

marantz®

K-(3)

Model MD2020 User Guide

MD Player

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT



Contents

Preparation	2
Foreword	2
Precautions	2
Before use	2
After removing it from the box	3
Connection method	4
Names of parts	5
Recording onto a MD	6
Playing a MD	8
Changing the MD information display	9
Different ways of recording	10
Monaural LP (Long play) recording	10
Recording from the middle of previous recording	10
Assigning track numbers while recording	10
Starting automatic recording	10
Automatically arranging the non-recorded blank	10
Timer recording	11
Precautions when recording	11
Different ways of playing	12
Search	12
Skip	12
Repeat	12
Random	12
Program	13
Editing a MD	14
Operations available by the editing functions	14
Editing procedure	14
Changing the boundaries between tracks	15
Reordering tracks	16
Erasing track(s)	17
Assigning disc names and track names	18
Assigning the disc name	18
Assigning the track name	19
Modifying previously entered character(s)	19
Other	20
Setting the date and time	20
Checking the date and time	20
Combining with the slim-line series	20
Usage precautions	21
Displayed error messages	22
MD system restrictions	22
Trouble shooting	23
Specifications	23
Control, connectors and indicators	24

CE MARKING

CE This MD2020 is in conformity with EMC directive and low-voltage directive.

WARNINGS FOR LASER RADIATION

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM.

DANGER : INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.

VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIHANAKYMÄTTÖMÄALLE LASERSÄTEIL YLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING! : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRakta EJ STRALEN.

Preparation

Foreword

This section must be read before any connection is made to the mains supply.

WARNINGS

- Do not expose the equipment to rain or moisture.
- Do not remove the cover from the equipment.
- Do not push anything inside the equipment through the ventilation holes.
- Do not handle the mains lead with wet hands.

Equipment mains working setting

Your Marantz product has been prepared to comply with the household power and safety requirements that exist in your area. "/2A,/2B" Version product can be powered by 230 V AC only. On the rear panel of the "K" Version product, a voltage selector (2-position) is provided. Be sure to set the voltage selector to the mains voltage of your area before using the unit.

Important:

This apparatus is fitted with an approved molded 13 Amp plug. To change a fuse in this type of plug proceed as follows:

1. Remove fuse cover and fuse.
2. Fix new fuse which should be a BS1362 5A, A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place. If the mains plug contains a fuse, this should have a value of 5A. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5A.


Note:

The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13A socket elsewhere.

How to connect a plug

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

BLUE – "NEUTRAL"("N") BROWN – "LIVE"("L")

1. The BLUE wire must be connected to the terminal which is marked with the letter "N" or colored BLACK.
2. The BROWN wire must be connected to the terminal which is marked with the letter "L" or colored RED.
3. Do not connect either wires to the earth terminal in the plug which is marked by the letter "E" or by the safety earth symbol  or colored green or green-and-yellow.

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead – not simply over the two wires.

Copyright

Recording and playback of any material may require consent. For further information refer to the following:

- Copyright Act 1956
- Dramatic and Musical Performers Act 1958
- Performers Protection Acts 1963 and 1972
- any subsequent statutory enactments and orders

About this user guide

Refer to the Figures on the page 28 at the rear of this user guide. The numbers on the diagrams correspond to those in the text. All references to the connections and controls that are printed in BOLD type are as they appear on the unit.

Precautions

The following precautions should be taken when operating the equipment.

General precautions

When setting the equipment ensure that:

- the ventilation holes are not covered
- air is allowed to circulate freely around the equipment
- it is on a vibration free-surface
- it will not be exposed to interference from an external source
- it will not be exposed to excessive heat, cold, moisture or dust
- it will not be exposed to direct sunlight
- it will not be exposed to electrostatic discharges.

Never place heavy objects on the equipment.

If a foreign body or water does enter the equipment, contact your nearest dealer or service center. Do not pull out the plug by pulling on the mains lead, hold the plug. It is advisable when leaving the house, or during a thunderstorm, to disconnect the equipment from the mains supply.

Before use

Installation location

Do not install the set in the following places so that you can use the set for an extended period of time.

- In a place subject to direct sunlight or a near a source of heater such as heating equipment.
- In a place with poor ventilation or subject to excessive moisture or dirt.
- In an unstable place subject to vibrations or on an inclined surface.
- In a place where the set may be moistened, for example near a window.
- If the set is placed on an object which generates heat such as an amplifier and operated for a long period of time, the laser diode in the pickup of the Mini Disc player may be affected by the heat. To prevent this, avoid installing the set on an object generating high heat.
- In a place where the temperature is high.

Supply voltage and frequency to be used

- The set should be supplied with a "/2A,/2B": 230 V, "K": 110 V or 220 V AC power.
- The set can be used in the areas with a power supply frequency of 50 Hz.

Preparation

Precautions about the connecting

- To protect the interconnected components, be sure to turn off their power supplies before connecting them.
- Check the "Input", "Output", "Left" and "Right" of each jack and correctly connect them referring to the owner's manual.
- Securely insert the pin-plug. An imperfect connection may result in the generation of noise.
- Make the connections after carefully reading the owner's manual of each audio device which is to be connected to the set.

After removing it from the box

Power cord handling precautions

- Do not touch the power cord with a wet hand.
- Be always sure to grasp the plug when unplugging the power cord. Pulling the cord with a strong force or bending it may damage the cord and lead to an electric shock or fire hazard.
- Make it a custom to unplug the power cord when you will not use the set for a long period of time.

Servicing inside the set

- Do not oil or grease the set for this may cause malfunction.
- Checking or adjusting the inside of the set will result in malfunction or an electric shock. Never attempt to touch the internal parts of the set.

Also, we with hold the application of the warranty against the performance deterioration resulting from the modification of the set.

Check that none of following accessories are missing.

Optical digital connection cord	1
Audio stereo RCA pin cord	2
Remote control unit (RC2020MD)	1
SUM-4 batteries	2
Bus line connection RCA pin cord	1
Warranty card	1

If any of the accessories are missing, contact the store from which you purchased the set or any of our sales offices.

Notes on the remote control operation

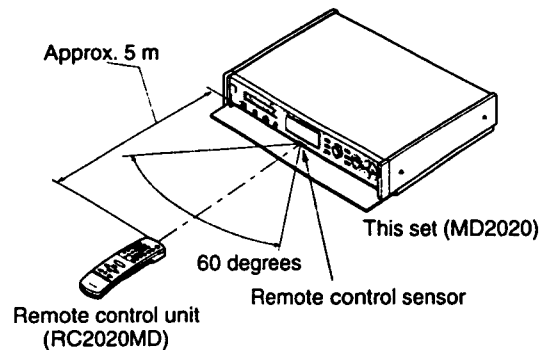
1. Remote control unit

The remote control unit should be operated at a distance of less than about 5 meters from the set.

Note that, if the remote control unit is pointed in a direction other than that of the remote control sensor or there is an obstacle between the remote control unit and the set, the remote control operation may sometimes become impossible.

A similar trouble may also occur when a strong light is incident to the remote control sensor.

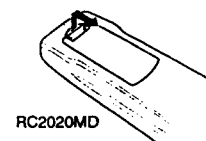
* Remote control able range



2. Loading the batteries in the remote control unit.

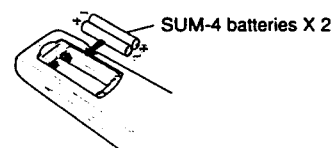
The battery life of the remote control unit is about 1 year under normal use. Be sure to remove the batteries when the remote control unit is not to be used for a long period of time. When the battery power seems to be weakened, replace them early as shown below.

- (1) Remove the back cover.



- (2) Load the batteries.

Load the batteries ensuring that the positive (+) and negative (-) poles are correctly positioned and close the back cover until you hear the click.



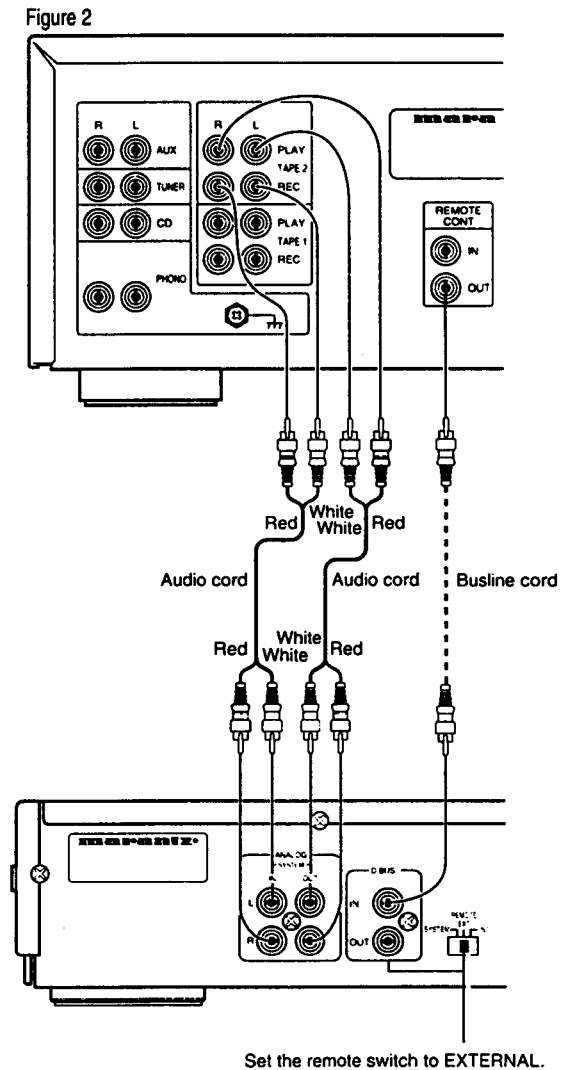
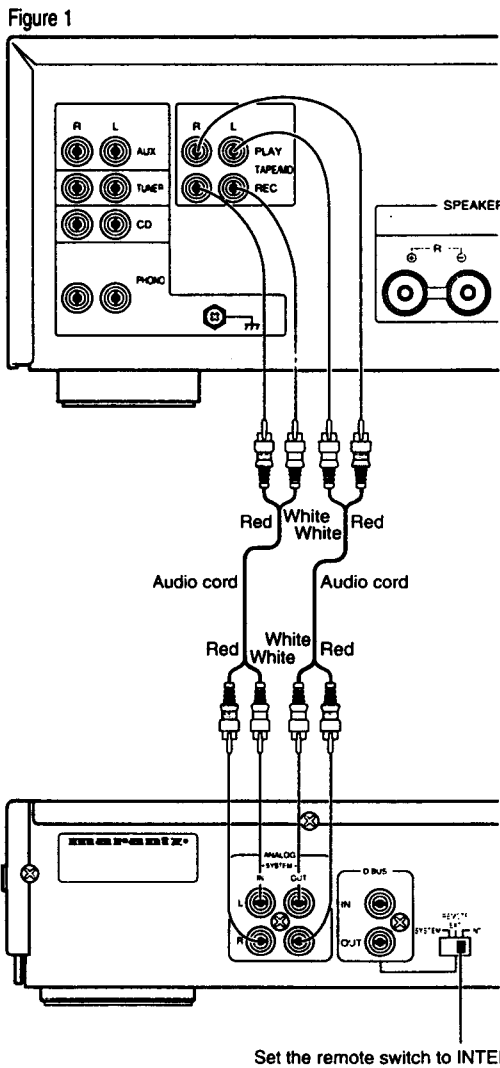
Preparation

Connection method

Caution : To protect the interconnected components, be sure to turn off their power supplies before connecting them.

