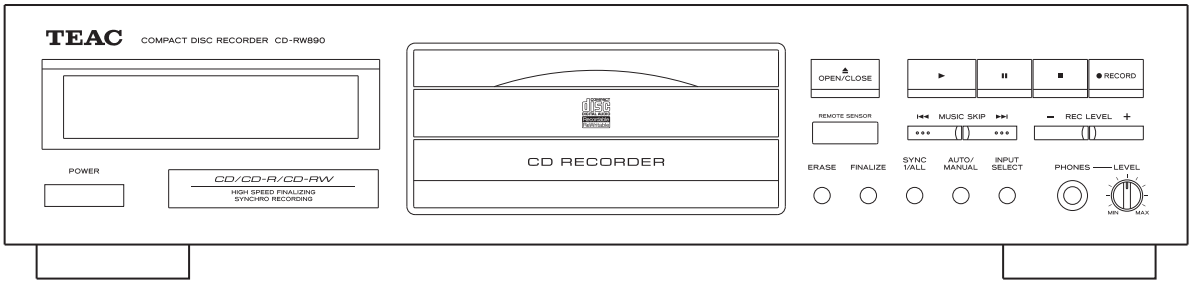
TEAC

77-20RW89000020

CD-RW890

CD Recorder

OWNER'S MANUAL



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

- Do not expose this apparatus to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the apparatus.
- Do not install this apparatus in a confined space such as a book case or similar unit.
- The apparatus draws nominal non-operating power from the AC outlet with its POWER or STANDBY/ON switch not in the ON position.
- The apparatus should be located close enough to the AC outlet so that you can easily grasp the power cord plug at any time.
- The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.
- If the product uses batteries (including a battery pack or installed batteries), they should not be exposed to sunshine, fire or excessive heat.
- Caution should be taken when using earphones or headphones with the product because excessive sound pressure (volume) from earphones or headphones can cause hearing loss.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

- DO NOT REMOVE THE EXTERNAL CASES OR CABINETS TO EXPOSE THE ELECTRONICS. NO USER SERVICEABLE PARTS ARE WITHIN.
- IF YOU ARE EXPERIENCING PROBLEMS WITH THIS PRODUCT, CONTACT TEAC FOR A SERVICE REFERRAL. DO NOT USE THE PRODUCT UNTIL IT HAS BEEN REPAIRED.
- USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

For U.S.A.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

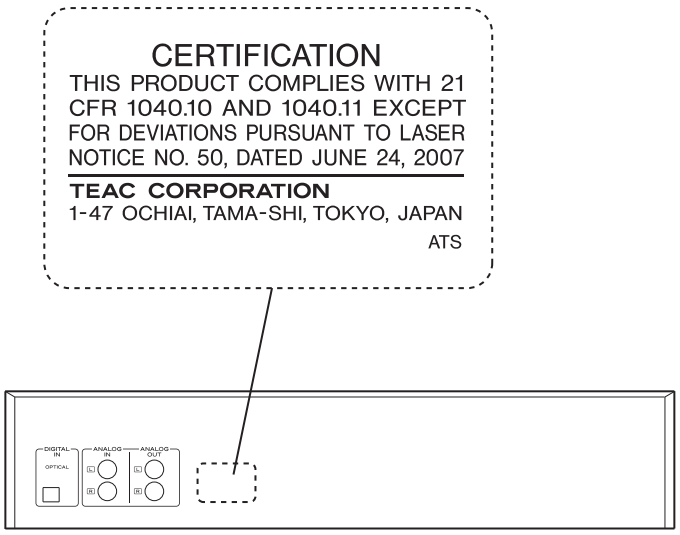
CAUTION

Changes or modifications to this equipments not expressly approved by TEAC CORPORATION for compliance will void the user's warranty.

CLASS II apparatus with double insulation, and no protective earth provided.

This product has been designed and manufactured according to FDA regulations "title 21, CFR, chapter 1, subchapter J, based on the Radiation Control for Health and Safety Act of 1968", and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings.
The label required in this regulation is shown ①.

① For U.S.A.



Optical pickup :

Type:	SF-DS1XD
Manufacturer:	SANYO ELECTRIC CO., LTD.
Laser output:	Less than 1.6 mW (Play) on the objective lens Less than 47 mW (Record) on the objective lens Less than 13 mW (Erase) on the objective lens
Wavelength:	785 nm

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Thank you for choosing TEAC. Read this manual carefully to get the best performance from this unit.

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Before Using the Unit

Read this before attempting any operations.

- The nominal temperature should be between 5°C and 35°C (41°F and 95°F). The CD-RW recorder is more sensitive to extremes of temperature than ordinary CD players.
- Relative humidity should be 30 to 85 percent non condensing.
- As the unit may become warm during operation, always leave sufficient space around the unit for ventilation.
- The voltage supplied to the unit should match the voltage as printed on the rear panel. If you are in any doubt regarding this matter, consult an electrician.
- Choose the installation location of your unit carefully. Avoid placing it in direct sunlight or close to a source of heat. Also avoid locations subject to vibrations and excessive dust, heat, cold or moisture.
- Do not place the unit on an amplifier/receiver.
- Do not open the cabinet as this might result in damage to the circuitry or electrical shock. If a foreign object should get into the unit, contact your dealer or service company.
- When removing the power plug from the wall outlet, always pull directly on the plug, never yank the cord.
- To keep the laser pickup clean, do not touch it and always close the disc tray.
- Do not attempt to clean the unit with chemical solvents as this might damage the finish. Use a clean, dry cloth.
- Keep this manual in a safe place for future reference.
- Do not tilt the main unit while a disc is inserted. Doing so may cause a malfunction.

DO NOT MOVE THE UNIT DURING PLAYBACK/RECORDING

During playback or recording, the disc rotates at high speed. Do NOT lift or move the unit during playback or recording. Doing so may damage the disc or the unit.

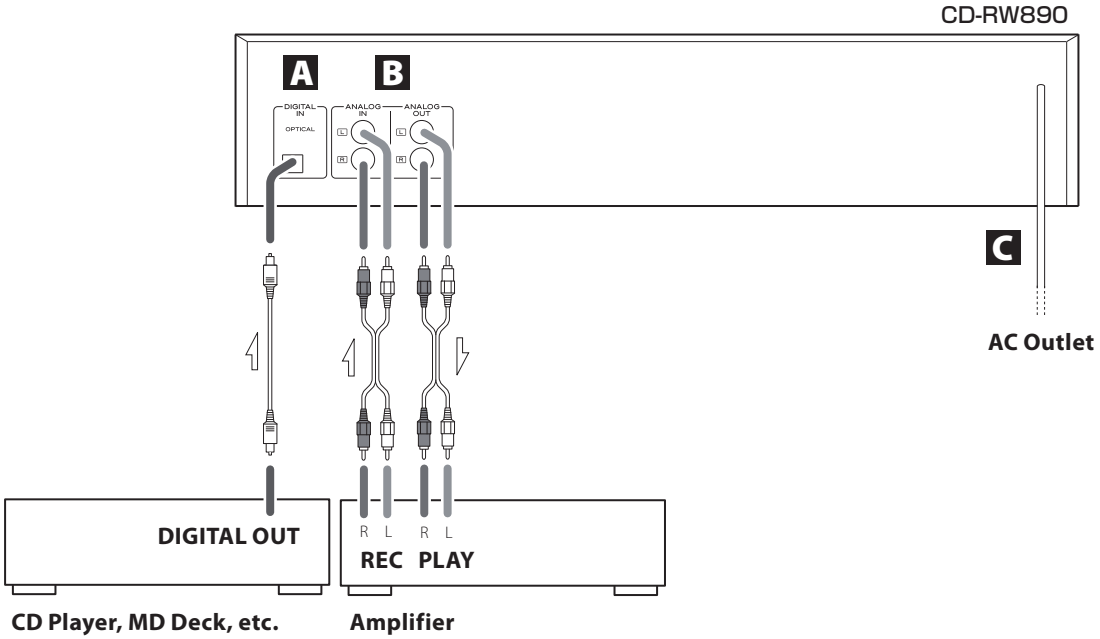
WHEN MOVING THIS UNIT

When changing the unit's location or packing the unit for moving, be sure to remove the disc. Moving this unit with the disc loaded may result in damage to this unit.

Connections

CAUTION:

- Switch off the power to all equipment before making connections.
- Read the instructions of each component you intend to use with this unit.
- Be sure to insert each plug securely. To prevent hum and noise, avoid bundling the signal interconnection cables together with the AC power cord.



A DIGITAL IN terminal

To record digital audio signals, connect this terminal to the digital output terminal of a digital device such as a CD player with a commercially available optical digital cable.

- Keep the supplied cap to cover the terminal when it is not in use.

B ANALOG IN/OUT jacks

Analog 2-channel audio signal is input or output from these jacks. Connect these jacks to the amplifier with RCA cables.

CD-RW890	**Amplifier**
ANALOG OUT →	CD-R (TAPE) PLAY
ANALOG IN →	CD-R (TAPE) REC

Make sure to connect:
white plug → white jack (L: left channel)
red plug → red jack (R: right channel)

C AC Power Cord

After all other connections are complete, connect the plug to the AC wall socket.

Be sure to connect the power cord to an AC outlet which supplies the correct voltage. Hold the power plug when plugging or unplugging the power cord. Never pull or yank on the power cord.

