes (monaural, normal stereo, LP2 and LP4).



DIVIDE (Dividing a track into two)

This allows you to add track marks, making it easy to divide a classic piece into its separate movements, for example.

1 Press [EDIT, MARK MODE] while playing the track you want to divide.

2 ① Press [◀◀, ▶▶] to select "DIVIDE?".
② Press [ENTER] at the point you want to divide the track.

A 4 second segment (8 seconds if the track is monaural or recorded with LP2, 16 seconds if the track is recorded with LP4) of the track is played repeatedly, beginning at the point selected.

To adjust the point

Press or swipe [◀◀, ▶▶] to adjust the point.

Adjustments can be made approximately 8 seconds (16 seconds if the track is monaural or recorded with LP2, 32 seconds if the track is recorded with LP4) either side of the original point (-128 to +127).

3 Press [ENTER].

The display asks you to confirm your selection.

4 Press [EDIT, MARK MODE].

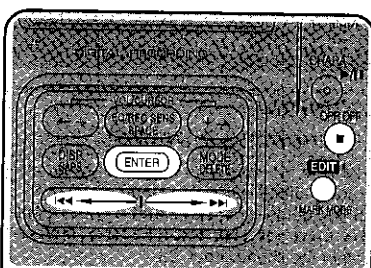
When "UTOC Writing" goes out editing is complete and the unit stops.

To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 4.

Note

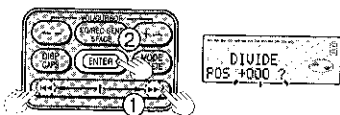
- If you divide a track with a title, the latter track becomes untitled.
- DIVIDE cannot be used while the unit is stopped.



1



2



3



4



GROUP (Grouping tracks)

You can do the following

- **Group set (GROUP SET)**
Group together successive tracks and give groups titles
- **Group title (GROUP TITLE)**
Change group titles
- **Group release (GROUP RELEASE)**
Release tracks from a group

1 Press [EDIT, MARK MODE] while stopped.



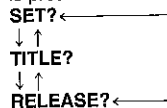
2 ① Press [◀◀, ▶▶] to select "GROUP?".

② Press [ENTER].

Now the display is in the function selection mode.

3 ① Press [◀◀, ▶▶] to select the function.

The mode changes each time the button is pressed.



② Press [ENTER].

Refer to operation you selected.

Now, continue with the steps for the function.

GROUP SET, see page 38.

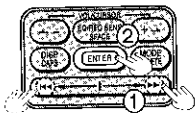
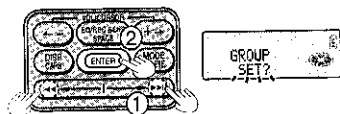
GROUP TITLE, see page 39.

GROUP RELEASE, see page 39.

1

2

3






Editing MDs

■ GROUP SET

You can make up to 99 groups.
The example shows how to group tracks 3 and 4.



After step 3 on page 37

The display is ready for you to select the first track in the group. 

4 ① Press or swipe [, ] to select the first track.


② Press [ENTER].

The display is ready for you to select the last track in the group.

5 ① Press or swipe [, ] to select the last track.

② Press [ENTER].

The number of the new group is displayed.


 Changes automatically after a few seconds

6 Enter the title. (See page 42.)

7 Press [EDIT, MARK MODE].

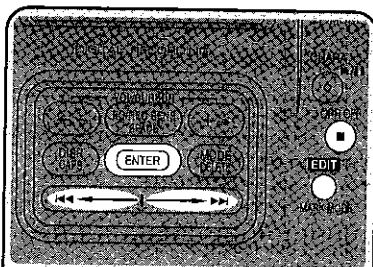
When "UTOC Writing" goes out editing is complete and the unit stops.

■ To stop part way through an editing operation

Press [, OPR OFF] before confirming the operation in step 7.