Connections of analog input/output jacks

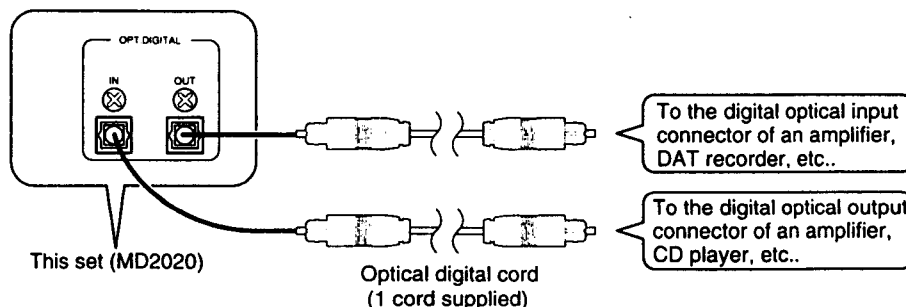
- Typical connection example : Set the remote switch on the rear panel of this set to "INTERNAL" and connect it to your amplifier as shown in Figure 1. (Also read the owner's manual of your amplifier.)
- Connection with a MARANTZ amplifier equipped with MARANTZ remote sensor : Set the remote switch on the rear of this set to "EXTERNAL" and connect it to your amplifier as shown in Figure 2. The basic operation of the set can be performed with the remote control unit which is supplied with the amplifier.



* Connect the power plugs to the power outlets only after all connections have completed.

Connections with a component equipped with optical digital input/output jacks

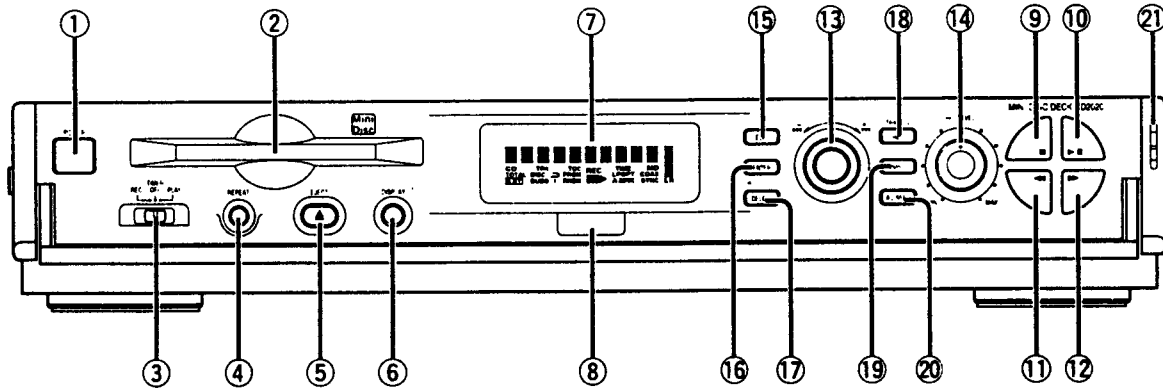
- The optical digital input/output jacks can be used simultaneously with the analog input/output jacks.



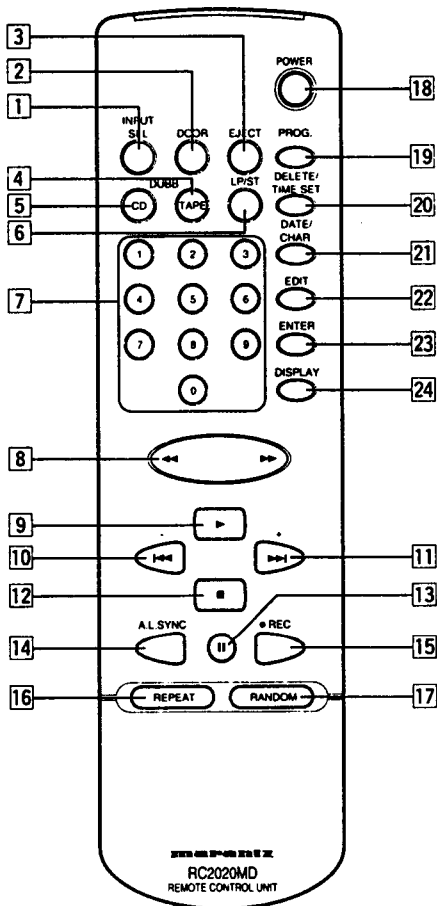
Preparation

Names of parts

This set buttons



Remote control unit buttons



<Set and remote control unit button comparison table>

Button name	Set button name	Remote control unit button name
POWER	Power	18
▶/ 	Play/pause	—
▶	Play	9
 	Pause	13
■	Stop	12
▶▶	Skip	11
	Jog dial	
◀◀	Skip	10
	Jog dial	
▶▶	Forward search	8
◀◀	Reverse search	8
REC	Record (pause)	15
EJECT	Eject	3
EDIT	Edit	22
ENTER	Enter	23
A.L.SYNC	Auto level synchro	14
REPEAT	Repeat	16
PROG	Program	19
RANDOM	Random	17
DISPLAY	Display	24
INPUT	Input	1
REC LEVEL	Record level	—
DELETE / TIME SET	Delete /time set	20
DATE / CHAR	Date/character	21
LP/ST	Mono/stereo	6
DOOR	Door open/close	2
TIMER	Timer	3
DUB.CD	Dubbing	5
DUB.TAPE	Dubbing	4

* The buttons which are on both the set and remote control unit have the same function.

* For an explanation of the buttons, refer to pages 24 and 27.

Recording onto a MD

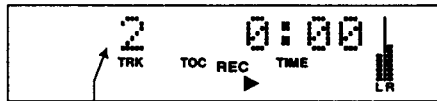
Things to know before recording

● Notes on the track numbers

Track numbers are assigned automatically when music or voice recorded onto a MD. The track numbers are increased as additional recordings are made.

● Recording through the analog (line) input

When the input signal drops below a certain level and then an input signal which exceeds that level is input, a track number is automatically assigned.

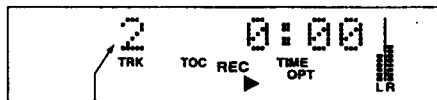


Changes from 1 to 2

* Depending on the details of the recording, if there is noise in the signal etc., the track number may not be assigned in the correct position.

● Recording through the optical digital input

When recording a CD or MD through an optical digital input, track numbers are assigned for each track in the same positions as on the CD or MD.



Changes from 1 to 2

* The track numbers may not match in the following situations.

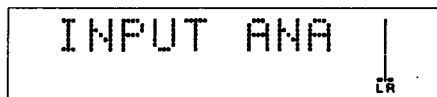
- (1) The same track is repeatedly recorded with 1-track repeat etc.
- (2) The MD is the sound source for less than 4 seconds.

* When recording through the digital devices such as BS/CS tuners, DAT recorder, etc., the unrecorded sections between the tracks are detected and track numbers assigned in the same way as when recording through the analog (line) input.

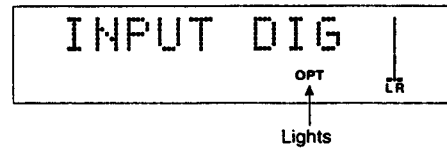
● Selecting the recording input

The input to be recorded onto the MD is selected by pressing the **INPUT button** (Ⓔ or Ⓜ) while the MD is in the stop or record-pause mode.

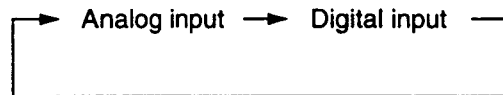
Analog (line) input display



Optical digital input display



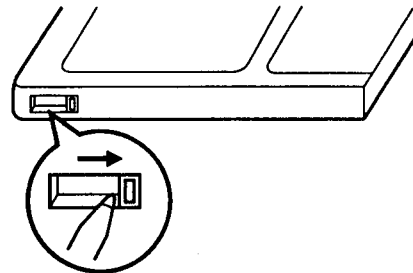
* The recording input is changed every time the **INPUT button** (Ⓔ or Ⓜ) is pressed.



* The optical digital input sampling frequencies which are supported are 32 kHz, 44.1 kHz and 48 kHz.

When the recording operation is performed, the set is automatically changed to 44.1 kHz and the recording starts.

To avoid accidental erasure of a recorded MD

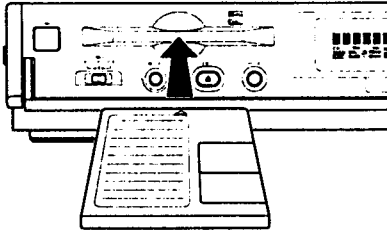


- To protect a previously recorded MD against accidental erasure, slide the accidental erasure prevention tab on an edge of the MD in the direction of the arrow (to open the opening).
- When you want to record or edit the MD, slide the accidental erasure protection tab back to the original position (to close the opening).

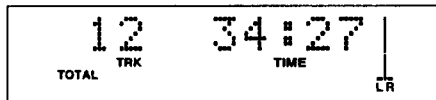
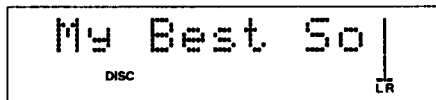
Recording onto a MD

Recording procedure

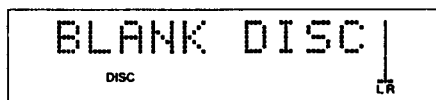
1. Press the **POWER button** (① or ⑱) to turn the set power supply on. After "MD2020" is displayed, if there is no disc in the set, "NO DISC" is displayed.
2. With the label side facing up, insert the MD to be recorded on in the direction of the arrow.



3. "LOADING" blinks on the display, and then the disc name is displayed if the inserted MD has already been recorded on and had a name assigned to it. If the disc has not had a disc name assigned to it, the total number of recorded tracks and their total playing time are displayed.

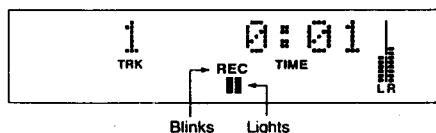


- * "BLANK DISC" is displayed if the disc is new and doesn't have anything recorded onto it.

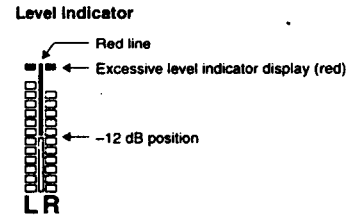


If the disc has material recorded on part of it, the recording starts from the end of the recorded section.

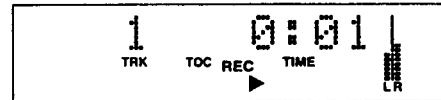
4. Press the **REC button** (⑲ or ⑳) to enter the record-pause mode.
- * The input signal selected with the **INPUT button** is output to the analog output jack and optical digital output jack, and the recorded signal can be monitored.



5. When recording through the analog (line) input, turn the **recording level dial** (⑭) and adjust the recording level so that the level indicator swings within the red lines. Set it so that the level indicator excessive level indicator display does not light even at the highest signal level.



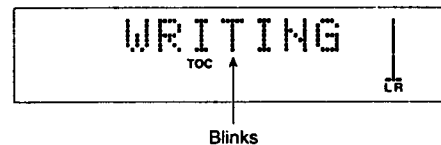
6. When recording onto a MD through the optical digital input, the level is automatically set to the same level as the original recording. It is not necessary to adjust the recording level.
7. To start recording on the MD, press the **PLAY/PAUSE button** (▶/⏸) of the set or the **PLAY button** (▶) or **PAUSE button** (⏸) of the remote control unit.