- If the unit will not be used for a long period of time, unplug the power cord.

Discs

Playable discs

Please use CD discs bearing the "COMPACT disc DIGITAL AUDIO" logo.

CD-R and CD-RW discs properly recorded and finalized in audio CD format.

The main unit can play the above discs without an adapter. Other discs are not available.

⚠ **If you attempt to play discs other than the above, a loud noise may occur to damage the speakers or your hearing. Do not play such discs.**

- Copy-protected discs, DualDiscs and other discs which do not conform to the CD standard may not play back correctly in this player. If you use such discs in this unit, TEAC Corporation and its subsidiaries cannot be responsible for any consequences or guarantee the quality of reproduction. If you experience problems with such non-standard discs, you should contact the producers of the disc.

About CD-R and CD-RW discs

The main unit can play CD-R and CD-RW discs recorded in audio CD format (CD-DA).

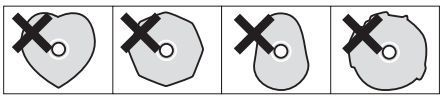
- Remember to finalize a disc recorded with the CD recorder.
- Depending on the quality of the disc and/or the condition of the recording, some CD-R/CD-RW discs may not be playable.
- If you are in any doubt as to the care and handling of a CD-R/CD-RW disc, read the precautions supplied with the disc, or contact the disc manufacturer directly.

Recordable discs

CD-R and CD-RW discs bearing the "DIGITAL AUDIO" logo

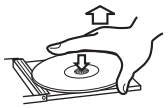
Cautions for use

- Do not use cracked discs as doing so may cause a malfunction.
- Printable CD-R and CD-RW discs are not recommended, as the label side might be sticky and damage the unit.
- Do not stick papers or protective sheets on the discs and do not use any protective coating spray.
- Use a soft oil-based felt-tipped pen to write the information on the label side. Never use a ball-point or hard-tipped pen, as this may cause damage to the recorded side.
- Never use a stabilizer. Using commercially available CD stabilizers with this unit will damage the mechanism and cause them to malfunction.
- Do not use CDs with an irregular shape (octagonal, heart shaped, business card size, etc.). CDs of this sort can damage the unit:



Handling disc

- Always place the disc on the disc tray with the label side uppermost. (Compact discs can be played or recorded only on one side.)
- Scratches, fingerprints, dirt, etc. on the signal recording surface (without labels) may cause a playback error. Be careful when handling.
- To remove a disc from its storage case, press down on the center of the case and lift the disc out, holding it carefully by the edges.



How to remove the disc

How to hold the disc

Storing disc

- Discs should be returned to their cases after use to avoid dust and scratches that could cause the laser pickup to "skip".
- Do not expose discs to direct sunlight or high humidity and temperature for extended periods. Long exposure to high temperatures will warp the disc.
- CD-R and CD-RW discs are more sensitive to the effects of heat and ultraviolet rays than ordinary CDs. It is important that they are not stored in a location where direct sunlight will fall on them, and away from sources of heat such as radiators or heat-generating electrical devices.
- Dirt on the disc may cause the sound to skip or lower the sound quality. Always keep it clean when storing.

Maintenance

- Should the disc become dirty, wipe the surface radially (from the center hole outward towards the outer edge) with a soft, dry cloth:

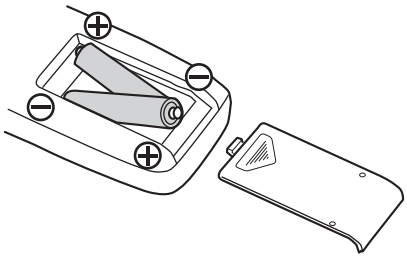
- Never use such chemicals as record sprays, antistatic sprays or fluid, benzine or thinner to clean the discs. Such chemicals will do irreparable damage to the disc's plastic surface.

Remote Control Unit

The provided remote control unit allows the unit to be operated from a distance. When operating the remote control unit, point it towards the REMOTE SENSOR on the front panel of the unit.

- Even if the remote control unit is operated within the effective range, remote control operation may be impossible if there are any obstacles between the unit and the remote control.
- The remote control may not work if the remote sensor is exposed to direct sunlight or electric lighting. In this case, move the main unit.
- If the remote control unit is operated near other appliances which generate infrared rays, or if other remote control devices using infrared rays are used near the unit, it may operate incorrectly. Conversely, the other appliances may operate incorrectly.

Battery Installation



1 Remove the battery compartment cover.

2 Insert two "AA" (R6, SUM-3) dry batteries. Make sure that the batteries are inserted with their positive "+" and negative"_" poles positioned correctly.

3 Close the cover.

Battery Replacement

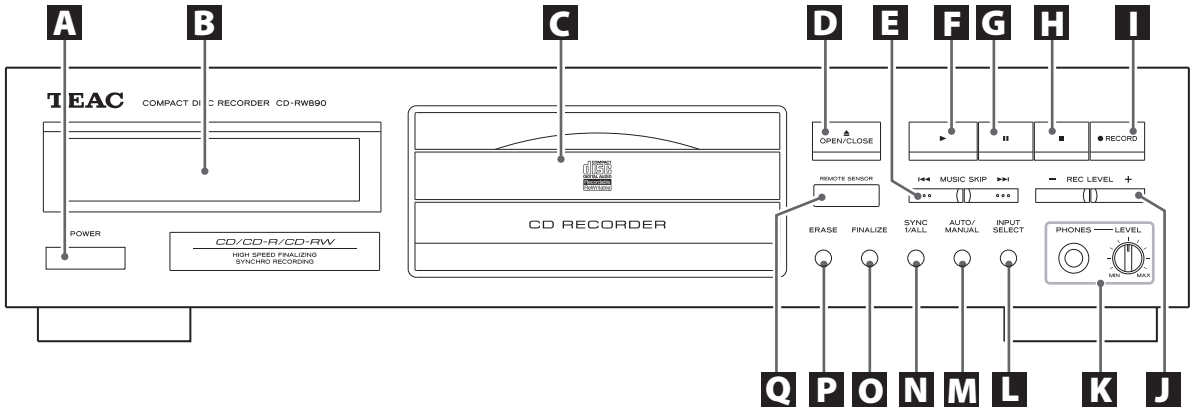
If the distance required between the remote control unit and main unit decreases, the batteries are exhausted. In this case replace the batteries with new ones.

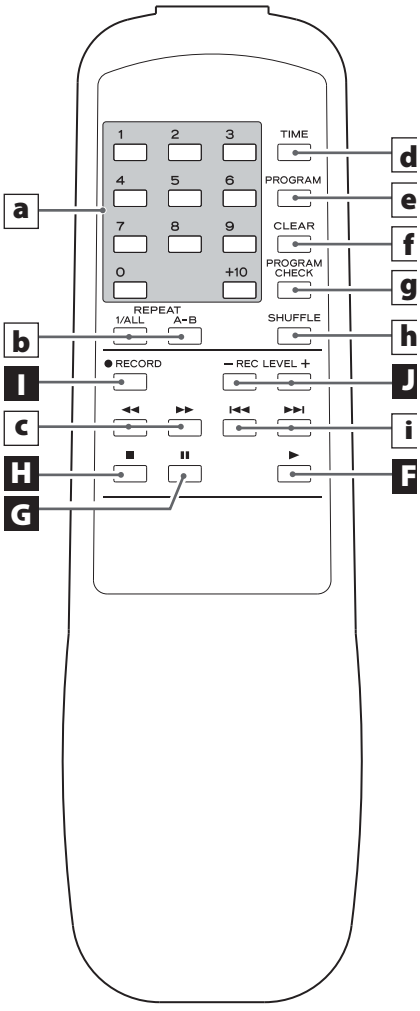
For more information about collection of batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

⚠ Precautions concerning batteries

Misuse of batteries could cause them to rupture or leak leading to fire, injury or the staining of nearby things. Please read and observe the following precautions carefully.

- Be sure to insert the batteries with correct positive "⊕" and negative "⊖" polarities.
- Use batteries of the same type. Never use different types of batteries together.
- Rechargeable and non-rechargeable batteries can be used. Refer to the precautions on their labels.
- When the remote control unit is not to be used for a long time (more than a month), remove the batteries from the remote control unit to prevent them from leaking. If they leak, wipe away the liquid inside the battery compartment and replace the batteries with new ones.
- Do not heat or disassemble batteries and never dispose of old batteries by throwing them in a fire.
- Do not carry or store batteries with metal accessories. Doing so may cause short-circuiting, leakage, breakage, etc.


A
B
C
D
E
F
G
H
I
TEAC
COMPACT DISC RECORDER CD-RW890
POWER
CD/CD-R/CD-RW
HIGH SPEED FINALIZING
SYNCHRO RECORDING
CD RECORDER
OPEN/CLOSE
RECORD
REMOTE SENSOR
MUSIC SKIP
REC LEVEL
ERASE
FINALIZE
SYNC 1/ALL
AUTO/ MANUAL
INPUT SELECT
PHONES
LEVEL
MIN
MAX
Q
P
O
N
M
L
K
J


1
2
3
TIME
4
5
6
PROGRAM
7
8
9
CLEAR
0
+10
PROGRAM CHECK
REPEAT
1/ALL
A-B
SHUFFLE
RECORD
REC LEVEL
a
b
I
c
H
G
d
e
f
g
h
J
i
F

Main unit and Remote control unit

A POWER
Press this button to turn the unit on or off.