Note

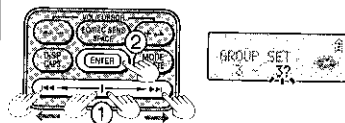
- A group can be made from one track.
- Groups are not ordered in the order you create them. They are ordered by track numbers.
- Tracks separated by other tracks cannot be grouped.
- You cannot put the same track into two different groups.



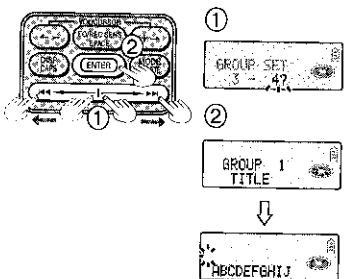
A



4

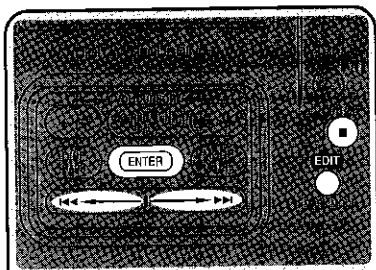


5



7





A

(a) GROUP TITLE
G 1*CLASSIC

4

GROUP TITLE
G 3*JAZZ

(b)

JAZZ
ABCDEFGHIJ

6

EDIT

MARK MODE

B

(c) GRP RELEASE
G 1*CLASSIC

4

GRP RELEASE
G 2*POP5

(2)

GRP RELEASE
G 2 OK?

5

EDIT

MARK MODE

Editing MDs

■ GROUP TITLE **A**

After step 3 on page 37

(a) The display is ready for you to select the group to title.

4 ① Press or swipe [**←←←←**, **→→→→**] to select the group you want to title.

② Press [ENTER].
The text editing mode is entered.

(b) The current group name

5 Enter the title. (See page 42.)

6 Press [EDIT, MARK MODE].

When "UTOC Writing" goes out editing is complete and the unit stops.

■ To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 6.

■ GROUP RELEASE **B**

After step 3 on the page 37

(c) The display is ready for you to select the group to release.

4 ① Press or swipe [**←←←←**, **→→→→**] to select the group you want to release.

② Press [ENTER].

The display asks you to confirm your selection.

5 Press [EDIT, MARK MODE].

When "UTOC Writing" goes out editing is complete and the unit stops.

■ To stop part way through an editing operation

Press [■, OPR OFF] before confirming the operation in step 6.

Note

- After using editing functions (e.g., DIVIDE, MOVE, and COMBINE) on a disc with groups, the unit rewrites UTOC to maintain consistent group information.
 - If you create groups with this unit and then perform editing on a unit that is incompatible with group functions, the group information may be rendered unusable.
 - Disc titles will not be displayed correctly if you play an MD with groups on it on equipment that is incompatible.
- For example:
0; MY BEST//1-3; CLASSIC//4-8...

Titling MDs

Titling discs and tracks

- Discs and tracks recorded with standard stereo recording mode can have titles with up to 100 characters. Tracks recorded with LP2 or LP4 can have titles with up to 97 characters.
- One MD can hold a maximum of 1792 characters. The number of characters an MD can hold reduces if you use LP2 or LP4 to record tracks and if you put tracks into groups. (See page 41.)

1 Press [EDIT, MARK MODE] while stopped.

"TITLE?" appears on the display.

2 (A) When titling a disc

① Press [ENTER].

"DISC TITLE?" appears on the display.

② Press it again.

The text editing mode is entered.

(B) When titling a track

① Press [ENTER].

"DISC TITLE?" appears on the display.

② Press or swipe [$\leftarrow\leftarrow\leftarrow$, $\rightarrow\rightarrow\rightarrow$] to select the track you want to title.

③ Press [ENTER].

The text editing mode is entered.

3 Enter the title. (See page 42.)

4 Press [EDIT, MARK MODE].

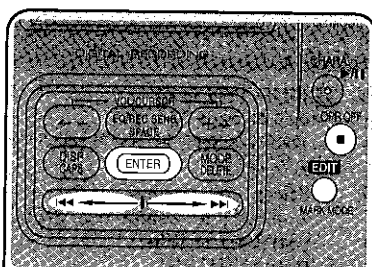
When "UTOC Writing" goes out editing is complete.

