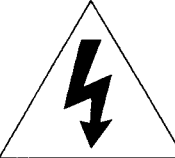



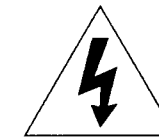
marantz®

Model DR4160 User Guide

Compact Disc Recorder



	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
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 product.

WARNING

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE
OF PLUG TO WIDE SLOT, FULLY INSERT.**

**ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES,
INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE
CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.**

NOTE:

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

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

NOTE: Changes or modifications may cause this unit to fail to comply with Part 15 of the FCC Rules and may void the user's authority to operate the equipment.

LASER SAFETY

This unit employs a LASER. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

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

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

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

IMPORTANT SAFETY INSTRUCTIONS

READ BEFORE OPERATING EQUIPMENT

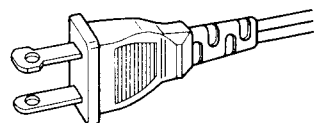
This product was designed and manufactured to meet strict quality and safety standards. There are, however, some installation and operation precautions which you should be particularly aware of.

1. **Read Instructions** — All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** — All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** — All operating and use instructions should be followed.
5. **Water and Moisture** — The appliance should not be used near water — for example, near a bathtub, wash-bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. **Carts and Stands** — The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. **An appliance and cart combination should be moved with care.** Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



8. **Wall or Ceiling Mounting** — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
9. **Ventilation** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
10. **Heat** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
11. **Power Sources** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

12. **Grounding or Polarization** — The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.



AC POLARIZED PLUG

13. **Power-Cord Protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. **Cleaning** — The appliance should be cleaned only as recommended by the manufacturer.
15. **Nonuse Periods** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
16. **Object and Liquid Entry** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
17. **Damage Requiring Service** — The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
18. **Servicing** — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

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Congratulations on the acquisition of your CD-Recorder. This CD-Recorder now enables you to record, play and erase your own audio Compact Discs. Naturally the recorder can also be used to play all pre-recorded CDs.

With the exception of legal restrictions pertaining to copying, you can now create your own high-quality audio recordings on CD. The discs used to record must bear the logos shown below. Copyright fees have been paid on these discs in some countries. Recording on other types of discs (e.g. CD-R for professional recordings) is not possible.

There are two types of recordable AUDIO discs: CD-R(W) discs have a compatibility to play/record on the CD-Recorders based on the ORENJE BOOK Part II/III. But the discs might not be able to be played/recorded properly depending on the combinations of the discs and CD-Recorders.

1 CD Recordable Audio (record once):

Fully recorded and subsequently finalized audio CD-R discs can be played on all CD players and recorders that are suitable for CD-R discs. A CD-R disc can be recognized by the following logo:



2 CD ReWritable Audio (multiple recording):

Recorded and finalized audio CD-RW discs can be played on all CD players and recorders that are suitable for CD-RW discs. An increasing number of players and recorders will be suitable for these discs in the future. A CD-RW disc can be recognized by the following logo:



The CD-R(W)disc for 'DIGITAL AUDIO' can be both recording and playing on this CD-Recorder. In addition, this CD-Recorder can play the CD-R(W) disc for 'PROFESSIONAL RECORDING', but cannot record it.

Once you start using the recorder, you will discover how easy it is to 'make' your own CDs. Nevertheless, we recommend that you use an erasable (CD-RW) digital audio disc on your first attempt, while following the instructions given here.

Attention!
Recordings may only be made for personal use.

It is forbidden to copy material protected by copyright, including computer programs, films, television and audio recordings. This appliance may not be used for applications of this type.

Note: Some CD players can not play the finalized CD-R(W) discs because of the low reflectivity of such discs.

Because of laser power differences, some DVD players cannot play the finalized CD-R(W) discs.

Read the text carefully and keep the instructions close at hand so that you can refer to them if necessary.