B Display
The total number of the tracks, the total play time of the disc, etc. are displayed.

C Disc Tray

D OPEN/CLOSE (⏏)
Use this button to open and close the disc tray.

E MUSIC SKIP (I◄◄/►►I)
Use these buttons to skip tracks.
Hold down these buttons to search for a part of a track.

F Play (►)
Use this button to start playback, recording, finalizing, unfinalizing and erasing.

G Pause (❚❚)
Use this button to pause playback or recording.

H Stop (■)
Use this button to stop playback or recording.

I RECORD
Use this button to enter record pause mode. During recording, use this button to divide tracks.

J REC LEVEL
Use these buttons to adjust the analog recording level.

K PHONES
For private listening, first reduce the volume level to minimum. Then insert the plug from your headphones into the PHONES jack, and adjust the volume by turning the LEVEL knob.

L INPUT SELECT
Use this button to select a source to be recorded.

M AUTO/MANUAL
Use this button to select the mode of track number assignment.

N SYNC 1/ALL
Use this button for digital synchronized recording.

O FINALIZE
Use this button to finalize a CD-R/CD-RW disc.

P ERASE
Use this button to erase or unfinalize a CD-RW disc.

Q REMOTE SENSOR
When operating the remote control unit, point it towards the REMOTE SENSOR.

Only on Remote control unit

a Numeric buttons
Use these buttons to select track numbers.

b REPEAT (1/ALL, A-B)
Use these buttons to select a repeat mode.

c Search (◄◄/►►)
Use these buttons to search for a part of a track.

d TIME
Use this button to change the display mode.

e PROGRAM
Use this button to program tracks.

f CLEAR
Use this button to clear programmed tracks.

g PROGRAM CHECK
Use this button to check the programmed contents.

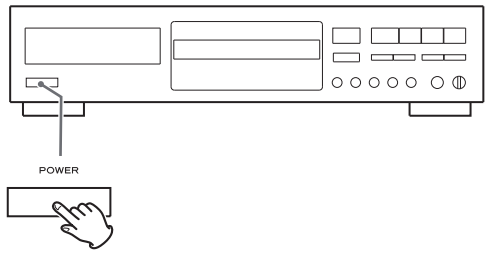
h SHUFFLE
Use this button for shuffle playback.

i Skip (I◄◄/►►I)
Use these buttons to skip tracks.

Note:
To simplify explanations, instructions in this manual refer to the names of the buttons and controls on the front panel only. Associated controls on the remote control will also operate similarly.

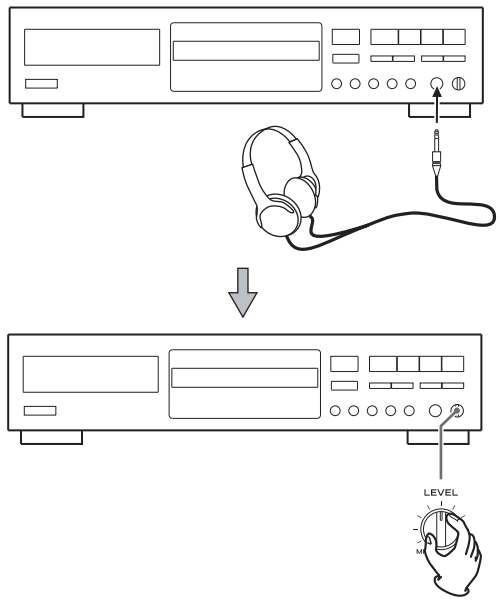
Basic Operation

Turning on the power



Press the POWER button to turn on the unit.

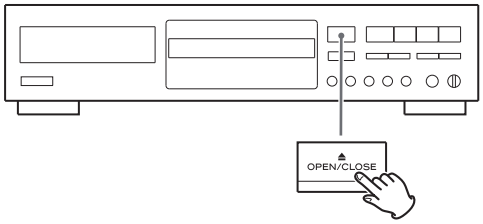
Using Headphones



For private listening, first reduce the volume level to minimum. Then insert the plug from your headphones into the PHONES jack, and adjust the volume by turning the LEVEL knob.
When turning the power on/off, unplug the headphones. Failure to observe this precaution may cause a noise to be produced.

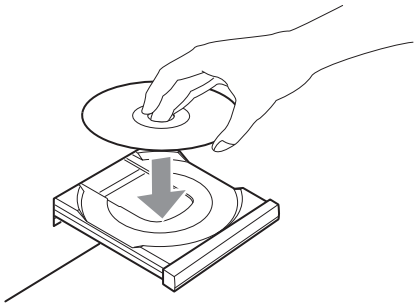
Basics of Playback

1 Press the OPEN/CLOSE (⏏) button.



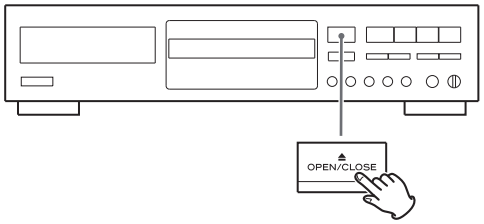
The disc tray is opened.

2 Place a disc on the tray with the disc label side up.



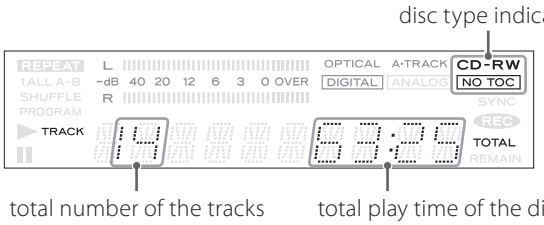
- Never place more than one disc on the tray.
- The disc must be placed in the center of the disc tray. If the disc is not correctly loaded, it may not be possible to open the tray again once it has closed, so you should ensure the disc is always centered on the tray.
- Do not force the tray by hand during opening and closing operations.

3 Press the OPEN/CLOSE (⏏) button to close the tray.



The tray is closed. Take care that you do not catch your fingers in the tray.

- It takes a few seconds for the unit to load the disc. No buttons will work during loading. Wait until the total number of the tracks and the total play time of the disc are displayed.

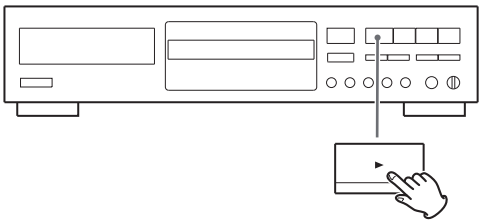


The disc type indicator shows the type of disc currently loaded.

CD:
A commercial pre-recorded CD
CD-R:
A finalized CD-R
CD-RW:
A finalized CD-RW
CD-R NO TOC **:**
A CD-R which has yet to be finalized
CD-RW NO TOC **:**
A CD-RW which has yet to be finalized

- As for non-audio discs, the content may be detected but will not be played.
- When no disc is inserted, "NO DISC" appears.

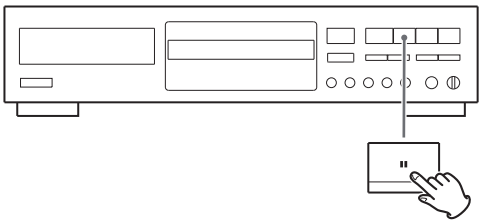
4 Press the PLAY (►) button to start playback.



Disc playback starts from the first track.

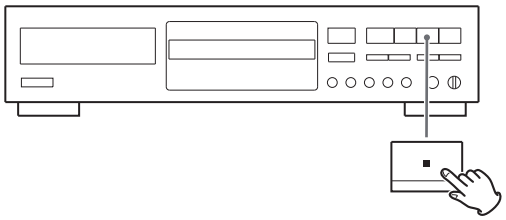
- If you load the disc, and then press the Play (►) button without closing the disc tray, the disc tray closes automatically and playback starts.
- When the track number changes during playback of continuous music such as live performances, the sound may be cut then played.

To pause playback



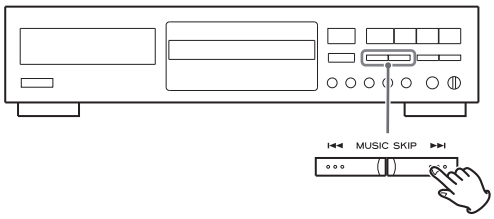
Press the Pause (❚❚) button during playback. Playback stops at the current position. To resume playback, press the Play (►) button or the Pause (❚❚) button.

To stop playback



Press the Stop (■) button to stop playback.

To skip to the next or previous track

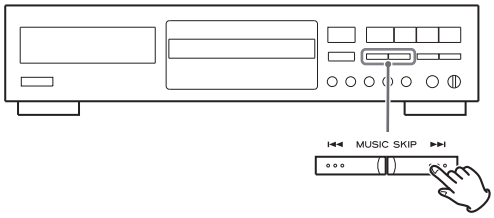


During playback, repeatedly press the Skip (I◄◄ or ►►I) button until the desired track is found. The selected track will be played from the beginning.

In the stop mode, press the Skip (I◄◄ or ►►I) button repeatedly until the track you want to listen to is found, and press the Play (►) button to start playback from the selected track.