Stopping the recording

Press the **STOP button** (■) (⑨ or ⑲).

The set enters the stop mode with "TOC" still lit on the display. When the MD disc is taken out or when putting the set in the power standby mode, "WRITING" blinks and the TOC data is written.

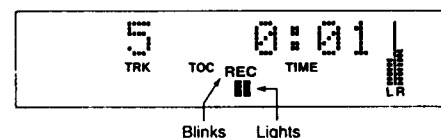


Caution

- * Do not unplug the power cord or subject the set to shocks while the TOC data is written (while the "TOC" is blinking). The TOC will not be correctly recorded and the MD playback may not be possible.

Pausing the recording

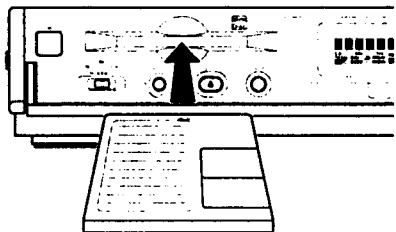
Press the **PLAY/PAUSE button** (▶/⏸) of the set or the **PAUSE button** (⏸) of the remote control unit while recording. The recording is paused at the point where the button is pressed and the set enters the record-pause mode.



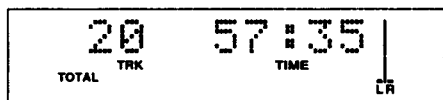
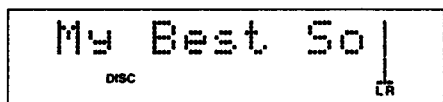
Playing a MD

Playing procedure

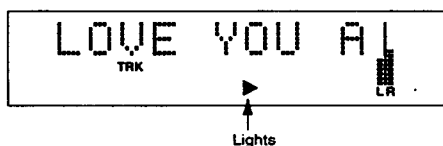
1. Press the **POWER** button (① or 18) to turn the set power supply on.
After "MD2020" is displayed, if there is no disc in the set, "NO DISC" is displayed.
2. With the label side facing up, insert the MD in the direction of the arrow.



3. "LOADING" blinks on the display, and then the disc name is displayed. If the disc has not had a disc name assigned to it, the total number of recorded tracks and their total playing time are displayed.



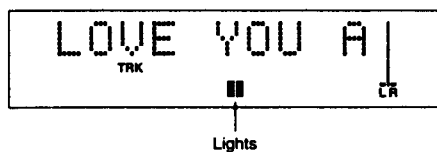
4. The playback is started by pressing the **PLAY/PAUSE** button (▶/||) of the set or the **PLAY** button (▶) of the remote control unit.
The display shows the name of the track being played.



Pausing the playback

Press the **PLAY/PAUSE** button (▶/||) of the set or the **PAUSE** button (||) of the remote control unit while playback. The playback is paused at the point where the button is pressed and the set enters the pause mode.

* To resume the playback, press the **PLAY/PAUSE** button (▶/||) of the set or the **PLAY** button (▶) of the remote control unit again.



To stop the playback

Press the **STOP** button (■) (9 or 12).

To take out the MD disc

To eject the MD disc, press the **EJECT** button (5 or 13).

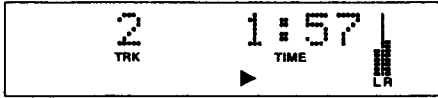
Changing the MD information display

Changing the MD display

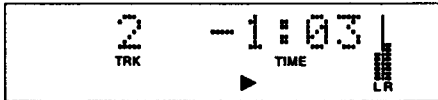
Press the **DISPLAY** button (6 or 24).

● When the MD is in the play mode or pause mode

Display of the elapsed playing time (TRACK TIME)



Display of the remaining playing time (REMAIN TRACK TIME)

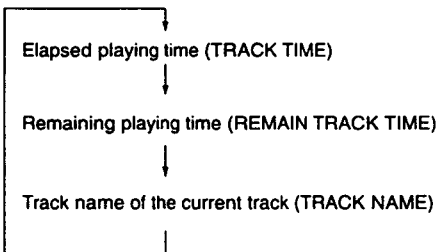


Display of the track name of the current track (TRACK NAME)

* "NO NAME" is displayed if the track does not have a track name assigned to it.



* Pressing the **DISPLAY** button again returns to the initial elapsed playing time display.



Advice

* The track name of the current track can be displayed by pressing the **DISPLAY** button for more than 2 seconds, regardless of the current display.

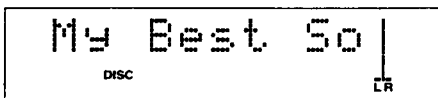
The previous display returns after showing the track name of the current track.

If the MD is stopped while the remaining time is displayed, the display returns to the total time (TOTAL TIME) display.

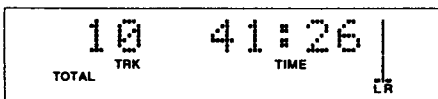
● When the MD is in the stop mode

Display of the disc name

* "NO NAME" is displayed if the disc does not have a disc name assigned to it.

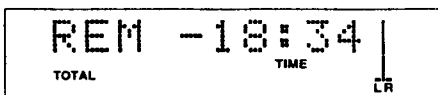


Display of the total number of recorded tracks and their total playing time (TOTAL TIME)

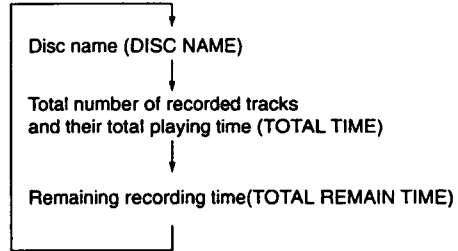


Display of the remaining recording time in the disc

* This information is not displayed when a playback-only MD is used.



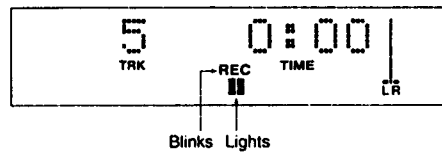
* Pressing the **DISPLAY** button again returns to the initial disc name display.



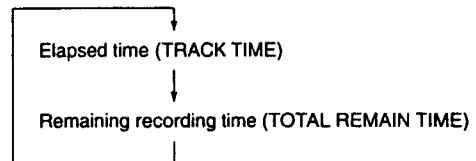
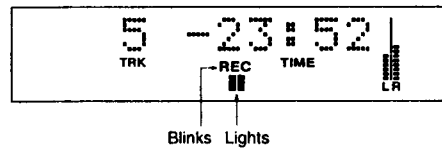
* If a disc name has been assigned to the disc, the disc name can be displayed by pressing the **DISPLAY** button for more than 2 seconds, regardless of the current display. After the disc name is displayed, the display returns to the previous display.

● When the MD is in the record-pause mode

Display of the recording time (TRACK TIME)

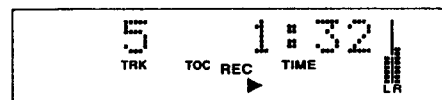


Display of the remaining recording time

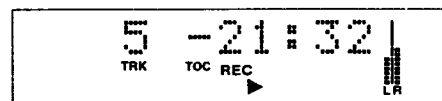


● While recording

Display of the elapsed time (TRACK TIME)

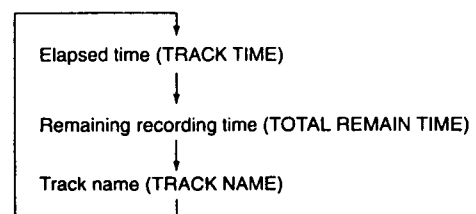


Display of the remaining recording time



Display of the track name of the recording track (TRACK NAME)

* "NO NAME" is displayed if the track does not have a track name assigned to it.

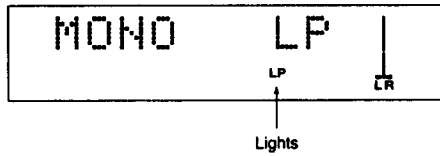


Different ways of recording

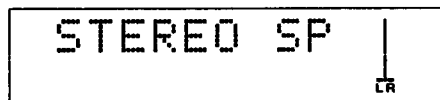
Monaural LP recording

The monaural long-play mode allows signals to be recorded for approximately twice the time possible with stereo recording.

- Press the **LP/ST button** [6] of the remote control unit in the stop mode.



Every time the **LP/ST button** of the remote control unit is pressed, the mode changes between the stereo mode and the monaural LP mode.

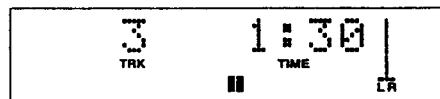


- * These modes can not be changed in the record, play and pause modes of MD.
- * The stereo mode is returned to when the record-pause mode or record mode is changed to the stop mode.

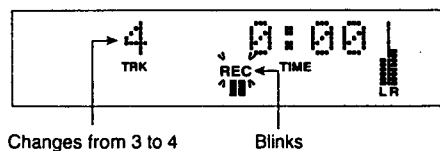
Recording from the middle of a previous recording

Previous recordings can be overwritten by recording new tracks.

1. Play a MD and, when the position where the recording is to be overwritten is reached, press the **PLAY/PAUSE button** (▶/||) of the set or the **PAUSE button** (||) of the remote control unit to enter the pause mode.



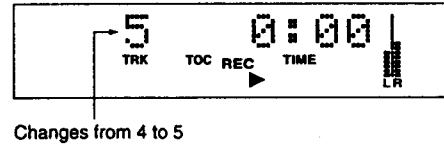
2. Press the **REC button** (ⓐ or ⓑ) to enter the record mode.



3. Pressing the **PLAY/PAUSE button** (▶/||) of the set or the **PLAY button** (▶) or **PAUSE button** (||) of the remote control unit, starts the recording.

Assigning track numbers while recording

Pressing the **REC button** (ⓐ or ⓑ) while recording increments the track number by one.



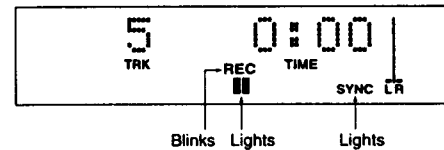
Advice

- * By the using the MD editing functions, track numbers as well as the boundaries between the tracks can be changed after the recording is completed. (Refer to page 14.)

Starting automatic recording

The beginning of the track can be detected and the recording started at the same time as the track begins.

1. In the record-pause mode, press the **A.L.SYNC button** (Ⓒ or Ⓓ).



2. Then play the track to be recorded. (Set the CD player etc. to the play mode.) The recording starts automatically.

- * In the case of analog input, it may not operate correctly due to small signals or noise etc.

In cases like this, start the recording manually.

- * The recording input cannot be changed in the record mode or record-pause mode while the SYNC indicator is lit.

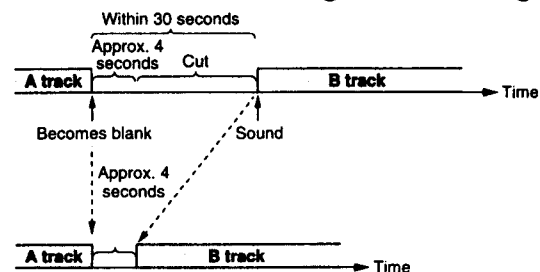
- * Pressing the **PAUSE button** from this automatic record mode changes to the record-pause mode, disappears the SYNC indicator and cancels the automatic record mode.