Unpacking

First check the contents of the packaging. It should contain the following:

- CD-Recorder DR4160
- Remote control with batteries packaged separately
- Audio cables (2 - with red and white plugs)
- Digital coaxial cable (1 - with black plugs)
- Power cord
- Instructions
- Guarantee

If one of these components is missing, please inform your supplier immediately. Save the packaging material it may come in handy if you move the appliance.

Setup

- Place the recorder on a strong, vibration-free surface.
- Do not use the recorder under extremely damp conditions.
- If the recorder is placed in a cabinet, make sure that a 2.5 cm space remains free on all sides of the recorder for proper ventilation.

Attention!
If the appliance is not used or operated in accordance with the instructions, this may result in exposure to dangerous radiation or other risks.

Only authorized technicians are allowed to open the appliance casing or to perform repairs or maintenance.

Compact discs

The glossy side shining like a rainbow is the front side of the disc, and the side on which the label is printed is the back. Unlike conventional turntables for playing analog discs, the DR4050 reads the information recorded on the disc from underneath without contacting it using a beam of laser light. Therefore, the performance of a compact disc will not degrade like conventional analog records.

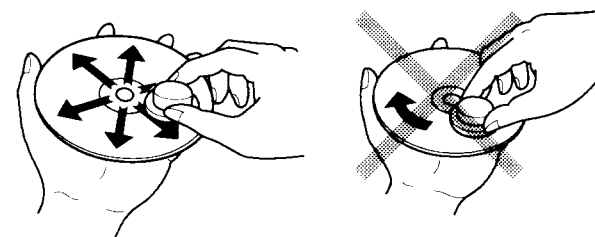
Handle discs carefully so as not to damage or scratch the front side.

To protect the disc, avoid placing it in the following locations:

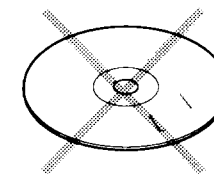
- In direct sunlight or near a source of heat like a heater.
- In a place which is damp or dirty.
- In a place which could be exposed to rain, such as near a window.

Always keep the disc surface clean.

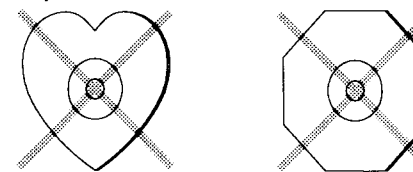
Up to six billion data units are recorded on the front side of the disc. When cleaning the disc surface, always be sure to use a special compact disc cleaner and wipe as shown below.



- Do not use conventional record cleaner for analog records, as this will adversely affect the disc surface. Store discs properly by placing them in their disc cases.
- Do not attach a piece of paper or sticker on the label side of disc. When a disc has a piece of plastic tape or rental CD label with paste protruded from the edge or when a disc has a trace of such a sticky object, do not attempt to play the disc. If such a disc is played on the CD player, impossibility of taking out the disc or other malfunction may result.

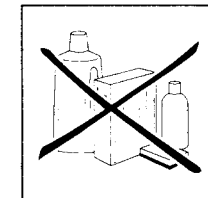


- Write only on the printed side of a CD-R or CD-RW, and only with a soft felt-tipped pen.
- Do not use a disc with a special shape. Do not attempt to play a disc with a special shape such as a heart-shaped disc or octagonal disc. Otherwise the equipment malfunction may result.

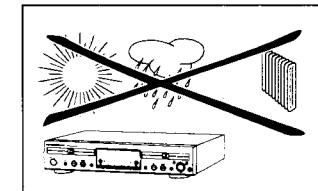


Maintenance

Clean the CD-Recorder with a soft, slightly dampened lint-free cloth. Do not use any cleaning agents as they may have a corrosive effect.



Do not expose the CD-Recorder, batteries or CDs to humidity, rain, sand or excessive heat (caused by heating equipment or direct sunlight).