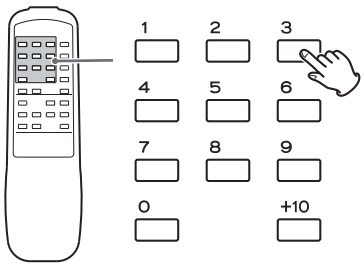
- When the I◄◄ button is pressed during playback, the track being played will be played from the beginning. To return to the beginning of the previous track, press the I◄◄ button twice.
- During programmed playback, the playback skips to the previous or next track in the program.

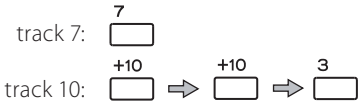
Search for a part of a track



During playback, hold down the Skip (I◄◄ or ►►I) button of the main unit and release it when the part you want to listen to is found.
Use the Search (◄◄ or ►►) button when operating with the remote control unit.

Direct Playback



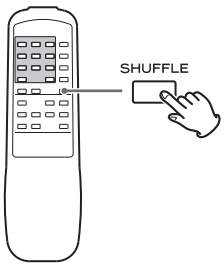


While in stop or playback mode, you can use the numeric buttons of the remote control unit to select a track.

Playback starts from the selected track.

- If the above operation is performed while paused, playback will be paused at the beginning of the selected track.
- Direct playback is not possible during shuffle playback and programmed playback.

Shuffle Playback

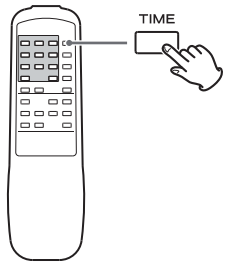


During playback, press the SHUFFLE button so that the tracks can be played randomly.
In the stop mode, press the SHUFFLE button, then the Play (►) button.

When the shuffle playback of all the tracks has been finished, the unit stops and the shuffle playback mode is cancelled.

- If you press the ►►I button during shuffle playback, next track will be randomly selected and played. If you press the I◄◄ button, the currently played track will be played from the beginning. A track cannot be replayed during shuffle playback.
- Shuffle playback does not work during programmed playback and A-B repeat.
- A-B repeat does not work during shuffle playback.
- Shuffle playback works with finalized discs only.
- If one of the following buttons is pressed, shuffle mode will be cancelled:
  SHUFFLE (while in the stop mode), OPEN/CLOSE (⏏), POWER
- When the SHUFFLE button is pressed during REPEAT 1 playback, all tracks are played in a random order.

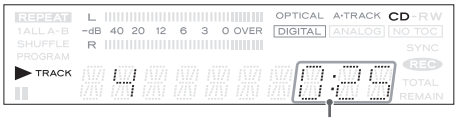
Time Display



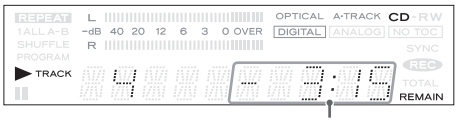
Each time the TIME button is pressed, the display changes as follows:

CD/CD-R/CD-RW playback

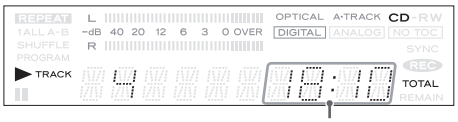
(Ex.)



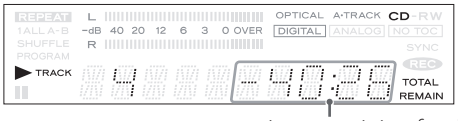
elapsed time of the current track



time remaining for the current track



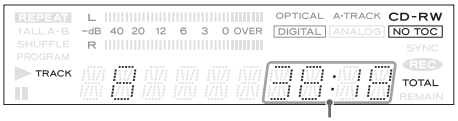
total elapsed time of the disc



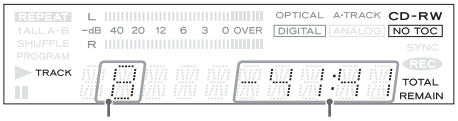
time remaining for the disc

Unfinalized CD-R/CD-RW, stopped

(Ex.)



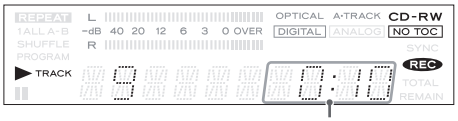
total play time of the disc



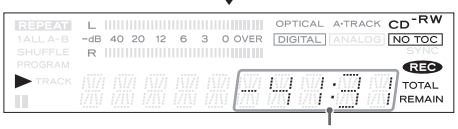
total number of the tracks remaining recording time of the disc

During recording / While recording is paused

(Ex.)

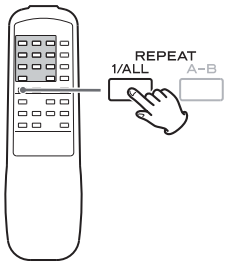


elapsed recording time of the disc



remaining recording time of the disc

Repeat Playback



Each time the REPEAT button is pressed, the repeat mode changes as follows:

REPEAT ALL → REPEAT 1 → (off) →

REPEAT ALL (Repeat all the tracks)

All the tracks of the disc will be played repeatedly.

REPEAT 1 (Repeat one track)

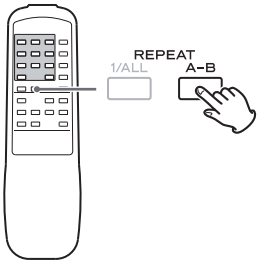
The track being played will be played repeatedly. If you press the Skip (I◄◄/►►I) button and select another track, the track you selected will be played repeatedly.

It is also possible to select a track to be repeated in the stop mode. Press the REPEAT button twice and then select the track number by pressing the Skip (I◄◄/►►I) button. Press the Play (►) button to start playback.

- REPEAT ALL or REPEAT 1 playback works with finalized discs only.
- If one of the following buttons is pressed, repeat mode will be cancelled:

  OPEN/CLOSE (⏏), POWER
- During shuffle playback, REPEAT 1 cannot be selected.

A-B Repeat



You can play back the designate point of track repeatedly.

Start playback and designate the point at which the A-B repeat should start (point A) by pressing the A-B button.
"REPEAT A-" blinks on the display.

When the point at which repeat playback should end (point B) is reached, press the A-B button again.
The designated section will be played repeatedly.

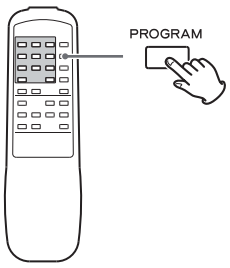
- The interval between points A and B must be 10 seconds or longer.
- CD-R/CD-RW discs that have not been finalized cannot be used for A-B repeat.
- After designating point A, the Search (◄◄/►►) button can be used to fast-forward or fast-backward to point B.
  Note that the point B should be forward the point A. Do not go back beyond the point A.
- The Skip (I◄◄/►►I) buttons do not work during A-B repeat.
- A-B repeat does not work during programmed playback and shuffle playback.
- Shuffle playback does not work during A-B repeat.
- If one of the following buttons is pressed, A-B repeat will be canceled:
  A-B, Stop (■), OPEN/CLOSE (⏏), POWER

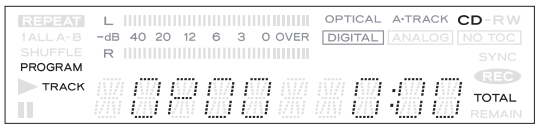
Programmed Playback (1)

Up to 32 tracks can be programmed in the desired order.

- Insert a disc before beginning programming.
- Programmed playback works with finalized discs only.

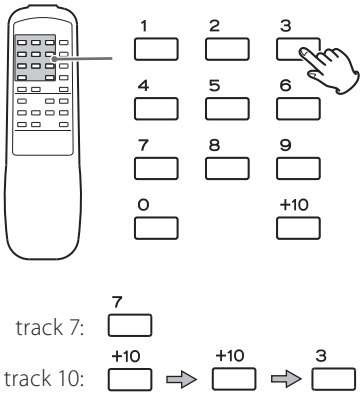
1 Press the PROGRAM button in the stop mode.



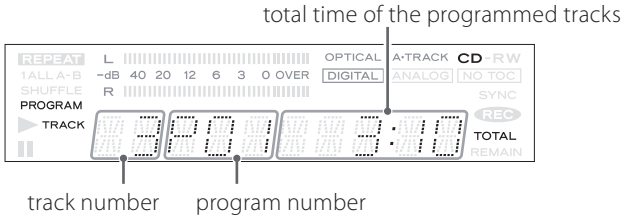


"PROGRAM" indicator blinks, and "0P00" appears on the display.

2 Press the numeric button to select a track.



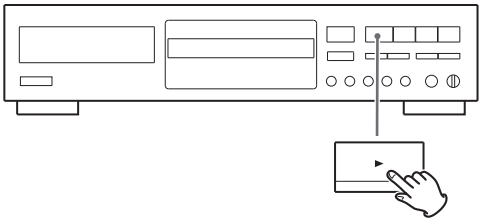
The selected track is programmed. To program more than one track, press the numbers subsequently.



You can also use the Skip (I◄◄/►►I) button and the PROGRAM button to program tracks. Select a track using the Skip (I◄◄/►►I) button, and press the PROGRAM button. Repeat this step to program other tracks.

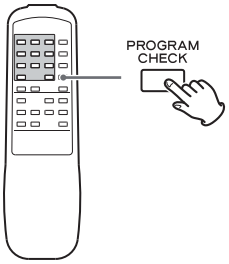
- If you made a mistake, press the CLEAR button. The last programmed number will be deleted.
- To stop programming, press the Stop (■) button. The program indicator (PROGRAM) stops blinking and lights up. When the PROGRAM button is pressed again, the "PROGRAM" indicator starts blinking again, and you can continue programming.