■ After titling a disc

The display automatically shows the track titling display. Follow the steps for titling tracks.

■ To stop part way through an editing operation

Press [\blacksquare , OPR OFF] before confirming the operation in step 4.



1

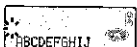
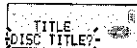
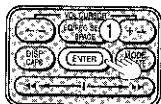
EDIT



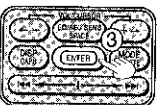
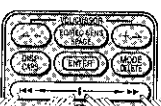
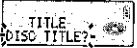
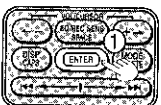
MARK MODE

2

(A)



(B)

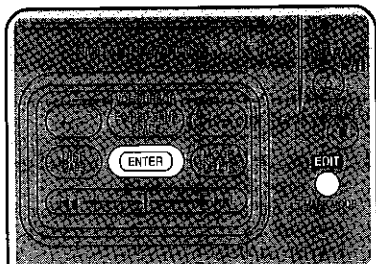


4

EDIT



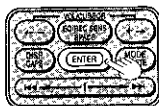
MARK MODE



1



2



4



Titling MDs

- To title tracks while playing or paused.

1 Press [EDIT, MARK MODE] while playing the track you want to title.

"TRACK TITLE?" appears on the display.

2 Press [ENTER].

The text editing mode is entered.

3 Enter the title. (See page 42.)

4 Press [EDIT, MARK MODE].

When "UTOOC Writing" goes out editing is complete.

Note

- If you start entering a title while a track is playing, the track repeats until you finish.
- If you begin title editing with a disc that has titles longer than 100 characters, "TITLE OVER" is displayed and then the text-editing mode is entered. The unit erases the extra characters when you complete editing.
- ".L.P.:" and a space are automatically added when you use MDLP to extend recording time, so the number of characters you can put in an MD is reduced. When you put tracks into groups, this group information is also recorded and reduces the number of characters an MD can hold.

Example 1:

An MD with 50 tracks recorded with MDLP and divided into four groups:
Each title can have an average of 25 characters.

Example 2:

An MD with 100 tracks recorded with MDLP and divided into four groups:
Each title can have an average of 10 characters.

Titling MDs

Entering text **A**

- 1 Press [▶/||, CHARA] to select the type of characters.

The type changes each time the button is pressed.

English capitals ←

↓
English lower case

↓
Numerals and symbols

- 2 ① Press or swipe [◀◀←, →▶▶] to move the cursor over the character you want to enter.

- ② Press [ENTER] to enter the character.

- Entered text
- Characters

The character you selected is entered. The cursor moves to the right and shows where the next character will be entered.

■ To move the cursor **B**

Press [←, →, VOL/CURSOR].
→: right
←: left

■ To erase a character **C**

- 1 Press [←, →, VOL/CURSOR] to move the cursor over the character you want to erase.

- 2 Press [MODE, DELETE].

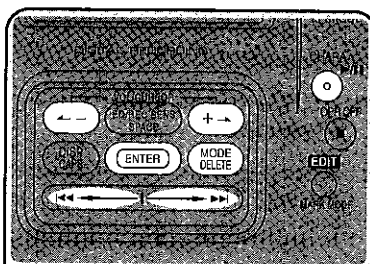
The characters after the erased character move back to take its place.

■ Characters available for titles

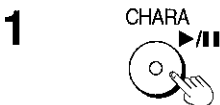
Text mode	Character
CAPITALS	ABCDEFGHIJKLMNOPQRSTUVWXYZ
lower case	abcdefghijklmnopqrstuvwxyz
Numerals and symbols	0123456789 !"#\$%&'()*+,-./:; <=>?@_`^

Note

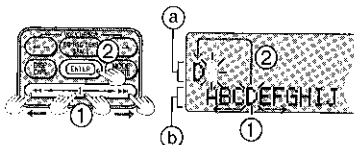
The "™" symbol can not be entered successively.