If the CD-Recorder cannot read CDs correctly use a commonly available cleaning CD to clean the lens before taking the CD player to be repaired. Other cleaning methods may destroy the lens. Always keep the tray closed to avoid dust on the lens.

The lenses may cloud over when the CD-Recorder is suddenly moved from cold to warm surroundings. It is not possible to play a CD then. Leave the CD-Recorder in a warm environment until the moisture evaporates.

About this manual

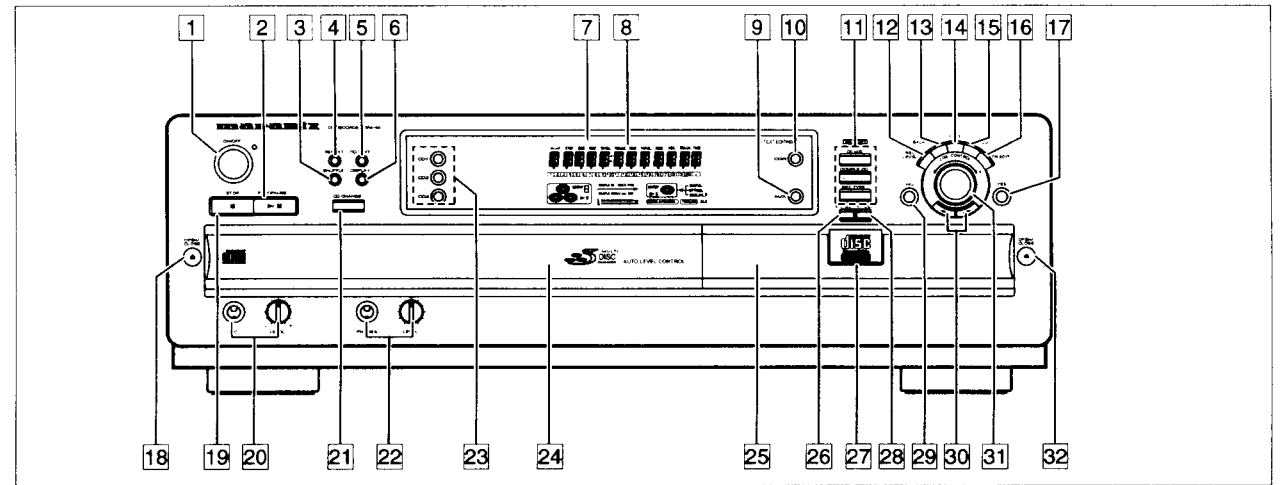
This manual gives instructions for operating this CD recorder where:

- the figures (1) throughout the text indicate a sequence of actions necessary to perform a certain operation;
- the arrows (→) indicate the reaction from the recorder;
- the dots (•) indicate remarks, advice or special options within a sequence of actions. The dot-marked instructions are not necessary for the required operation.

All instructions in this manual are based on control via the keys on the set. If there are corresponding keys available on the remote control they can be used as well.

Supplied accessories

- 2 Analog audio cords (with red and white plugs)
- 1 Digital coaxial cord (with black plugs)
- Power cord
- 2 batteries for the remote control, size AA
- Remote control



Controls on the front

General

- 1 **ON/OFF**turns the CD recorder/changer ON and OFF
- STANDBY indicator**lights up when the set is STANDBY on
- 2 **PLAY/PAUSE II** ▶starts play/interrupts play
- 3 **SHUFFLE**plays discs in changer, program or CD(RW) in recorder in random order
- 4 **REPEAT**repeat play (All, program or track)
- 5 **CD TEXT**makes CD text scroll over display once
- 6 **DISPLAY**selects display information/text
- 7 **IR sensor**receives signals from the remote control
- 8 **Display**information screen
- 9 **AUX**selects external input
- 10 **CDR**selects CDR display/keys
- 17 **YES**selects settings in Text Edit and Track Edit mode
 - stores Text settings
 - plays selected tracks
 - programs track numbers
- 19 **STOP** ■stops playback or recording
- 20 **MIC(rophone)**microphone jack
 - Level**microphone volume control
- 22 **PHONES**jack for headphones
 - Level**headphones volume control
- 23 **CD 1, 2, 3**select CD 1, 2 or 3/CD changer display and keys
- 29 **NO**deletes tracks from a program
 - deletes complete program
 - deletes text in Text Edit mode
- 30 ◀◀searches backward
 - reviews the tracks in a program
 - controls the cursor in different menus (Text Edit and Track Edit)
 - ▶▶searches forward
 - reviews the tracks in a program
 - controls the cursor in different menus (Text Edit and Track Edit)