3 When the selection of track numbers has been finished, press the Play (►) button to start program playback.



The "PROGRAM" indicator stops blinking and lights up. Playback of the program starts.

To check the programmed order

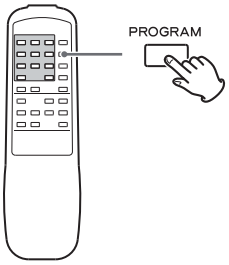


In the stop mode, press the PROGRAM CHECK button repeatedly to show the track numbers that have been stored in memory.

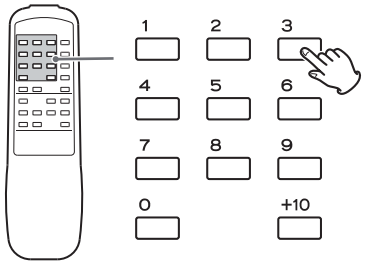
- This cannot be used while the "PROGRAM" indicator blinks.

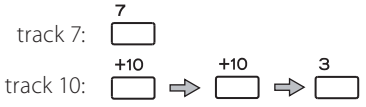
To add a track to the end of the program

1 Press the PROGRAM button in the stop mode.



2 Press the numeric button to select a track.

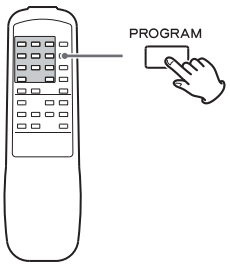




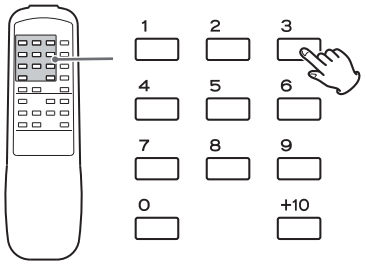
The track is added to the end of the program.

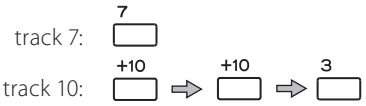
To overwrite the program

1 In the stop mode, press the PROGRAM button repeatedly until the program number to be changed appears on the display.



2 Press the numeric button to select a track.





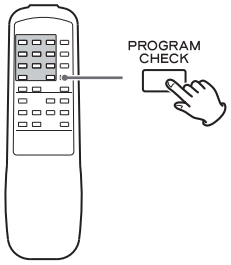
The track is overwritten to the selected track.

Continue to the next page

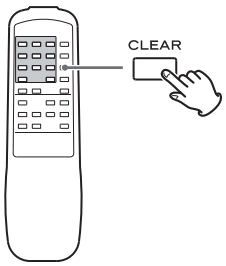
Programmed Playback (2)

To delete a track from the program

1 In the stop mode, press the PROGRAM CHECK button repeatedly until the program number to be deleted appears on the display.

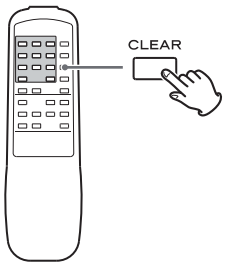


2 Press the CLEAR button.



The track is removed from the program, and the program numbers of the following tracks are moved up.

To clear the program



In the stop mode, hold down the CLEAR button for more than 2 seconds.
If one of the following buttons is pressed, the programmed contents will also be cleared.

OPEN/CLOSE (⏏), POWER

About Recording

CD-R and CD-RW

A CD-R disc can be recorded only once. Recorded tracks cannot be erased. However, if some recording time is still available, additional recording is possible. If you finish recording and finalize the CD-R disc, it can be played with a normal CD player. (Some CD players may not be compatible.)

On a CD-RW disc, even if no recording time is available, you can erase tracks already recorded and record tracks repeatedly. You can erase all tracks at once or the last track only. However, you cannot erase only tracks in the middle of the disc.

CD-RW discs can only be played with compatible CD players.

Auto sampling rate converter
The following three sampling frequencies are used for usual digital audio:

48 kHz, 44.1 kHz, 32 kHz

If the unit detects a digital broadcast, DAT, or other sources of sampling frequencies different from those of CDs, or pitch-controlled digital signals, the sampling frequencies are automatically converted to 44.1 kHz. Thus, sources with sampling frequencies from 32 kHz to 48 kHz can be recorded as high quality digital signals.

Serial Copy Management System

This unit is in compliance with the Serial Copy Management System standard. This standard has been established to restrict digital-to-digital copying to only the first generation. The basic rules governing this system are as follows:

Rule 1

A digital recording is possible from a digital source such as a CD, DAT or MD onto a recordable CD-R, CD-RW, MD or DAT through a digital input connection. However, further digital to- digital recording is prohibited for the second and later generations.

Rule 2

When an analog source such as an analog disc or FM broadcast is digitally recorded by using a CD-R, CD-RW, MD or DAT, this recorded source can be digitally recorded on another CD-R, CD-RW, MD or DAT. However, further digital copying is prohibited.

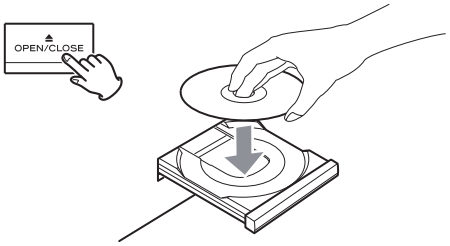
Before Recording

Before you start recording, make sure that you understand the following points:

- Up to 99 tracks can be recorded according to the CD standards. When a 100th track is about to be recorded, recording will stop automatically.
- A track less than 10 seconds in length on an audio CD cannot be recorded .
- If the Stop (■) button or Pause (❚❚) button is pressed within 10 seconds from the beginning of a track, the unit continues to record no signal and stops when the track's length reaches 10 seconds.
- When recording is finished, "PMA WRITE" blinks for a few seconds, and then the unit goes into the stop mode. Do not apply shock or vibration to the unit while recording or "PMA WRITE" blinks.
- When the available recording time reaches 0, recording will stop automatically.
- If a half-way recorded disc is inserted, recording continues next to the last recorded track.
- You can add tracks to an unfinalized recordable disc. Once finalized, a CD-R disc is "fixed" and behaves in the same way as a CD. Finalized CD-RW discs, however, can be unfinalized, erased and re-recorded.
- When the auto track function is used, the tracks are separated based on the specified level. Therefore, if a silent part is contained at the beginning or in the middle of a track, the playback time may not be the same as the actual length of the track.
- When track numbers are added to continuous music such as live performances, the sound is cut a moment.
- If a disc recorded with this unit is played with another player, noises may occur when the track changes.

Recording (1)

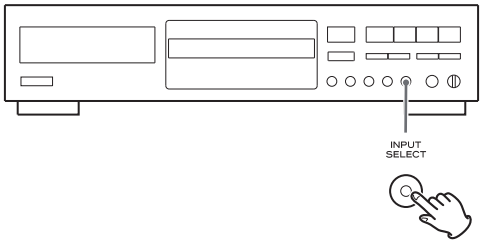
1 Load a recordable CD-R or CD-RW disc into the unit.



Press the OPEN/CLOSE (⏏) button, place a disc on the disc tray with the disc label side up, and then press the OPEN/CLOSE (⏏) button to close the disc tray.

Make sure "NO TOC" and "CD-R" (or "CD-RW") indicator lights on the display.

2 Select the source to be recorded using the INPUT SELECT button.



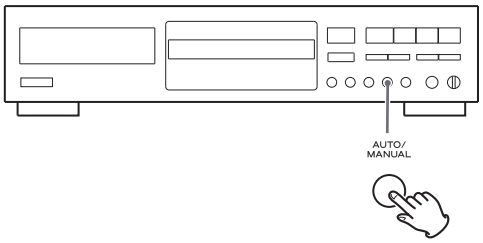
Each time the INPUT SELECT button is pressed, the display changes as follows:

DIGITAL (OPTICAL IN)
Select this to record a source connected to the DIGITAL IN terminal.

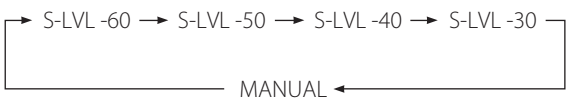
ANALOG (ANALOG IN)
Select this to record a source connected to the ANALOG IN terminal.

- The input source cannot be changed during recording.

3 Select the mode of track number assignment using the AUTO/MANUAL button.



When the AUTO/MANUAL button is pressed once, the current increment level is displayed. Press the AUTO/MANUAL button repeatedly to select another setting.



- After 2 seconds have passed, the display returns to the track/time display.

Continue to the next page

S-LVL-60/50/40/30 (The track numbers are automatically added)

The auto track function activates and "A-TRACK" appears. The displayed number indicates the increment level.

The track numbers are automatically added during recording. If a track change is detected via DIGITAL or if silence (lower than the increment level) continues for three seconds or longer then the next track starts (when sound becomes louder than the increment level) via ANALOG, and the track numbers are automatically updated.

* Increment level

Sound level to detect "silence" to add track numbers using auto track when recording from external devices via ANALOG or to perform synchronous recording for digital sources such as CD, MD, and DAT.

This instruction manual describes "silence" as the situation where the recording source level is lower than the specified increment level.

–60, –50, –40, and –30 dB can be selected.