A



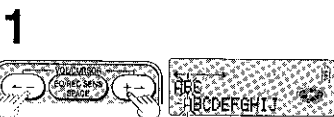
2



B

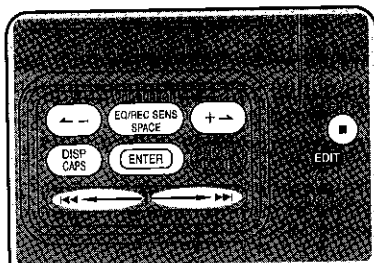


C

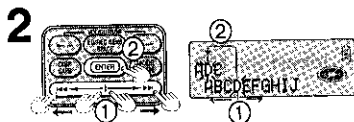


2

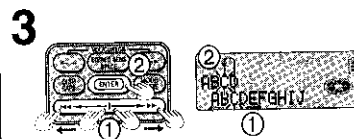




A



B



C



Titling MDs

■ Correcting titles

- 1 Press [←, →, VOL/CURSOR] to move the cursor over the character you want to correct.
- 2
 - 1 Press or swipe [◀◀←, →▶▶] to move the cursor over the character you want to enter.
 - 2 Press [ENTER] to enter the character.
The new character replaces the old one.

■ To insert an extra character

- 1 Press [←, →, VOL/CURSOR] to move the cursor over the place you want the character to go.
- 2 Press [EQ/REC SENS, SPACE].
- 3
 - 1 Press or swipe [◀◀←, →▶▶] to select the character to enter.
 - 2 Press [ENTER] to enter the character.
The character is inserted.

■ Changing capitals into lower case or lower case into capitals

- 1 Press [←, →, VOL/CURSOR] to move the cursor over the character you want to change.
- 2 Press [DISP, CAPS].

■ To exit the text editing mode part way through

- Press [■, OPR OFF].
The normal display is restored.

Copying a title from one MD to another (TITLE STATION)

The unit temporarily records the titles from an MD so they can then be copied onto another MD.

Before proceeding

- You cannot copy titles from prerecorded MDs or blank MDs.
- You can copy the titles only if both MDs have the same number of tracks.
- Any titles on the second MD are replaced when this function is used.
- Group information is also copied from the disc being copied.

1 Insert the MD with the title.

2 Press [EDIT, MARK MODE] while stopped.

3 ① Press [◀◀, ▶▶] to select "TITLE COPY?".

② Press [ENTER].

After "TITLE MEMORY" is displayed "TAKEOUT DISC" is displayed when the unit has recorded the titles.

⚡ Changes automatically after a few seconds

4 Eject the MD.

"CHANGE DISC" is displayed when the lid is opened.

5 Insert the other MD.

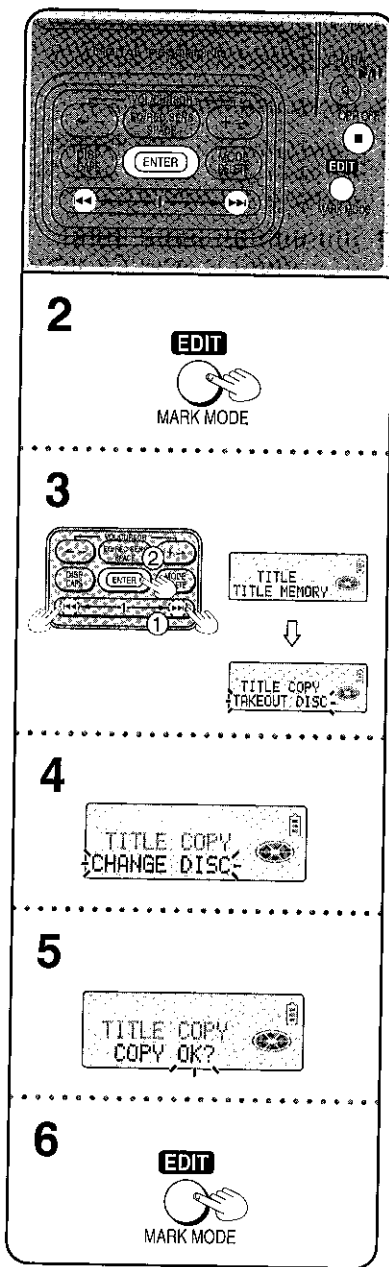
After "TOC Reading" is displayed, the display asks you to confirm the operation.