- * Pressing the **STOP button** also cancels the automatic record mode.

Automatically arranging the non-recorded blank

If the automatic record mode is entered ("SYNC" is lit) as described in the previous section, the non-recorded blank of the MD can be arranged. When the gap between the tracks is long, the non-recorded blank is automatically edited to approximately 4 seconds.

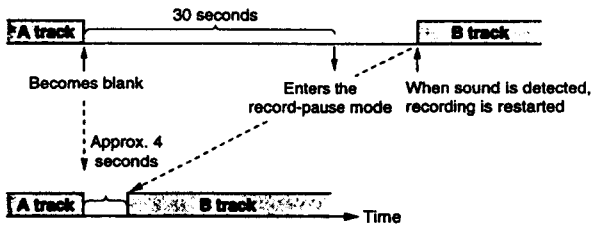
- **Setting the non-recorded blank to approximately 4 seconds and continuing the recording**



- When the recording input is analog input ----- The track number increases
- When the recording input is digital input ----- The track number stays the same

Different ways of recording

- **Setting the non-recorded blank to approximately 4 seconds and restarting the recording**



- When the recording input is analog input — The track number increases
- When the recording input is digital input — The track number increases

- * In the case of analog input, it may not operate correctly due to small signals or noise etc.
- * This function can not be canceled while in the automatic record mode (while the SYNC indicator is lit).

Timer recording

By using an external audio timer or similar equipment, you can record tuner broadcasting, etc. onto a MD while you are away or asleep.

1. Connect the power plugs of your stereo system components so that all of their power is supplied through the audio timer.
 2. Turn the stereo system ON and select the source to be recorded, which is typically the tuner.
 3. Load a MD disc in the set and select the recording input with the **INPUT** button to match the input source.
 4. If the analog input is selected above, enter record-pause mode and adjust the recording level (see page 7).
 5. Set the **TIMER** switch of the set to REC.
 6. Set up the connected audio timer or similar equipment.
- * For the setup procedure of the audio timer, etc., refer to its owner's manual.
7. When the set time comes, the entire system is turned ON and recording starts automatically.

ution

- * The memory backup time of the set is about 2 days. If the backup time has elapsed after the power had been turned off by an ordinary timer, the set would be unable to write the TOC data or its recording input selection would be altered. To prevent this, avoid usage in which the power may be turned off for a longer period than the backup time.
- * When the **TIMER** switch of the set is left to REC, MD recording starts whenever the power is turned ON. To prevent this, be sure to keep the **TIMER** switch in the OFF position except when timer recording is required.
- * If the remaining recording time of the disc expires during timer recording, the MD recorder writes the TOC data and stops.
- * When using the slim-line series CR2020 for timer recording, refer to the CR2020 owner's manual.

Precautions when recording

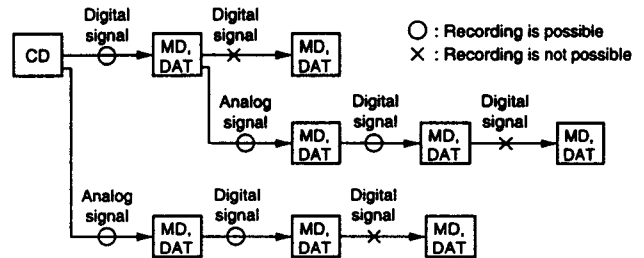
● SCMS (Serial Copy Management System)

This set complies with SCMS.

It is not possible to record with digital input from a DAT or MD which was recorded through the digital input.

With equipment which complies with SCMS, it is only possible to record a digital signal as a digital once.

However, by using the analog input/output jacks, recording can be done any number of times.



● Displayed error messages

Message	Significance	Treatment
Can't COPY	You are attempting to copy a copy-prohibited material.	Replace the source with a copy-permitted source (ordinary CD etc.).
PLAY ONLY	You are attempting to record or edit a playback-only MD.	Replace the MD with a recordable MD.
PROTECTED	The MD is protected against accidental erasure.	Release the accidental erasure protection (page 6).
Din UNLOCK	Normal signal is not input while the digital input is selected.	Check that the connection to the DIGITAL input connector is made properly. Use the ANALOG input if you do not have to record the digital input.
DISC FULL	The MD has no more space for recording.	Replace the MD with a recordable MD.
Can't REC	Proper recording was not made due to a shock or disc scratch.	Retry recording or replace the MD.

Different ways of playing

Search

- To begin to search for the desired section during playback or pause mode, press and hold the **REVERSE SEARCH** button (◀) (11) or (8) or **FORWARD SEARCH** button (▶) (12) or (9) of the set.
- When the search is started in the play mode, normal playback resumes from the position where the button is released.
- When the search is started in the pause mode, the set returns to the pause at the position mode where the button is released.
- * First, the search speed is slow when the **SEARCH** button is pressed and then a high-speed search starts if the button is kept pressed.
- * Pressing the **SEARCH** button while the track name is being displayed changes the display content to the elapsed time information.

Skip

Specify the skip destination track number using the **jog dial** (13) of the set, the **numeric (0 to 9) buttons** (7) of the remote control unit or the **SKIP** button (▶▶) (11) or (◀◀) (10) of the remote control unit.

● Specifying the track number with the jog dial of the set

- Rotate the dial clockwise to increment the track number.
- Rotate the dial counterclockwise to decrement the track number.

● Specifying the track number with the numeric (0 to 9) buttons of the remote control unit

- To specify track No. 3 → Press 3.
- To specify track No. 12 → Press and hold 1 and then press 2 within less than 1.5 seconds.

* When a track number which does not exist on the disc is specified, "ERROR" is displayed.

In this case, specify a correct track number again.

● Specifying the track number with the SKIP buttons (▶▶) (◀◀) of the remote control unit

- Press the **FORWARD SKIP** button (▶▶) once to increment the track number.
- Press the **REVERSE SKIP** button (◀◀) once to decrement the track number.

Advice

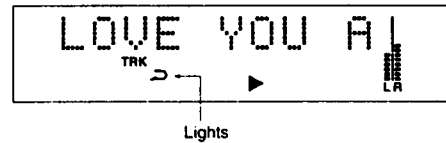
- * When the skip destination track number is specified in the play mode, normal playback will start from the start of the specified track number.
- * When the skip destination track number is specified in the pause mode, the set enters the pause mode at the beginning of the specified track number.
- * When the skip destination track number is specified in the stop mode, playback can be started from the beginning of the specified track number by pressing the **MD PLAY/PAUSE** button (▶/||) of the set or the **PLAY** button (▶) of the remote control unit.

Repeat

Each press of the **REPEAT** button (4) or (16) of the set changes the repeat modes as shown below.

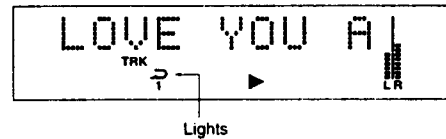
● All-track repeat

All tracks on the disc will be played repeatedly.

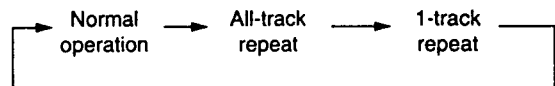


● 1-track repeat

The specified track will be played repeatedly.



* To cancel the repeat playback, press the **REPEAT** button once or twice more again.

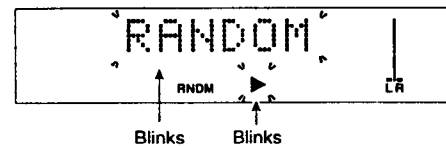


Random

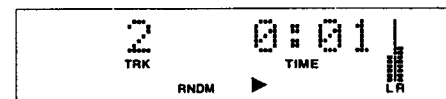
1. Press the **RANDOM** button (17) of the remote control unit in the stop mode.
2. "RANDOM" is displayed and all the tracks on the disc will be played in a random order.

* Random playback stops after every track on the disc has been played once.

The "RANDOM" display blinks.



The normal playback information is displayed after the track to be played next has been selected.



Advice

- * During random playback, one of the remaining tracks can be played by rotating the jog dial of the set clockwise or pressing the **FORWARD SKIP** button (▶▶) of the remote control unit.
- * If the **REPEAT** button of the remote control unit is pressed and then all-track repeat is selected, all the tracks are played once by random playback, and then the playback will be repeated selecting a new random order every time.

Different ways of playing

Program

● Programming tracks in a program

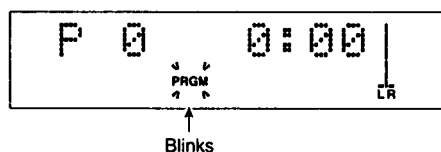
The following procedure allows the programming of up to 20 tracks in the desired order.

1. Press the **PROGRAM** button [9] of the remote control unit while the MD recorder is in the stop mode.
2. The tracks are programmed by entering the desired track numbers with the **numeric (0 to 9)** buttons [7] of the remote control unit.

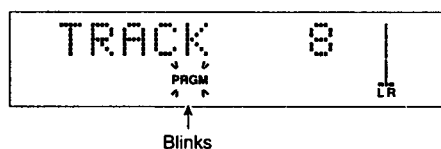
(When specifying a 2- or 3-digit track number, press the buttons at within 1.5 seconds of each other.)

- * Every time a track number has been programmed, the display shows the programmed track number and then the number of programmed tracks and their total playing time.

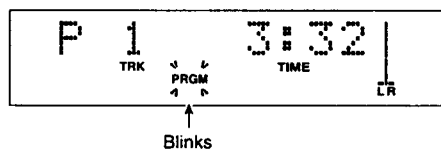
Display during programming standby



Display when track No. 8 is selected



Display after the first track has been programmed



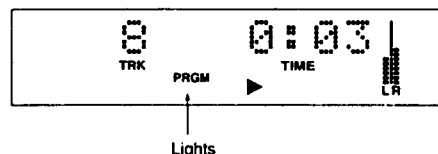
3. After programming all of the desired tracks, press the **PROGRAM** button of the remote control unit again to complete the programming and put the set in the stop mode.

Advice

- * Even after the programming has been completed, other tracks can be added to the existing program by pressing the **PROGRAM** button of the remote control unit again.

● Playing the program

After the programming has been completed or even during the programming of tracks, the program playback can be started by pressing the **PLAY/PAUSE** button (▶/||) [10] of the set or the **PLAY** button (▶) [9] of the remote control unit.



● Checking the program

During in the playback or pause mode of program playback, press the **PROGRAM** button of the remote control unit.

The programmed tracks are displayed in the order they were programmed.

● Clearing the program

Pressing the **EJECT** button ([5] or [3]) to clears the entire program.

The entire program can also be cleared by pressing the **STOP** button (■) while in the stop mode.

● Clearing a desired track from the program

1. Press the **PROGRAM** button of the remote control unit in the stop mode of program playback.
2. Pressing the **FORWARD SEARCH** button (▶▶) or **REVERSE SEARCH** button (◀◀) of the set, displays the program step numbers and programmed tracks.

When the track number to be cleared is displayed, press the **DELETE** button [20] of the remote control unit.

3. Press the **PROGRAM** button of the remote control unit again.

Timer playback

An MD can be played any time you like by connecting an audio timer or similar equipment.