MANUAL (The track numbers are not automatically added)

In MANUAL mode, the track numbers are not automatically added. To add track numbers manually, press the RECORD button.

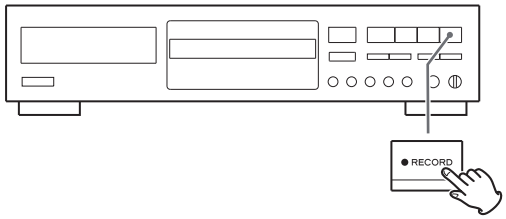
- The setting can be configured for DIGITAL and ANALOG respectively. When the power is turned on, the setting is –60dB for DIGITAL, and –50dB for ANALOG.
- The setting is stored until the power is turned off.
- If a CD is recorded via DIGITAL, the track numbers are added based on the CD's digital signals. There is usually no need to change the increment level.
- In digital recording, even if the auto track function is activated, track numbers may not be added depending on the digital source player.
- When you record digital broadcasts or other sources without track numbers, track numbers are not added even if the auto track function is activated. To add a track number, press the RECORD button while recording a track.
- When you record classical music or other sources containing silent parts via ANALOG, track numbers may not be properly added even if the auto track function is activated. To add a track number in this case, deactivate the auto track function, and press the RECORD button while recording a track.
- When you record a record or other sources with much interference, more track numbers than expected may be added unintentionally.
- The AUTO/MANUAL button cannot be used during recording.

If track numbers are not properly added

When you record sources with interference via ANALOG, track numbers may not be added if the increment level is lower than the interference level. In this case, set the increment level higher than the interference level.

If there is little interference and the track starts with a small sound resulting in the beginning of the recorded track being truncated, set the increment level lower.

4 Press the RECORD button.



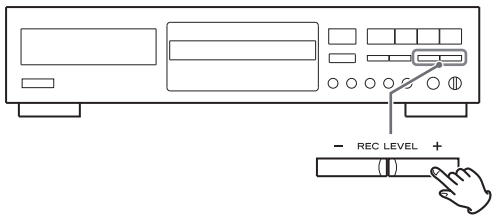
REC and ▮▮ indicators on the display will light, and the unit enters the record pause mode.

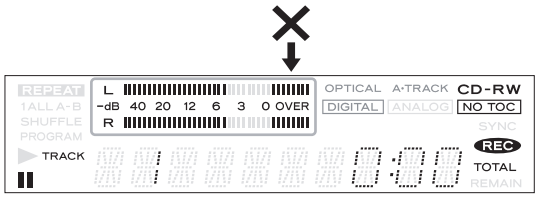
- No button will work while "WAITING" is displayed. Wait a few seconds until "WAITING" disappears from the display. When DIGITAL is selected in step **2**, the sampling frequency of the digital source ("FS 44_1K", "FS 48K" or "FS 32K") briefly appears after "WAITING".
- "DIN UNLOCK" appears when the unit cannot perceive the digital signal. In that case, connect a digital device to the DIGITAL IN terminal, switch it on, and wait a few seconds until the unit enters the record pause mode.
- You cannot record if "MONITOR" appears on the display. In that case, reload a recordable disc, wait a few seconds until "NO TOC" and "CD-R" (or "CD-RW") indicators light on the display, then press the RECORD button again.

5 If necessary, adjust the recording level using the REC LEVEL buttons.

The recording level can be adjusted only when "ANALOG" is selected in step **2**.

The recording level is 0 dB when the power is turned on. Usually, recording is possible even if the recording level has not been adjusted.





Play the source to be recorded and adjust the recording level so that the loudest sound does not exceed the "OVER" indicator on the peak level meter.

The level can be adjusted as follows:

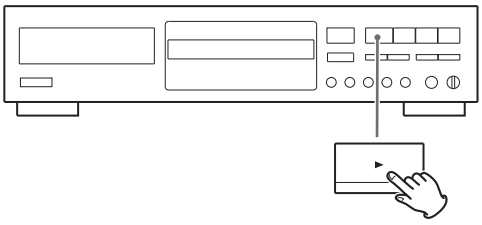
MIN. DOWN UP MAX.

$-\infty$ ← –60 dB ← 0 dB → +12 dB

- When the POWER button or the Stop (■) button is pressed, the recording level is reset to 0 dB.

- The volume level differs depending on the source (record, cassette tape, CD, etc.). To record various sources at the appropriate volume, the recording level should be adjusted for each source.

6 Press the Play (►) or the Pause (❚❚) button to start recording.

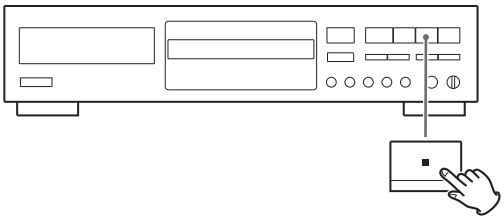


Recording starts.

7 Play the source to be recorded.

When the playback of the source has been finished, press the Stop (■) button to stop recording.

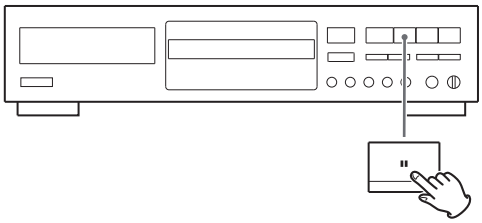
To stop recording



Press the Stop (■) button to stop recording.

- If the CD-R is finalized, it can be played with another CD player.

To pause recording

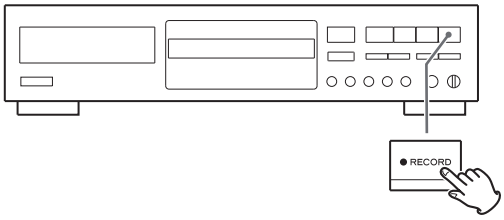


Press the Pause (❚❚) button. "WAITING" briefly appears on the display, then recording is paused.
To restart recording, press the Play (►) button or the Pause (❚❚) button.

- You cannot restart recording while "WAITING" is displayed.

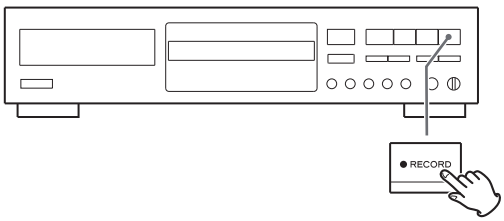
- Remember that every time recording is paused or stopped, a new track number will always be assigned. It is not possible to record in two "stages" within one track.

To monitor the input signal



When no recordable disc is loaded in the unit, press the RECORD button.
"MONITOR" appears on the display, and you can monitor the input source via the PHONES jack and the output terminals. The meters show the current input level.
Exit the monitor mode by pressing the Stop (■) button.

Manual track division



It is possible to divide a track into multiple tracks by pressing the RECORD button while recording.

- Manual track division is possible regardless of the AUTO/MANUAL setting.

- A track cannot be less than 10 seconds in length. The RECORD button will not work if it is pressed within 10 seconds from the beginning of a track.

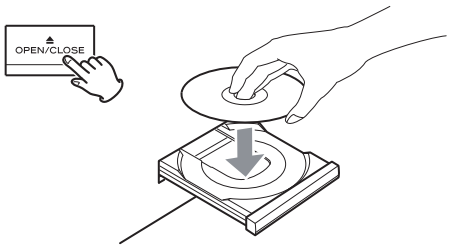
Synchronous Recording

The convenient synchronous recording function automatically starts recording when receiving analog or digital signals from an externally connected device such as a CD player and MD deck, and stops recording when signal reception is complete.

For CD, MD, or DAT, synchronous recording starts when a digital signal is detected, which is the beginning of a track. Synchronous recording stops if there is a period where the sound is quieter than the specified increment level lasting five seconds.

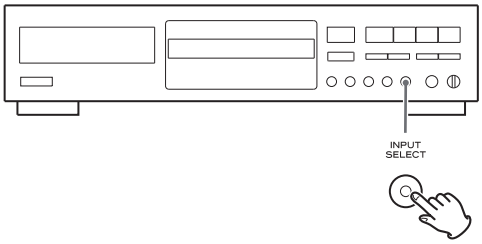
For digital sources other than the above or analog sources, synchronous recording starts when a sound louder than the specified increment level is detected. Synchronous recording stops if there is a period where the sound is quieter than the specified increment level lasting 8 seconds.

1 Load a recordable CD-R or CD-RW disc into the unit.

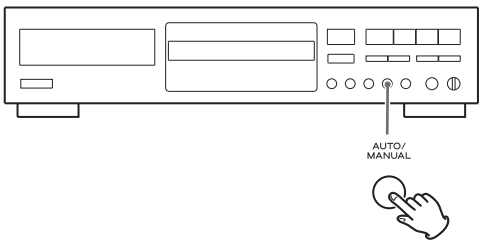


Press the OPEN/CLOSE (⏏) button, place a disc on the disc tray with the disc label side up, and then press the OPEN/CLOSE (⏏) button to close the disc tray.

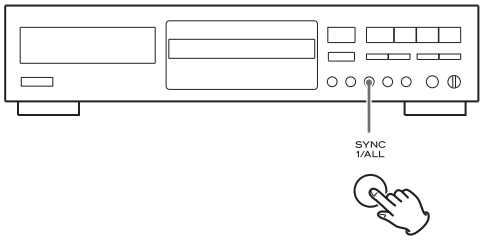
2 Select the source to be recorded using the INPUT SELECT button.