6 Press [EDIT, MARK MODE].

When "UTOOC Writing" goes out editing is complete and the unit stops.

■ **To stop part way through an editing operation**

Press [■, OPR OFF] before confirming the operation in step 6.



Using the unit with optional accessories

- Read the operating instructions of the items to be used.
- Use the recommended accessories to ensure correct operation.

■ Connection to a stereo system

You can listen to or record the sound from this unit on other audio equipment.

If the stereo system's connection is;

a line connection:

Use the included line cord.

a mini-phone jack:

Obtain the optional line cord.

- Ⓐ Headphone jack
- Ⓑ Line cord
- Ⓒ Other equipment
- Ⓓ (white)
- Ⓔ (red)

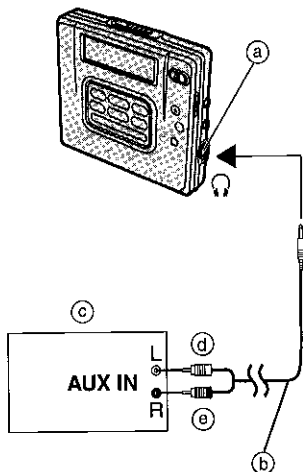
- Turn off the power to all units before making connections.

- Ensure you connect this unit to the input terminals on your stereo. Connection to the output terminals can damage this unit.

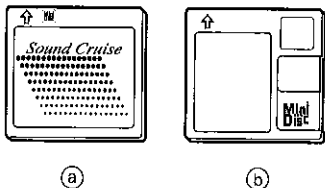
- Set sound quality to NORMAL (cancel). (See page 29.)

- Set the unit's volume to 20–23.

- You can connect speakers, active or otherwise, with an impedance of 1 k Ω or less to the headphone jacks.



Some useful information about MDs

A

■ Types of MDs **A**

(a) **Prerecorded MDs**

These discs are for playback only.

(b) **Recording MDs**

Apart from the time limitations, it is possible to record up to 254 tracks on an MD.

■ Care and storage **B**

Label MDs only as recommended. Extra labels and exposed adhesive can cause malfunctions.

Do not open the shutter. Close it immediately if it accidentally opens. Never touch the disc inside the MD cartridge.

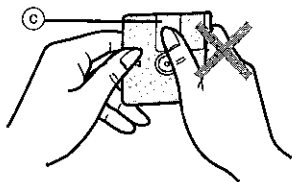
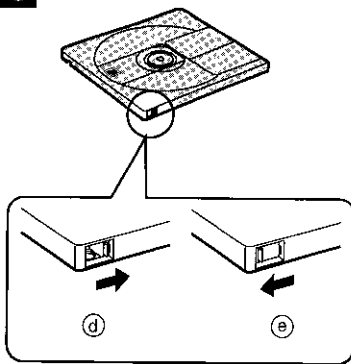
(c) **Shutter**

■ Protecting your recordings **C**

Move the switch to open the write protect hole. Close the hole when you want to record or edit the MD again.

(d) **Record protected**

(e) **Record enabled**

B**C**

Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

Reference pages are shown as black circled numbers ③.