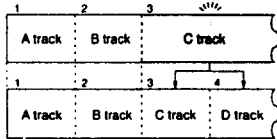
1. Connect all of the power plugs of the system to an external audio timer.
2. Load a MD when you want to play a MD.
3. Set the **TIMER** switch of the set to the "PLAY" position.
4. Set the input selector of the amplifier connected with this set to a position which allows to reproduce the playback of this set.
5. Set the connected audio timer.
 - * For the set-up procedure of the audio timer read its owner's manual.
6. When the set time is reached, the MD playback starts.
 - * When using the slim-line series CR2020 for timer playback, refer to the CR2020 instruction manual.

Editing a MD

Operations available by the editing functions

● Dividing a track (DIVIDE)

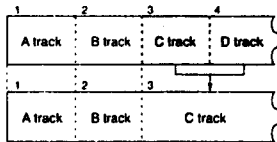
This function allows to divide a track into two at a desired position. (Refer to page 15.)



* The track numbers of the tracks after the divided track will be incremented by one.

● Combining two consecutive tracks (COMBINE)

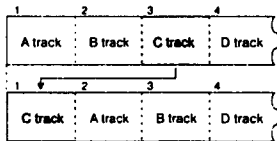
This function allows to combine two consecutive tracks into a single track. (Refer to page 15.)



* The track numbers of the tracks after the combined tracks will be decremented by one.

● Moving a track (MOVE)

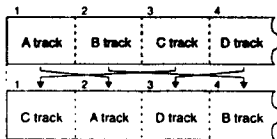
This function allows to move specified a track to a desired position. (Refer to page 16.)



* The track numbers are automatically adjusted after moving.

● Reordering tracks (PROGRAM MOVE)

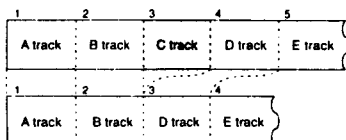
This function allows to change the order of the tracks to the order specified in the program mode. (Refer to page 16.)



* The track numbers are automatically adjusted after moving. (The track numbers of the non-programmed tracks are also adjusted and automatically placed after the programmed tracks.)

● Erasing track(s) (ERASE/ALL ERASE)

These functions allow to erase a specified track or all of the tracks on a disc. (Together with the disc name and track names.) (Refer to page 17.)



* The track numbers of the tracks after the erased track are decremented by one.

● Assigning a name to the disc or track (NAME)

This function allows to assign names to the disc and tracks. The track names are displayed during playback, search and skip operations so that the tracks can be easily identified. (Refer to pages 18 and 19.)



* The names can be entered using alphabet (uppercase and lowercase), numeric and symbol characters.

Editing procedure

The required editing functions can be selected from the editing menus. The functions which can be selected from the editing menus variable depending on the mode of the set when the editing is started.

Refer to Table 1 below.

1. Display editing menus

Press the **EDIT** button (Ⓛ or Ⓜ) to display an editing menu.

2. Selecting the editing menu.

Each press of the **EDIT** button changes the displayed editing menu.

3. Starting editing

Press the **ENTER** button to perform the editing of the selected menu.

* To abort the editing in the middle, press the **STOP** button.

4. Editing

The editing is performed in accordance with the following pages. (Refer to pages 15 to 19.)

5. Writing on the disc

In order to write the edited contents to the disc, it is necessary to press the **EJECT** button or **POWER** button and enter the **WRITING (TOC)** mode.

The table below shows the conditions of the set and the editing menus which can be selected in each condition.

Table 1

Editing menus	State of set	Stop mode	Stop mode	Play mode	Play-pause mode	Record mode	After programming
	(When the total number of tracks is displayed)	(When a track has been selected)					
Disc name	○	×	×	×	×	×	×
Track name	×	○	○	○	○	○	×
Divide	×	×	×	○	×	×	×
Combine	×	○	×	○	×	×	×
Move	×	○	×	○	×	×	×
Program move	×	×	×	×	×	×	○
Erase	×	○	×	○	×	×	×
All erase	○	×	×	×	×	×	×

○ : Editing possible

×

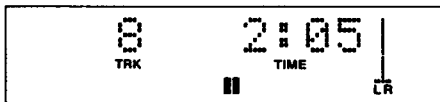
Editing a MD (Editing tracks)

Changing the boundaries between tracks

• Dividing a track (DIVIDE)

The following procedure allows to divide a track into two at the desired position.

1. During the playback of the track to be divided, press the **PLAY/PAUSE** button (▶/⏸) or **PAUSE** button (⏸) of the remote control unit.

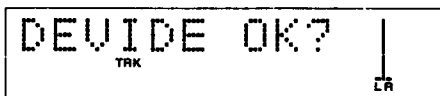
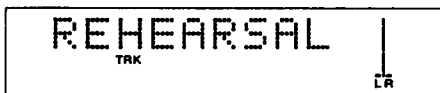


The set enters the pause mode.

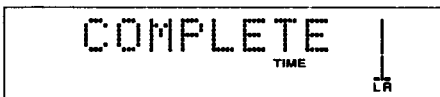
2. Press the **EDIT** button and select the "DIVIDE" editing menu.



3. Press the **ENTER** button. "REHEARSAL" is displayed and the track is played from 4 seconds before the place to be divided so that you can confirm the section to be divided. "REHEARSAL" and "DIVIDE OK?" are alternately displayed during the playback.



4. Press the **ENTER** button again to confirm the operation. "COMPLETE" is displayed.



5. After the divide operation is completed, the newly divided track is played.

The track numbers of the tracks after the former track obtained by the divide operation are incremented by one.

- * The divide operation can be canceled by pressing the **STOP** button (■) while the track is being played for rehearsal.

Advice

- * By using the **jog dial** or **SKIP** buttons (▶▶) (◀◀) during the rehearsal, the place for the track to be divided can be moved a little. (The place can be moved backwards or forwards approximately 7.5 seconds in steps of 0.06 seconds.)

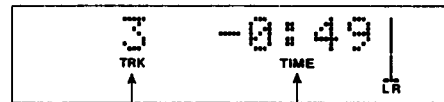
The movement of the place to be divided is checked by listening.

• Combining two consecutive tracks (COMBINE)

The following procedure allows to combine two consecutive tracks into a single track.

1. In the stop mode, specify the latter track to be combined using the **jog dial** of the set or the **SKIP** buttons (▶▶) (◀◀) of the remote control unit.

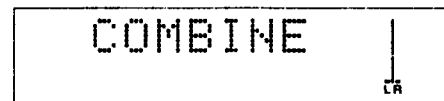
To combine tracks numbers 3 and 4, specify track number 3 in this step.



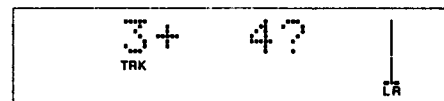
Track number of the latter track to be combined Remaining playing time of the track

- * Instead of the above step, it is also possible to press the **PLAY/PAUSE** button (▶/⏸) of the set or the **PAUSE** button (⏸) of the remote control unit during playback of the latter track to be combined.

2. Press the **EDIT** button and select the "COMBINE" editing menu.

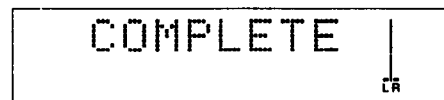


3. Press the **ENTER** button. A confirmation message is displayed. Confirmation message when combining track numbers 3 and 4

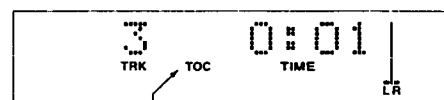


- * If you want to abort the operation, press the **STOP** button (■).

4. Press the **ENTER** button again.



The following message is then displayed.



Lights

The tracks are combined and the track numbers of the tracks after the combined tracks are decremented by one.

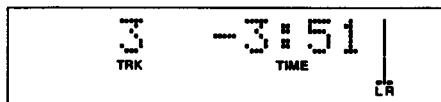
Editing a MD (Editing tracks)

Reordering tracks

● Moving a track (MOVE)

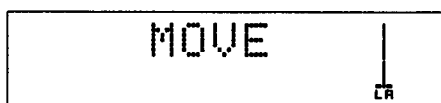
The following procedure allows to move specified a track to a desired position.

1. In the stop mode, specify the track to be moved using the jog dial of the set or the SKIP buttons (▶▶) (◀◀) of the remote control unit.

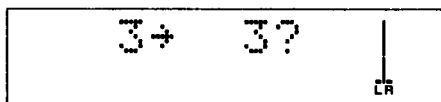


* Instead of the above step, it is also possible to press the PLAY/PAUSE button (▶/||) of the set or the PAUSE button (||) of the remote control unit during playback of the track to be moved.

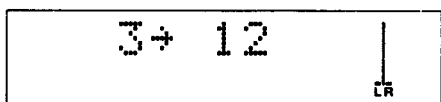
2. Press the EDIT button and select the "MOVE" editing menu.



3. Press the ENTER button. The message prompting the specification of the movement destination is displayed.

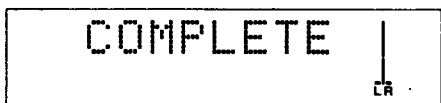


4. Use the jog dial of the set or the SKIP buttons (▶▶) (◀◀) of the remote control unit to input the movement destination.
When moving track number 3 to track number 12

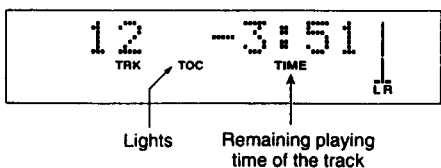


* If you want to abort the operation, press the STOP button (■).

5. Press the ENTER button again.



The following message is then displayed.



The track is moved and the set stops at the beginning of the track.

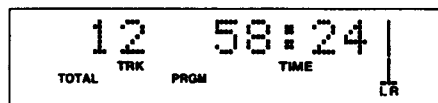
● Reordering tracks (PROGRAM MOVE)

The following procedure allows to change the order of the tracks to the order specified in the program mode.

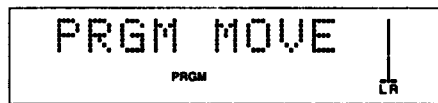
The non-programmed tracks are automatically placed after the programmed tracks.

If the same track is programmed twice or more, the program step where it is programmed last is given the priority.

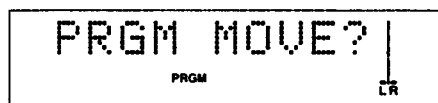
1. Program the tracks that you want to move and complete the programming.



2. Pressing the EDIT button, displays "PRGM MOVE".



3. Press the ENTER button. A confirmation message is displayed.

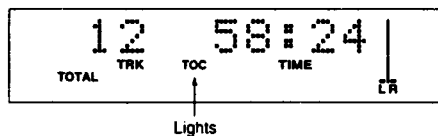


* If you want to abort the operation, press the STOP button (■).

4. Press the ENTER button again.



The following message is then displayed.



The tracks are reordered as programmed and the program is cleared.

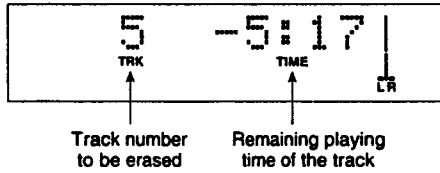
Editing a MD (Editing tracks)

Erasing track(s)

● Erasing a single track (ERASE)

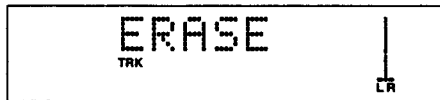
The following procedure allows to erase a specified track (together with its track name).