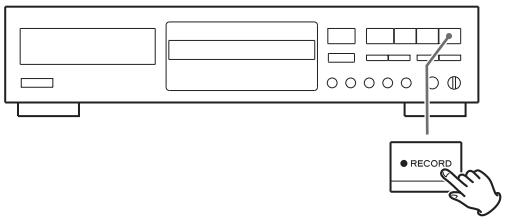
3 Select the mode of track number assignment using the AUTO/MANUAL button.



4 Press the SYNC 1/ALL button and select "SYNC 1" or "SYNC ALL".



5 Press the RECORD button.



REC and ❚❚ indicators on the display will light, and the unit enters the record pause mode.

- The Play (►) button and Pause (❚❚) button cannot be used during synchronous recording.

6 Start playing the source.

- If no sound is heard for 5 seconds or longer during synchronous recording, recording stops. To record the music with such periods of silence, turn off synchronous recording. After turning off synchronous recording, start recording manually, then play the source to be recorded.
- Press the Stop (■) button to stop the recording manually.
- If you press the Stop (■) button or the Pause (❚❚) button during recording, the synchronous recording function will be cancelled.
- The synchronous recording function automatically turns off after recording.
- The SYNC 1/ALL button cannot be used during recording or in the record pause mode.
- When "SYNC ALL" is selected, the auto track function is always on. Select –60, 50, 40 or 30 dB using the AUTO/MANUAL button.
- Even if the AUTO/MANUAL button is set to MANUAL, the auto track function will be on during synchronous recording. The increment level is set to –60 dB (–50 dB when recording via ANALOG). The setting automatically returns to MANUAL after the recording.

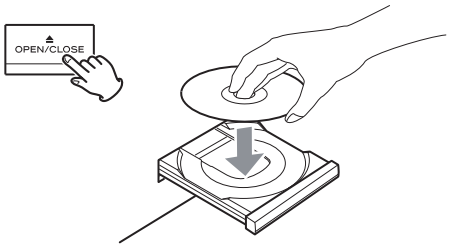
Finalize

Finalizing is a process of writing the TOC data (recorded data) to a disc.

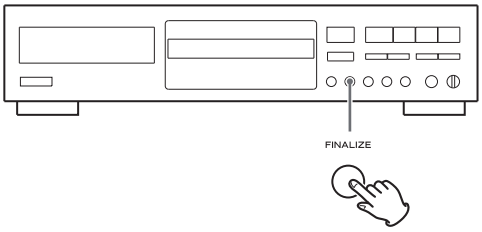
Finalized CD-Rs can be played with other CD players. No more tracks can be recorded on a finalized CD-R.

Finalized CD-RWs can be played with other compatible CD players. To record additional tracks on a finalized CD-RW, first unfinalize it.

1 Load an unfinalized (recordable) disc.



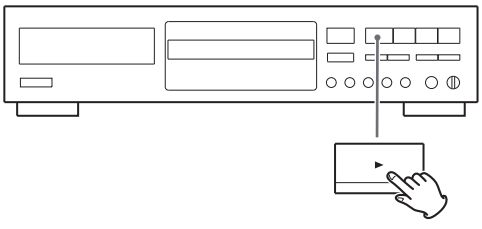
2 Press the FINALIZE button in the stop mode.



"FINALIZE" appears on the display.

- If a finalized disc has been loaded, the FINALIZE button cannot be used.
- To cancel the finalizing process, press the Stop (■) button.

3 Press the Play (►) button to start finalizing.



Finalizing starts.

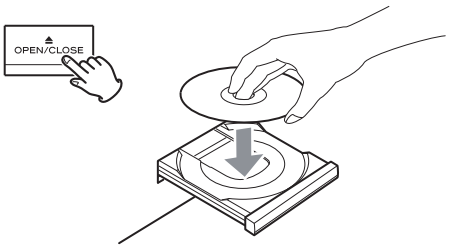
When the operation has been finished, the display returns to the track/time display.

- Never turn the power off nor unplug the power cord during finalizing.
- During finalizing, no button works.

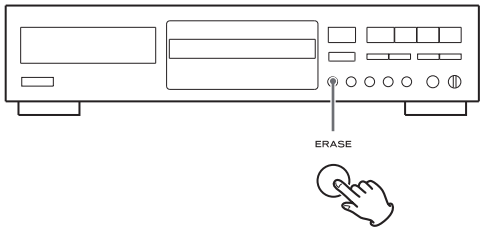
Unfinalize

If a finalized CD-RW is unfinalized, recording and erasing will be possible on the CD-RW.

1 Load a finalized (not recordable) disc.



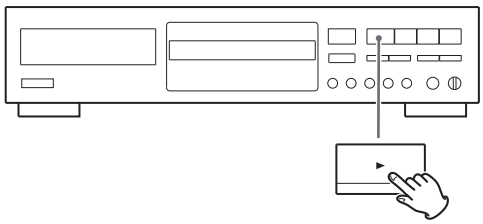
2 Press the ERASE button in the stop mode.



"UNFINALIZE" appears on the display.

- If "ERASE" and the last track number or "ERASE DISC" is displayed on the display, it indicates that the disc has not been finalized and so does not need to be unfinalized.

3 Press the Play (►) button to start unfinalizing.



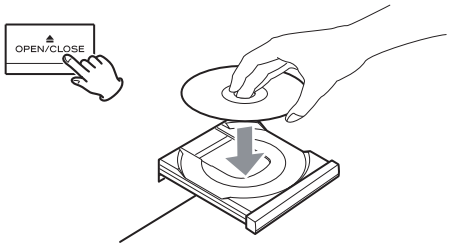
Unfinalizing starts.

When the operation has been finished, the display returns to the track/time display.

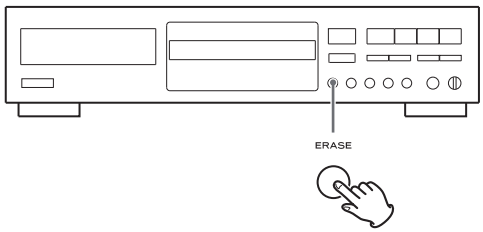
- Never turn the power off nor unplug the power cord during unfinalizing.
- During unfinalizing, no button works.

Erasing the Last Track (CD-RW)

1 Load a recorded CD-RW.



2 Press the ERASE button in the stop mode.



"ERASE" and the last track number appear on the display.

You can simultaneously erase multiple tracks, from the selected one to the last one. Press the Skip (I◄◄/►►I) buttons to select the number of the first track to erase. (You cannot erase only tracks in the middle of the CD.)

- Each time the ERASE button is pressed, the display changes as follows:

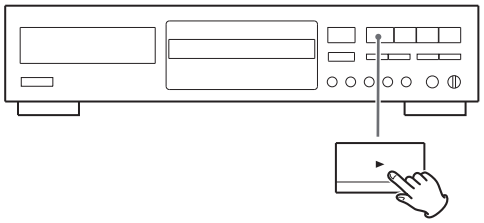
ERASE #
(#: The last track number)
↓
ERASE DISC
↓
REFRESH
↓
Total number of tracks and total playback time

- If only one track is recorded, "ERASE" and the last track number do not appear. The display changes in the following order:

ERASE DISC
↓
REFRESH
↓
Total number of tracks and total playback time

- If a finalized disc is inserted, "UNFINALIZE" appears. To erase the track(s), unfinalize the disc first.

3 Press the Play (►) button to start erasing.

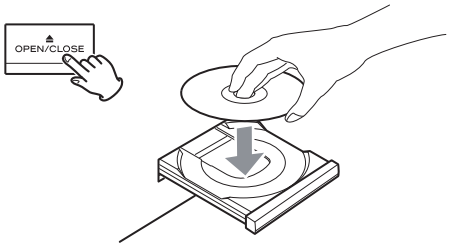


Only the last track, or tracks from the selected one to the last one, will be erased.
When the operation has been finished, the display returns to the track/time display.

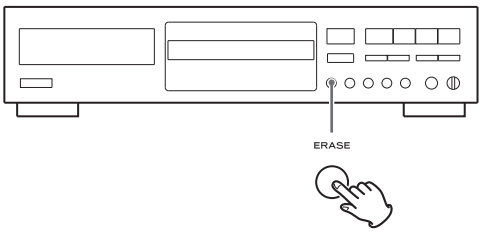
- Never turn the power off nor unplug the power cord during erasing.
- During erasing, no buttons will work.
- This operation cannot be cancelled. Before erasing the track or tracks, make sure that you really want to erase them.

Erasing All Tracks (CD-RW)

1 Load a recorded CD-RW.



2 Press the ERASE button twice.



"ERASE DISC" appears.

- Each time the ERASE button is pressed, the display changes as follows:

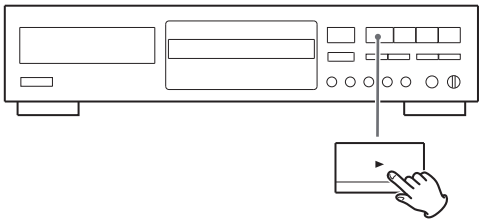
ERASE #
(#: The last track number)
↓
ERASE DISC
↓
REFRESH
↓
Total number of tracks and total playback time

- If only one track is recorded, "ERASE" and the last track number do not appear. The display changes in the following order:

ERASE DISC
↓
REFRESH
↓
Total number of tracks and total playback time

- Press the Stop (■) button to stop erasing.
- If a finalized disc is inserted, "UNFINALIZE" appears. To erase the track(s), unfinalize the disc first.