Problems	Check this
No operation.	<ul style="list-style-type: none"> ● Is the hold function on? ⑧ ● Is a disc loaded? ⑨ ● Is the unit completely connected to the AC power source? ⑤ ● Have the batteries run down? ⑦ ● Is there a problem with the disc?
Cannot start play.	Have you inserted a blank disc?
Tracks not played in order from the first track.	<ul style="list-style-type: none"> ● Has the play mode been switched to "RANDOM"? ⑫ ● Did you stop the disc part way through the last time you listened to it? ⑬
Cannot start recording or enter text.	<ul style="list-style-type: none"> ● Have you inserted a playback disc? ⑮ ● Is the disc write protected? ⑮ ● Is the unit correctly connected to the other equipment? ⑮ ⑯ ● Is the digital optical signal being correctly output from the other equipment?
Noise	<ul style="list-style-type: none"> ● Are you using the unit near a strong magnet, such as may be found in a television? ● Separate the unit from mobile phones.
No sound from the earphones. No response from the remote control.	<ul style="list-style-type: none"> ● Has the volume been turned down too far? ⑭ ● Have the plugs on the earphone and remote control been inserted correctly? (Try plugging it in again.) ● Are the plugs dirty? (Wipe away dirt on plug.)
Disc and track titles are incorrectly displayed or not displayed at all.	Have you entered more text than the MD can hold? ⑪
The unit cannot be opened.	Have the batteries run down, or is the unit incompletely connected to the AC power source? ⑤ ⑦

Displays

BLANK DISC	A blank disc has been inserted.
Can't EDIT	The reason is shown on the lower line of the display.
Can't COMBINE	The limitations of the system sometimes mean tracks cannot be combined.
Can't DIVIDE	The limitations of the system sometimes mean tracks cannot be divided.
Can't REC	The reason is shown on the lower line of the display.
DIGITAL IN, UNLOCK	Check the digital optical fiber cable connections and try again.
DISC ERROR	There is a problem with the disc and it needs to be replaced.
DISC FULL	The maximum time or number of tracks has been reached. Either erase some tracks or record with another disc.
DISC PROTECT	The write protect hole is open. Close it to enable recording and editing.
EMERGENCY, STOP	A problem occurred during recording. Eject the MD, reinsert it and start recording from the beginning again.
F17	There is a problem with the magnetic head.
GROUP DATA FULL	There is not enough space to renew group data. Release groups or delete group titles.
HOLD	The hold function is on.
LOW BATTERY, U01	The batteries have run down.
NO DISC	A disc has not been inserted.
Playback DISC	The disc can only be used for playback. It cannot be recorded on or edited in any way.
Can't COPY, SQMS	You are trying to make a second copy of a digital recording.
SYSTEM ERROR	The self diagnosis function has found an error.
TOC Reading	Reading TOC information.
TRACK NUMBER, NOT EQUAL	The number of tracks doesn't equal the number of tracks on the target disc. Make the number equal.
TITLE FULL	The title you are entering exceeds the character limit.
TITLE OVER	You are trying to edit a title with 101 or more characters.
UTOC FULL	The display appears for one of the following reasons: <ul style="list-style-type: none"> ● The maximum number of tracks (254) has been reached; erase unneeded titles to make room. ● Due to limitations of the recording system, UTOC may become full before the maximum number of tracks or time capacity is reached. Replace the MD. ● The section reserved for text information is full; erase unneeded titles to make room.
UTOC Writing	UTOC is recorded.

Cautions

■ The main unit

Avoid the following as they may damage the unit.

- Dropping and other strong impacts
- Rain
- High humidity areas such as bathrooms
- Dusty areas such as warehouses
- High temperatures such as near heating appliances
- This unit is resistant to the effects of vibration but sound may skip if the vibration is constant.

■ The earphones

Leave a reasonable amount of slack in the cord if you wind it around the main unit.