1. In the stop mode, specify the track to be erased using the **jog dial** of the set or the **SKIP buttons** (▶▶) (◀◀) of the remote control unit.

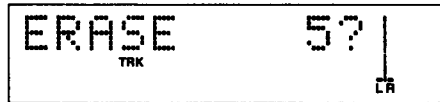


* Instead of the above step, it is also possible to press the **PLAY/PAUSE button** (▶/||) of the set or the **PAUSE button** (||) of the remote control unit during playback of the track to be erased.

2. Press the **EDIT button** and select the "ERASE" editing menu.



3. Press the **ENTER button**. A confirmation message is displayed.

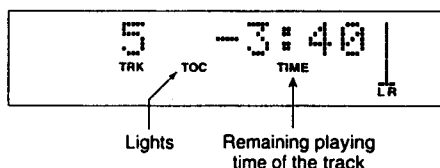


* If you want to abort the operation, press the **STOP button** (■).

4. Press the **ENTER button** again.



The following message is then displayed.



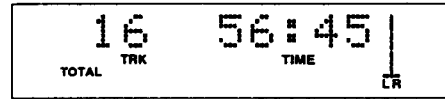
The track is erased and the set stops at the beginning of the next track.

The track numbers of the tracks after the erased track are decremented by one.

● Erasing all the tracks on a disc (ALL ERASE)

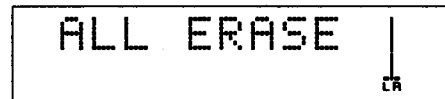
The following procedure allows to erase all of the tracks on a disc (together with the disc name and track names).

1. Put the set in the stop mode.

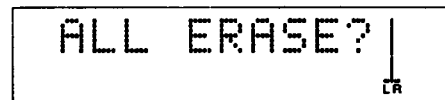


The total number of tracks on the MD and their total playing time are displayed.

2. Press the **EDIT button** and select the "ALL ERASE" editing menu.

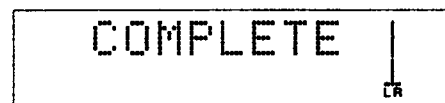


3. Press the **ENTER button**. A confirmation message is displayed.

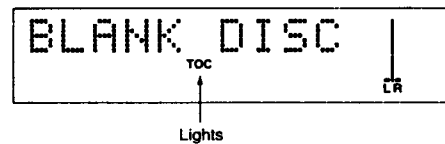


* If you want to abort the operation, press the **STOP button** (■).

4. Press the **ENTER button** again.



The following message is then displayed.



The MD becomes a blank disc.

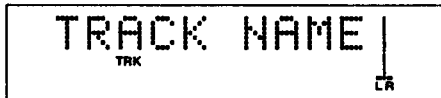
Editing a MD (Editing characters)

Assigning the track name (TRACK NAME)

The following procedure allows a name to be assigned to each track.

The track name is displayed when the track is selected to played.

1. In the stop mode, specify the track to be named by using the **jog dial** of the set or the **numeric (0 to 9) buttons** or **SKIP buttons (▶▶) (◀◀)** of the remote control unit.
2. Press the **EDIT button** and select the "TRACK NAME" editing menu.

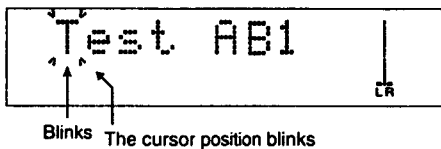


It is also permissible to press the **EDIT button** in the playback mode, pause mode, record mode of the track to be named. If the **EDIT button** is pressed in the playback mode, 1-track repeat playback of the track starts.

3. The rest of the procedure is the same as the steps from step no. 3 of "Assigning the disc name" on the previous page.

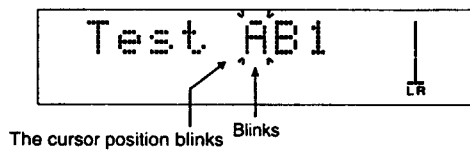
Modifying previously entered character(s)

First enter the same condition as that for assigning a disc name or track name. (The name modification operation is identical to the name assignment operation.)



● To delete character(s)

1. Press the **FORWARD SEARCH button (▶▶)** or **REVERSE SEARCH button (◀◀)** so that the character to be deleted to blink.



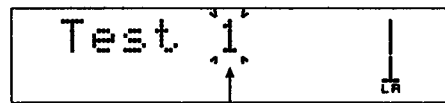
2. Press the **DELETE button ⑰** of the set or the **DELETE/TIME SET button ⑳** of the remote control unit.

The characters after the deleted character are shifted leftward



Blinks

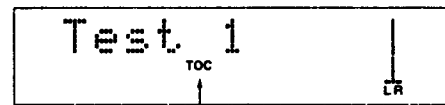
Each press of the **DELETE/TIME SET button** of the remote control unit deletes the character which is currently on the cursor position



Blinks

* If you want to abort the operation, press the **STOP button (■)**.

3. Press the **EDIT button**.

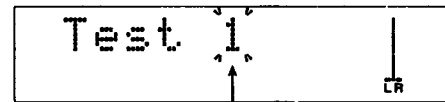


Lights

The editing is completed.

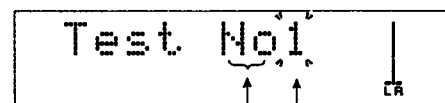
● To change a character

1. Press the **FORWARD SEARCH button (▶▶)** or the **REVERSE SEARCH button (◀◀)** so that the character to be changed blinks.



The cursor position blinks

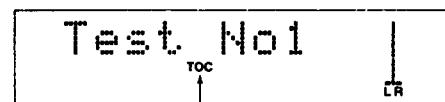
2. Select the character to replace the blinking character using the **jog dial** of the set or the **SKIP buttons (▶▶) (◀◀)** of the remote control unit, and press the **ENTER button**.



Insert character
Blinks

* If you want to abort the operation, press the **STOP button (■)**.

3. Press the **EDIT button**.



Lights

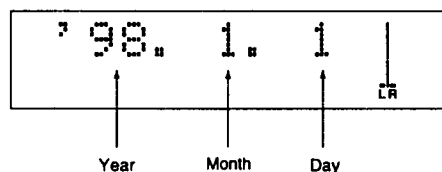
The editing is completed.

Other

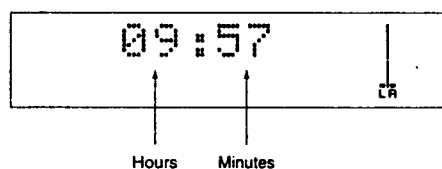
Setting the date and time

If the date and time are set, the date and time are automatically recorded on the MD when recording is performed.

1. Put the set in the stop mode.
2. The time setting function is started by pressing the **DELETE** button of the set or the **DELETE/TIME SET** button of the remote control unit for approximately 2 seconds.



3. Select the numbers of Year using the **jog dial** of the set or the **SKIP** buttons (**▶▶**) (**◀◀**) of the remote control unit. When the numbers of Year have been selected, press the **FORWARD SEARCH** button (**▶▶**) to move selection from "Year" to "Month". Set the numbers for the "Hours" and "Minutes" in the same way.



4. The setting is completed by pressing the **ENTER** button. The display returns to as it was before the setting operation.

Caution

If there is a power cut or the power plug is removed for more than 10 minutes, the settings are cleared.

Checking the date and time

1. Checking the recorded date and time
Press the **DATE/CHAR** button of the remote control unit during playback.
2. Checking the current date and time
Press and hold the **DATE/CHAR** button of the remote control unit in the stop mode.

* The information is displayed in the order of "Year, month, day" and "Hours, minutes".

Caution

If the date and time have not been set, nothing is displayed.

Combining with the slim-line series

This set has a remote control function which can perform system operations.

The system can be controlled by combining it with a MARANTZ slim-line series model CR2020 (receiver with CD player).

Caution

For the details of the connection method and operation method, refer to the model CR2020 owner's manual.

● System operation supplement: Timer recording

Example : Recording the model CR2020 tuner signal with this set

1. Set the **TIMER** switch of the set to the "REC" position.
2. Put the set in the record-pause mode and adjust the recording level.
3. Select the frequency (radio station) of the model CR2020.
4. Set the program time of the model CR2020. (Refer to the model CR2020 owner's manual.)
5. When the programmed time is reached the recording starts automatically.

● For people who have old slim-line series model CD1020 (CD player), model SD1020 (cassette deck), etc.

If the system is connected, recording from the CD to the MD or from the MD to the SD can be performed with one-touch. (For the details of the connection method, refer to the owner's manual of each device.)

<Dubbing from the CD to the MD>

1. Press the **DUBB.CD** button [5] of the remote control unit.
2. The CD1020 starts to play and the MD then starts to record.

<Dubbing from the MD to the SD>

1. Press the **DUBB.TAPE** button [4] of the remote control unit.
2. The SD1020 starts to record and the MD then starts to play.

Caution

The **DUBB.TAPE** button can not be used to perform dubbing from the SD1020 to the MD2020.

Other

Usage precautions Maintenance

- When the set becomes dirty, wipe it with a soft, dry cloth. If the set is seriously stained, soak a soft cloth in a 5x to 6x solution of neutral detergent, wring the cloth well, wipe the stain away, and wipe moisture with a soft, dry cloth.
- Never use alcohol, thinner, benzene, insecticide or any other volatile agent, for these chemicals will strip the paint off and spoil the glossy finish.
Also do not clean the set with a chemical cloth or leave the set in a long contact with it, for this may deteriorate the surface finish or strip the coating off.

Operation precautions

- Glasses in a heated room in winter are often dimmed or misted because of condensation of dew. Since the MD recorder uses optical lenses inside, a similar phenomena also occurs in the following situations.
 - In a room immediately after the start of heating.
 - In a room with high humidity.
 - When the set is transported from a cold place into a heated room.When condensation occurs, the MD recorder may malfunction because it can not read the track data. In this case, leave the set for about half an hour before trying to use it again.
- The MD recorder may interfere with the reception of your tuner or TV. In this case, install the MD recorder at a larger distance from the tuner or TV.
- The MD features very small noise compared to analog disc and the noise is almost inaudible until the music starts. Do not set the volume level of the amplifier too high, otherwise other audio components may be damaged once the music starts.

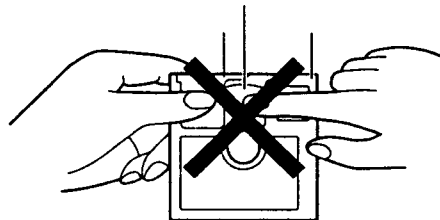
Handling of dry cell batteries

Improper use of batteries may lead to battery fluid leakage or even explosion. Be specially careful in the following points.

- Insert batteries with the correct + ve and - ve polarity as indicated on the equipment.
- Do not use new and used batteries together.
- The battery voltage may be variable between batteries of the same dimensions. Be sure not to use batteries of different types together.
- Some batteries are rechargeable and some are not. Be sure to read the caution indications on each battery before use.

Notes on the MD

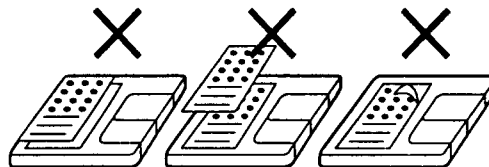
- Do not touch the disc directly



- * Do not touch the internal disc directly by opening the shutter.
- * The cartridge may be broken if you force the shutter open.