3 Press the Play (►) button to start erasing.



All tracks will be erased.
The time required appears on the display.
When the operation has been finished, the display returns to the track/time display.

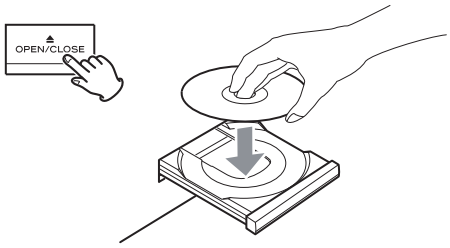
- Never turn the power off nor unplug the power cord during erasing.
- During erasing, no buttons will work.
- This operation cannot be undone. Before erasing the tracks, make sure that you really want to erase them.

Erasing All Tracks In Refresh Mode (CD-RW)

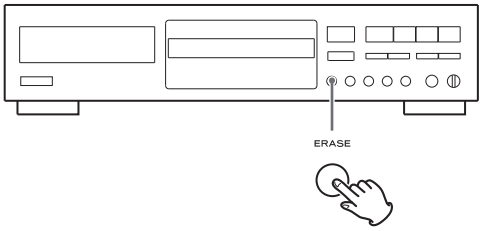
Erasing in the refresh mode takes time. It is recommended to use "ERASE DISC" when erasing all tracks.

A disc that causes an error during recording may be recovered by erasing all tracks on the disc in the refresh mode.

1 Load a recorded CD-RW.



2 Press the ERASE button three times.



"REFRESH" appears on the display.

- Each time the ERASE button is pressed, the display changes as follows:

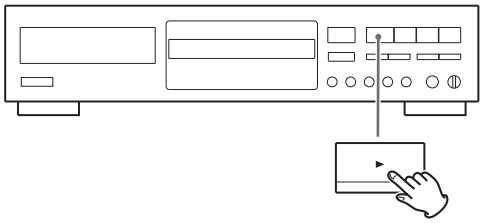
ERASE #
(#: The last track number)
↓
ERASE DISC
↓
REFRESH
↓
Total number of tracks and total playback time

- If only one track is recorded, "ERASE" and the last track number do not appear. The display changes in the following order:

ERASE DISC
↓
REFRESH
↓
Total number of tracks and total playback time

- Press the Stop (■) button to stop erasing if you need.
- If a finalized disc is inserted, "UNFINALIZE" appears. To erase the track(s), unfinalize the disc first.

3 Press the Play (►) button to start erasing.



All tracks will be erased.
The time required appears on the display.
When the operation has been finished, the display returns to the track/time display.

- Never turn the power off nor unplug the power cord during erasing.
- During erasing, no buttons will work.
- This operation cannot be undone. Before erasing the tracks, make sure that you really want to erase them.

Troubleshooting

If you experience any problems with the unit, please take a moment to look through this chart and see if you can solve the problem yourself before you call your dealer or a TEAC service center.

No power.

➔ Check the connection to the AC power source. Check and make sure the AC source is not a switched outlet and if it is, the switch is turned on. Make sure there is power to the AC outlet by plugging another item such as a lamp or fan.

No sound.

➔ Check the connections with the amplifier and speakers.
➔ Adjust the volume.

Remote control does not work.

➔ Press the POWER button of the main unit to turn it on.
➔ If the batteries are dead, change the batteries.
➔ Use the remote control unit within the (5m) range and pointed at the front panel.
➔ Clear obstacles that are between the remote control unit and the main unit.
➔ If a strong light is near the unit, turn it off.

A TV operates unintentionally.

➔ Some TVs equipped with a wireless remote control may operate improperly due to the unit's remote control operations. In this case, turn off any other devices while using the unit's remote controller.

The sound is noisy.

➔ The unit is too close to a TV set or similar appliances. Relocate the unit further away from them, or turn the other appliances off.

Will not play.

➔ Load a disc with the playback side facing down.
➔ If the disc is dirty, clean the surface of the disc.
➔ A blank disc has been loaded. Load a prerecorded disc.
➔ Depending on the disc condition, it may not be possible to playback the disc. Try again with another disc.

Sound skips.

➔ Place the unit on a stable surface to avoid vibration and shock.
➔ If the disc is dirty, clean the surface of the disc.
➔ Do not use scratched, damaged or warped discs.

Recording is not possible.

➔ A playback-only disc or finalized disc has been loaded. Use a recordable disc.
➔ The recording level is too low. Adjust the recording level.
➔ The remaining recording time of a CD-R is not sufficient. Use another disc.
➔ If the remaining recording time of a CD-RW is not sufficient, erase the last tracks or replace the disc.
➔ Synchronous recording does not start if the sound coming in is quieter than the increment level.

The numbers and lengths of tracks differ from those of the original tracks.

➔ The unit recognizes the beginning of a track by detecting the increment level of sound. The track number may not be applied to the silent part.

If normal operation cannot be obtained, unplug the power cord from the outlet and plug it again.

Beware of condensation

When the unit (or a disc) is moved from a cold to a warm place, or used after a sudden temperature change, there is the danger of condensation; vapor in the air could condense on the internal mechanism, making correct operation erratic or impossible. To prevent this, or if this occurs, leave the unit for one or two hours with the power turned on. The unit will stabilize at the temperature of its surroundings.

Maintenance

If the surface of the unit gets dirty, wipe with a soft cloth or use a diluted mild liquid soap. Be sure to remove any excess liquid completely. Do not use thinner, benzine or alcohol as they may damage the surface of the unit. Allow the surface of the unit to dry completely before using.

Messages

BLANK 0:00
A blank CD-R/CD-RW disc is set on the disc tray.

CLOSE
Closing the disc tray.

COMPLETE
Finalizing, unfinalizing, erasing, or refreshing is complete.

ERASE
Erase the last track of the CD-RW disc.

ERASE DISC
Erase all the tracks of the CD-RW disc.

FINALIZE
Finalize the disc.

FS 44_1K, **FS 32K** or **FS 48K**
The sampling frequency of the digital source

MONITOR
If no recordable disc has been inserted and you press the RECORD button, "MONITOR" appears and you can monitor the sound of the input source.

NO DISC
No readable disc has been loaded. Or the disc may be loaded up side down.

NO TOC
An unfinalized CD-R/CD-RW disc is loaded.

OPEN
Open the tray.

- - - -:- -
The unit is reading the disc.

PMA WRITE
Writing the recorded memories on the disc.
(PMA: Program Memory Area)

READING
The unit is reading the disc.

REFRESH
Refresh the CD-RW disc.

UNFINALIZE
Unfinalize the CD-RW disc.

Error Messages

CANT COPY
The source disc has been digitally copied. Serial Copy Management System prohibits the copying of digital copies.

DAO DISC
A CD-RW disc recorded in Disc At Once (DAO) format on a computer or etc. is loaded. The unit cannot unfinalize such a disc.

DIN UNLOCK
A digital input source has been selected, but the source is not connected or not turned on.

DISC ERROR
A disc (MP3, video CD, DVD, etc.) other than an audio CD has been loaded. The unit cannot play such a disc.

DISC FULL
There is no space on the disc, or no more tracks can be recorded.

PGM FULL
32 tracks have been programmed. No more tracks can be programmed.

READ ERROR
Something is wrong with the disc. Or the disc may be loaded up side down.

TRAY ERROR
An error occurred within the unit.
Press the POWER button to turn the unit off, wait a minute, and turn it on again.

Specifications

Media type .....
CD-RW and CD-R for Digital audio (record and playback)
CD (playback only)
Frequency converter input sampling frequency .....
32 kHz, 44.1 kHz, 48 kHz
Recording sampling frequency .....44.1 kHz
Frequency response .....20 Hz to 20 kHz
(playback: ±1.5 dB, recording: ±1.5 dB)
Signal to noise ratio .....90 dB (playback)
90 dB (digital recording)
82 dB (analog recording)
Dynamic range .....86 dB (playback)
84 dB (recording)
Total Harmonic Distortion .....Less than 0.05% (playback)
Less than 0.05% (recording)
Wow & flutter .....Unmeasurable
Optical input/output
Input terminal .....Analog (RCA) ×1
Digital (TOS) ×1
Output terminal .....Analog (RCA) ×1
Line input voltage .....0.5 Vrms
Line output voltage .....2.0 Vrms

Power requirements ..... AC 230V, 50 Hz (European model)
AC 120V, 60Hz (North American model)
Power consumption ..... 16 W

Dimensions (W x H x D) ..... 435 x 100 x 295 mm
(17 1/8" x 3 15/16" x 11 5/8")
Weight (Net) ..... 4.5 kg (9 15/16 lbs)

Standard Accessories

Remote control unit (RC-1275) x 1
Battery (AA, R6, SUM-3) x 2
RCA cable x 2
Optical digital cable x 1
Owner's manual x 1
Warranty card x 1

- Design and specifications are subject to change without notice.
- Weight and dimensions are approximate.
- Illustrations may differ slightly from production models.

For European customers

Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Information on Disposal in other Countries outside the European Union

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom right two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

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This appliance has a serial number located on the rear panel. Please record the serial number and retain it for your records.

Model name: CD-RW890 Serial number

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