■ Dry cell/rechargeable batteries

- If rechargeable battery play time is short after recharging, the battery has reached the end of its service life. Replace it with the recommended replacement.
- Play time may be shorter than usual after recharging the battery for the first time or after it has been unused for a long time. Repeatedly recharge and discharge the battery if this occurs to restore it to normal.
- The battery may heat up while charging but this is normal.
- Do not peel off the covering on batteries and do not use if the covering has been peeled off.
- Align the poles ⊕ and ⊖ correctly when inserting the batteries.
- Remove the batteries if you do not intend to use the unit for a long time.
- Do not throw into fire, short-circuit, disassemble, or subject to excessive heat.
- Do not allow metal objects to touch the battery terminals as this may cause short-circuiting which is dangerous.
- When carrying batteries in a pocket or bag, ensure no metal objects such as necklaces are placed together with them. Contact with metal may cause short-circuiting which can cause a fire.

For safety, carry the rechargeable battery in the battery carrying case.

■ Precautions for Listening with the Headphones or Earphones

- Do not play your headphones or earphones at a high volume. Hearing experts advise against continuous extended play.
- If you experience a ringing in your ears, reduce volume or discontinue use.
- Do not use while operating a motorized vehicle. It may create a traffic hazard and is illegal in many areas.
- You should use extreme caution or temporarily discontinue use in potentially hazardous situations.
- Even if your headphones or earphones are the open-air type designed to let you hear outside sounds, don't turn up the volume so high that you can't hear what's around you.
- Discontinue use if you experience discomfort with the headphones or earphones. Continued use may cause rashes or other allergic reactions.

Maintenance

■ If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

Notice about the rechargeable battery

The battery is designated recyclable. Please follow your local recycling regulations.

Specifications

■ AUDIO

System: MiniDisc digital audio system
Recording system:

Magnetic field modulation
 direct overwrite

Pickup

Laser: Semiconductor laser ($\lambda=780$ nm)

Sampling frequency: 44.1 kHz

Sampling rate converter: 32 kHz/44.1 kHz/
 48 kHz

Coding: Adaptive Transform Acoustic Coding
 (ATRAC/ATRAC 3)

No. of channels: 2 (left and right, stereo)
 1 (monaural, play only)

Frequency response: 20 Hz–20,000 Hz
 (+0 dB, –8 dB)

Wow and flutter: Below measurable limit

■ GENERAL

Input terminal

OPT/LINE IN jack

Impedance: 22 k Ω

Input level: SENS H: 178 mV

SENS L: 500 mV

MIC jack

Impedance: 600 Ω

Input level: SENS H: 0.4 mV

SENS L: 2.5 mV

Output terminal

Headphone jack

Impedance: 22 Ω

Output level: 3.5 mW+3.5 mW

Play time

[Approximate operating time in hours (in hold mode, at 25 °C, on a flat, stable surface)]

Battery type	Play time			Record time		
	Normal	LP2	LP4	Normal	LP2	LP4
Rechargeable (A)	11.5	15	17	5.5	8	9.5
Panasonic alkaline	42	54	62	19	26	34
Both together (A)	54	71	82	25	34	44

(A) When the rechargeable battery (included) is fully recharged.

Power supply

Rechargeable battery: DC 1.2 V
 (included rechargeable battery)

Battery: DC 1.5 V
 (One LR6, AA, UM-3 battery)

AC adaptor: DC 1.8 V
 (included AC adaptor)

Recharging time: About 2 hours

Dimensions (W×H×D)

Cabinet dimensions: 78.2×71.6×16.0 mm

incl.projecting parts: 80.4×74.1×18.3 mm

Mass: 112 g (with battery)
 88 g (without battery)

Note

- The play and recording time may be less depending on the operating conditions.
 - Specifications are subject to change without notice.
- Mass and dimensions are approximate.

CAUTION!

THIS PRODUCT UTILIZES A LASER.

USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

CAUTION!

- **DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.**
- **DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.**
- **DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.**
- **DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.**

Marking sign is located on bottom of the unit.

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

US and foreign patents licensed from Dolby Laboratories.

CLASS 1 LASER PRODUCT

DANGER	INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING. NÅR SIKKERHEDSÅBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVAITTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSIHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.

The laser product label has not been attached to this product.