Caution in attaching a label

If you want to attach a label on the MD cartridge, be sure to observe the following caution.
If a label is applied improperly, the MD may be stuck inside the set and unable to be ejected.



Caution

- * Attach the label properly within the specified area.
- * Do not attach two labels by overlapping them.
- * If a label is curled or half peeled, replace it by attaching a new label.

Removing the power plug

- When moving the set, when there is a power cut, when performing timer recording, etc.

Although this set uses built-in backup batteries, if the specified time is exceeded, the set is returned to the initial settings.

1. The backup time for the time setting is approx. 10 minutes.
2. The backup time for the TOC data and input mode (digital/analog) is approximately 2 days.

Other

Displayed error messages

Message	Significance	Treatment
NO DISC	No MD is loaded. The MD data can not be read.	Load an MD. Eject and reload the MD.
DISC FULL	The MD has no more space for recording.	Replace the MD with a recordable MD.
BLANK DISC	Nothing is recorded on the MD. (Neither music nor disc name are recorded.)	If you want to play a MD, replace with a previously recorded MD.
0 0:00	Music is not recorded on the MD.	Replace the MD with a previously recorded MD.
PLAY ONLY	You are attempting to record or edit a playback-only MD.	Replace the MD with a recordable MD.
PROTECTED	The MD is protected against accidental erasure.	Release the accidental erasure protection.
TOC FULL	The MD has no space for writing track numbers and character information (disc name, track names, etc.).	Replace the MD with a recordable MD.
Can't REC	Proper recording was not made due to a shock or disc scratch.	Retry recording or replace the MD.
Can't EDIT	Editing is not possible.	Restart editing by Changing the track stop position.
NAME FULL	The disc name/track name characters have exceed 63 characters.	Shorten the disc name or track name.
Can't COPY	You are attempting to copy a copy-prohibited material.	Replace the source with a copy-permitted source (ordinary CD etc.).
DISC ERR	Data other than audio data is recorded. The recorded TOC data does not meet the MD specification or is otherwise illegible.	Select another track. Replace the MD. Replace the MD with another MD. Perform ALL ERASE and restart recording.
WRITE ERR	The TOC data cannot be written properly due to a shock or disc scratch.	Turn the power off and on again and write the data again. (Be careful not to subject the set to shocks while writing.)
IN UNLOCK	Normal signal is not input while the digital input is selected.	Check that the connection to the DIGITAL input connector is made properly. Use the ANALOG input if you do not have to record the digital input.
ERROR	The operation is incorrect.	Read the owner's manual again and perform the operation again.

MD system restrictions

Since the MD is recorded with a different recording system from the cassette tape, DAT, etc., it is subjected to some system restrictions. These restrictions may cause trouble phenomena as listed below, but please remember that this is due to the system restrictions and not a malfunction.

Trouble	Restrictions applied
"TOC FULL" is displayed before the available recording time expires.	The MD system records the boundaries between the recorded sections in the TOC. Therefore, if recording or editing is repeated by erasing parts of the tracks, the TOC data may become full and recording becomes unavailable before the number of tracks reaches the maximum (254 tracks). (Such an MD can be used again from the blank stage by performing ALL ERASE.) When the disc is scratched or otherwise damaged, these sections become automatically unavailable for recording and the available recording time decreases in such a case.
The remaining recording time does not increase although you have erased several short tracks from it.	The remaining recording time display sometimes ignores short tracks below 12 seconds. The minimum unit for recording data is usually the cluster (approx. 2 seconds). As shorter data than 2 seconds uses the space for approx. 2 seconds, the actually available recording time becomes shorter than rated. Also, if the MD is scratched, the scratched sections become automatically unavailable for recording so the time corresponding to them decreases. (If a scratch is encountered during recording, "DEFECT" is displayed and the MD track number is automatically incremented by one.)
The total of the elapsed recording time and remaining recording time does not coincide with the available recording time.	With a MD on which recording and editing have been repeated, it is sometimes impossible to use the COMBINE function. It is not possible to combine a track recorded through the digital input (from a CD, MD, etc.) and a track recorded through the analog input.
The COMBINE editing is sometimes impossible.	With a MD on which recording and editing have been repeated, the audio may sometimes be interrupted during forward or reverse searches.
Audio is interrupted during forward or reverse searches.	

Other

Trouble shooting

When the set seems to be faulty, check the following before calling for service.

A simple mistake in operation is often mistaken as a malfunction of the set.

If the trouble persists after checking the following please consult your dealer or nearest MARANTZ distributor or MARANTZ-authorized service agent.

Remote control is not possible.

1. Is the remote control unit (RC2020MD) pointed properly towards the remote control sensor of the set? Isn't there any obstacle between them?
2. Are the batteries of the remote control unit (RC2020MD) exhausted?
3. Is there any strong light incident to the remote control sensor of the set?
4. Is the **REMOTE switch** on the rear panel set to **EXTERNAL** or **SYSTEM**?

The MD does not function.

1. Is the power cord connected properly?
2. Is the **POWER switch** set to **ON**?
3. Is the **PAUSE button** pressed?

The MD functions but no sound is output.

1. Is the MD recorded previously?
2. Are the amplifier and speakers properly connected?
3. Is the amplifier's volume control set to the minimum position?

MD recording is not possible.

1. Is a MD loaded?
2. Is the accidental erasure prevention tab on the MD edge closed?
 - Is the recording level set to "MIN"?

Sound is distorted.

1. Was the recording level of the MD too high?

Hum interferes with the audio.

1. Are the connection cords properly connected?
2. Is there any source of magnetism (including a TV, motor or transformer) located near the set?
3. When the set is stacked on or under an amplifier, the set may pick up hum noise depending on the amplifier model.

In this case, install the set in a position where it is not affected by the amplifier. The same applies also when the set is installed near a TV set.

4. Try plugging the power cord into the power outlet ("1/2A, 1/2B": 230 V, "K": 110 V or 220 V AC) by inverting the left and right blades.

* The set incorporates a high-performance microcomputer. Should the microcomputer seem to be malfunctioning due to static electricity, etc., unplug the power cord from the power outlet, wait for about half a minute, plug the power cord again the outlet and press the **RESET button** on the rear panel of the set once.

Pressing the reset button clears the contents of the memory (TOC, input mode, time) and returns the set to its initial settings.

Specifications

Audio characteristics

Channel	Stereo - 2 channels
Monaural (LP mode)	1 channel
Frequency characteristic	20 to 20,000 Hz, ±0.5 dB
Recording system	Magnetic field modulation overwrite system
Dynamic range	90 dB or greater
S/N ratio	90 dB or greater
Channel separation	85 dB or greater (1,000 Hz)
THD	0.01% or less (1,000 Hz)
Wow & flutter	Precision of crystal
Error correction system	Advanced Cross-Interleave Read Solomon Code (ACIRC)
Coding	Adaptive Transform Acoustic Coding (ATRAC)
Audio output	2 V RMS, stereo
Audio input	250 mV RMS, stereo
Optical output (rectangular optical connector)	-19 dBm
Optical input (rectangular optical connector)	-19 dBm

Optical reading system

Laser	AlGaAs semiconductor laser
Wavelength	780 nm
Sampling frequency	44.1 kHz (32 kHz and 48 kHz inputs are converted into 44.1 kHz)

Power supply

"1/2A" and "1/2B" : 230V,
"K" : 110V/220V AC, 50 Hz

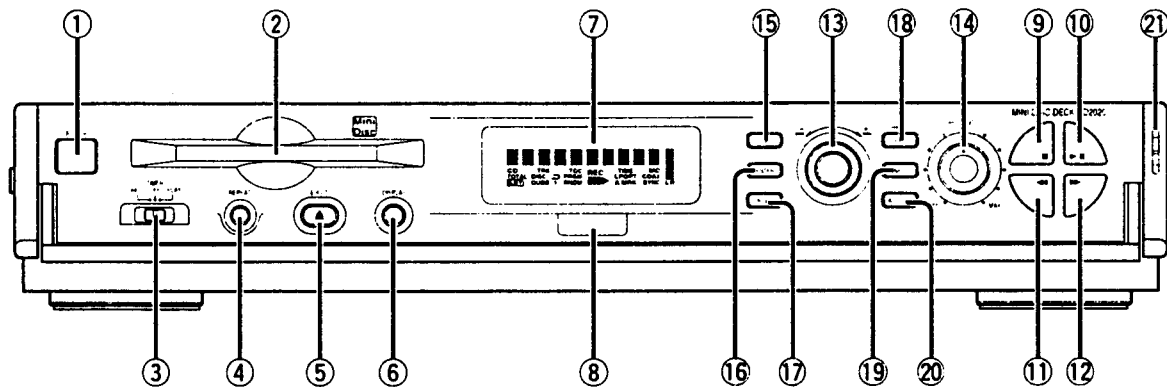
Power consumption	8 W
Maximum dimensions	422 (W) X 76 (H) X 309 (D) mm
Weight	4.2 kg
Permissible operating temperature	+5°C to +35°C
Permissible operating humidity	5 to 90 % (without condensation)

Design and specifications are subject to change without notice.

Other

Controls, connectors and indicators

Front panel (MD2020)



① POWER button

When this button is pressed once, the power turns ON and display appear on the display panel. When pressed again, the power turns OFF and the "S-BY" indicator lights.

When the switch is in the OFF position, the apparatus is NOT disconnected from the AC supply mains.

Suomi

Käyttökytkin on kytketty toisipuolelle eikä se kytke laitetta irti sähköverkosta. Sisäänrakennettu verkko-osa on kytkettynä sähköverkkoon aina silloin, kun pistoke on pistorasiassa.

② MD holder

This is where MD is inserted.

③ TIMER switch

Used for unattended recording or wake-up playback using an external audio timer.

④ REPEAT button

Selects all-track repeat and 1-track repeat playback.

⑤ ▲ EJECT button

Press to eject the MD.

⑥ DISPLAY button

Press to change the display of the MD time information and MD disc name etc.

⑦ Display

Indicates the operation status of the set.

(For the details, refer to page 26.)

⑧ Remote control sensor

This is the infrared light sensor receiving the remote control signals.

⑨ ■ (STOP) button

Press to stop playback.

⑩ ►/|| (PLAY/PAUSE) button

Press to start playback. Pressing during playback enters the pause mode.

⑪ ◀◀ (REVERSE SEARCH) button

Pressing during playback searches in the reverse duration while pressed.

⑫ ▶▶ (FORWARD SEARCH) button

Pressing during playback searches in the forward duration while pressed.

⑬ Jog dial

Used for skipping during MD playback, selecting tracks for programming, selecting characters to be entered, selecting characters in the editing mode, etc.

⑭ REC LEVEL dial

Adjusts the recording level for analog line input.

⑮ EDIT button

Press to select the MD editing mode.

⑯ ENTER button

Press to decide the various setting such as the MD editing mode, dubbing mode, input character, etc.

⑰ DELETE button

1. Press when editing the MD characters and when deleting characters.

2. Press when setting the time.

⑱ REC PAUSE (Record-pause) button

Press to enter the record-pause mode.

⑲ INPUT button

Press to change the source to be recorded.

⑳ A.L.SYNC button

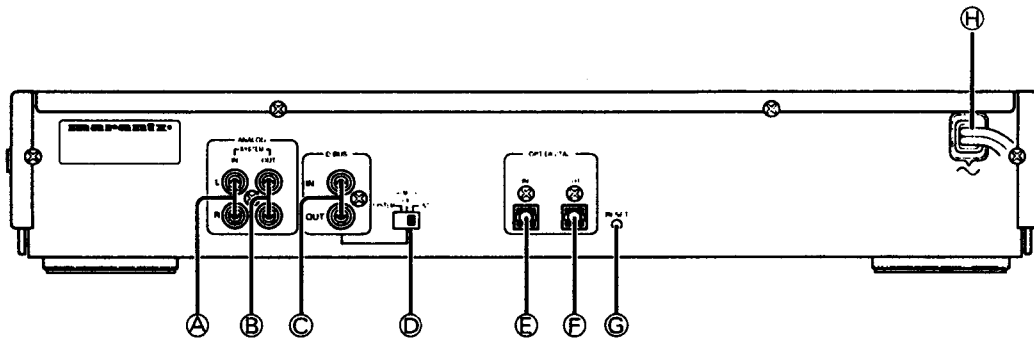
Press to automatically start the recording.

㉑ Door open/close button

Press to open or close the door.

Other

Rear panel (MD2020)



Ⓐ ANALOG LINE IN jacks

Analog signal input jacks.

Connect to the TAPE OUT jacks of your amplifier. Be sure to connect the red plug to the R jack and the white plug to the L jack.

Ⓑ ANALOG LINE OUT jacks

Analog signal output jacks.

Connect to the TAPE IN or AUX jacks of your amplifier.

* Do not connect to the PHONO input jack of the amplifier.

Ⓒ REMOTE CONTROL input/output jacks

By connecting the set with a MARANTZ component which has the remote control capability (D-BUS jacks), the components can be remote controlled as a system.

Ⓓ REMOTE switch

(EXTERNAL -INTERNAL)

● INTERNAL

When using the set normally, set the switch to INTERNAL. It can be controlled with the accessory remote control unit.

● EXTERNAL

Set the switch to EXTERNAL when connecting the set with a MARANTZ component which has the remote control capability (D-BUS jacks).

● SYSTEM

Set the switch to SYSTEM when combining the set with a slim-line series model CR2020 (receiver with CD player).

Ⓔ DIGITAL OPTICAL IN connector

(Refer to "Using the OPTICAL DIGITAL input/output connectors" on page 4.)

Ⓕ DIGITAL OPTICAL OUT connector

(Refer to "Using the OPTICAL DIGITAL input/output connectors" on page 4.)

Ⓖ RESET switch

This switch is used in the case that the displayed contents become erroneous or the operation controls are not accepted due to strong external noise, etc.

(For the details of the operation method, refer to page 23.)

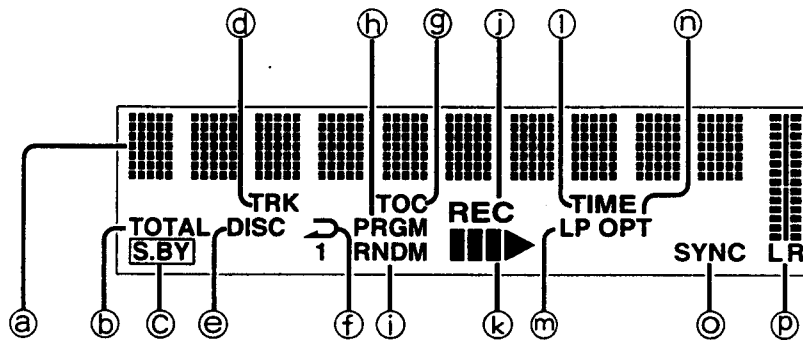
Ⓗ Power cord

Plug the power cord into a household AC power outlet.

* For details of the connections of the jacks and connectors, refer to "Connection method" on page 4.

Other

Display (MD2020)



Ⓐ Disc Information character display

Displays the operating modes, the CD and MD time information, the MD name, etc., using alphabet and numerical characters.

Ⓑ TOTAL

Lights when the total time information is displayed.

Ⓒ S.BY (Standby)

Lights up to indicate the power standby mode.

Ⓓ TRK (Track)

Lights up when the track number is displayed.

Ⓔ DISC

Lights up when the MD name is displayed.

⓫ Repeat indicators (Repeat symbol "↺" and "1")

Lights during repeat playback. This indicator lights alone to indicate all-track repeat and lights together with the figure "1" to indicate 1-track repeat.

⓬ TOC (Table of Contents)

Lights up while the TOC (Table of Contents) data is being recorded.

⓭ PRGM (Program)

Lights up to indicate the program mode.

⓮ RNDM (Random)

Lights up to indicate the random play mode.

⓯ REC (Record)

Lights up to indicate the MD record mode.

⓰ Operation indicator

Lights up to indicate the operation modes such as play, pause, search, etc.

⓱ TIME

Lights up when the time information is displayed.

⓲ LP (Long Play)

Lights up to indicate the monaural long-play (LP) mode.

⓳ OPT (Digital optical)

Lights up when the recording source is set to the digital optical input signal.

⓴ SYNC (Synchro recording)

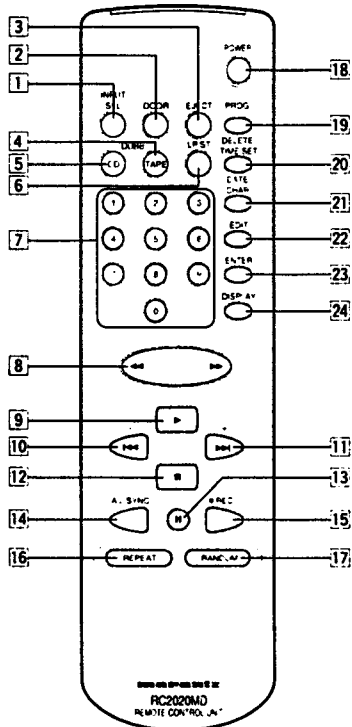
Lights up when the synchro recording function is active.

⓵ Level meter

Displays the L and R audio levels.

Other

Remote control unit (RC2020MD)



1 INPUT SEL button

Press to change the recording sources.

2 DOOR button

Press to open and close the door.

3 EJECT button

Press to eject the MD.

4 DUBB.TAPE button

DUBB.CD button

6 LP/ST button

Press to change between the stereo recording and monaural LP recording modes.

7 Numeric (0 to 9) buttons

Used to input the figures of track numbers, etc.

8 ►►/◄◄ (Forward search/reverse search) buttons

Press and hold during playback to search forwards or backwards.

9 ► (Play) button

Press to start playback.

10 ◄◄ (Skip) button

Press to skip the same number of tracks in the reverse direction as the number of times the button is pressed and start playback from the skip destination in play mode.

11 ►► (Skip) button

Press to skip the same number of tracks in the forward direction as the number of times the button is pressed and start playback from the skip destination in play mode.

12 ■ (Stop) button

Press to stop playback.

13 || (Pause) button

Press during playback to let it pause temporarily. Pressing again resumes playback.

14 A.L.SYNC button

Press to automatically start the recording.

15 ● REC button

Press to enter the record-pause mode.

16 REPEAT button

Press to start all-track repeat, 1-track repeat, program repeat or random repeat playback.

17 RANDOM button

Press to play tracks in a random order.

18 POWER button

Press to turn the power supply on and press again to return to the power standby mode.

19 PROGRAM button

Press to select desired tracks from a disc and play them in the desired order.

20 DELETE button

Press to delete characters or clear the programmed tracks, etc. Also press when setting the time.

21 DATE/CHAR button

Press to change the entered character type. Press to display the recorded date and time.

22 EDIT button

Press to select the MD editing modes.

23 ENTER button

Press to decide the various setting such as the MD editing mode, dubbing mode, input character, etc.

24 DISPLAY button

Press to change the display contents to the MD time information or disc name etc.

AUSTRALIA
Marantz Australia
3 Figree Drive
Homebush Bay NSW 2140
Australia

AUSTRIA
Huber & Prohaska GmbH
River Trade Center
Wehlistrasse 27
A-1200 Wien
Austria

BELGIUM
Van der Heyden Audio NV
Brusselbaan 278
9320 Aalst
Belgium

CYPRUS
Empire Music House Ltd.
P. O. Box 5604
Nicosia
Cyprus

CZECH REPUBLIC
Audio International
Konecna 1
67801 Blansko
Czech Republic

DENMARK
Hifi Klubben
Vester Alle 7
8000 Aarhus C
Denmark

DUBAI
V.V. & Sons
P.O. Box 105
Dubai
U.A.E.

FINLAND
Hifi Klubi
Uudenmaankatu 4-6
00120 Helsinki
Finland

FRANCE
Marantz France
Rue Bernard Palissy
92000 Asnieres
France

GERMANY
Marantz Deutschland
Postfach 3129
49021 Osnabruck
Germany

GREAT BRITAIN
Marantz Hifi U. K. Ltd.
Kingsbridge House
Padbury Oaks
575-583 Bath Road
Longford Middlesex
UB7 0EH
United Kingdom

GREECE
Adamco Electr. S.A.
P.O. Box 21025
Hippocratous str. 188
Athens 11471
Greece

HUNGARY
Infovox Ltd.
Terez Krt. 31
1067 Budapest
Hungary

ISRAEL
Elmor Agency Ltd.
Kehilat Saloniki Street 7
69513
Tel Aviv
Israel

ITALY
Marantz Italiana SPA
Piazza IV Novembre 3
20124 Milano
Italy

JAPAN
Marantz Japan Inc.
35-1, 7-chome
Sagamiono
Sagamihara-shi, Kanagawa
Japan

KUWAIT
Alalamiah Electronics
P.O. Box 8196
Salmiah
22052
Kuwait

LEBANON
AZ Electronics S.A, 1.
P.O. Box 11-2833
Beirut
Lebanon

MALTA
Doneo Co. Ltd.
78. The Strand
SLM 07 Sliema
Malta

MAURITIUS
Lo Thiap Hing Ltd.
Ramphul Building
8, Chaussée Street
Port Louis
Mauritius

NETHERLANDS
Marantz Europe B.V.
Div. Trading
P.O. Box 80002
Building SFF-2
5600 JB Eindhoven
The Netherlands

NEW ZEALAND
Private Bag 41904
St. Lukes
Auckland
New Zealand

NORWAY
Hifi Klubben A. S.
P. O. Box 4776
Sofienberg
0506 Oslo 1
Norway

PORTUGAL
Corel
Av. da Liberdade
211-2 esq.
1250 Lisboa
Portugal

QATAR
Almana & Partners W. L. L.
P.O. Box 49
Doha
Qatar

SAUDI ARABIA
Alalamiah Electronics
P. O. Box 5954
University Street
Riyadh 11432
Saudi Arabia

SLOVENIA
Bofex
Smartnska 152
HALA V/3
61000 Ljubljana
Slovenia

SOUTH AFRICA
Marantz South Africa
P.O. Box 58088
Newville
South Africa

SPAIN
Marantz Spain
Martinez Villergas 2
Apartado 2065
Madrid 28027
Spain

SWEDEN
Hifi Klubben A. B.
P. O. Box 5116
40223 Gotenborg
Sweden

SWITZERLAND
Marantz Switzerland
Postfach 8010
Zürich-Mullingen
Switzerland

TURKEY
Penta Elektronik
Selvi Kokak no. 4/1
Senlikkoy 34810
Floya-Istanbul
Turkey

EXPORT
Marantz Europe B.V.
Div. Trading
P. O. Box 80002
Building SFF-2
5600 JB Eindhoven
The Netherlands

US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

marantz® is a registered trademark.