- 31 **- JOG CONTROL +** - previous/next disc/track (play and program mode)
 - recording level control (recording)
 - balance control (recording)
 - selects settings (menu on)

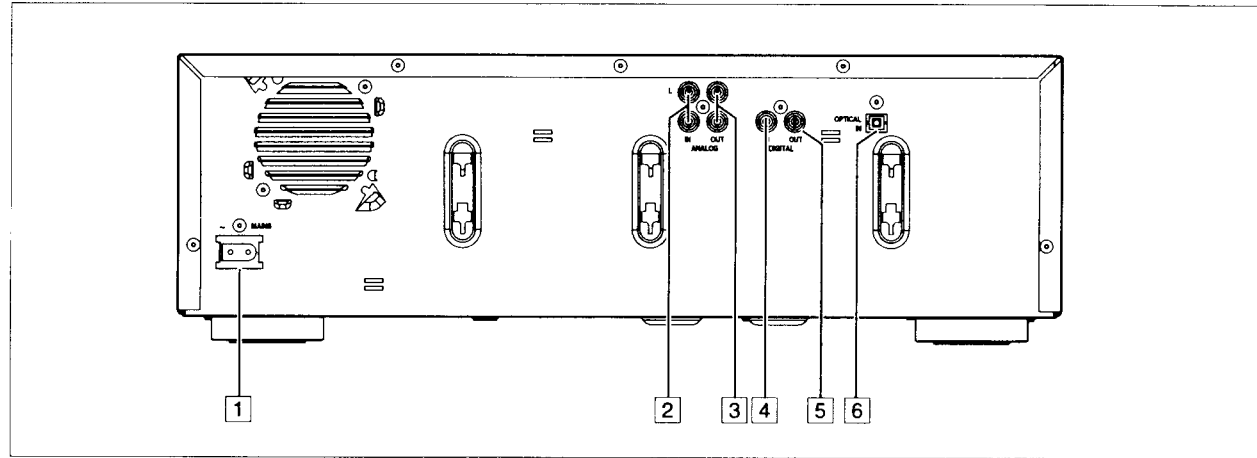
CD changer

- 15 **PROG(ram)**opens/closes program (review) memory
- 16 **TR(ack) EDIT**opens Track Edit mode to create your own 'tracks'
- 18 **OPEN/CLOSE** ▲opens/closes disc tray
- 21 **CD CHANGE**selects disc in CD changer
- 24 Disc tray

CD recorder

- 11 **Recording keys**
 - CD → CD**selects high speed/auto finalise recording mode
 - COMPILE CD**selects high speed recording mode/opens program memory
 - REC(ord) TYPE**selects other recording modes
- 12 **REC(ording) LEVEL**enables the EASY JOG key to set the recording level control
- 13 **BALANCE**enables the EASY JOG key to set the balance
- 14 **TEXT**opens Text Edit mode and stores entered text
- 25 Disc tray
- 26 **ERASE**erases recordings
- 27 **Recording Led** Blue in Stop and Play mode
 - Red during recording
 - Red blinking during erasing
- 28 **FINALIZE**finalises/unfinalises disc
- 32 **OPEN/CLOSE** ▲opens/closes disc tray

Note: Unless stated otherwise, all controls are on the front of the CD recorder/changer. When provided on the remote control, you can also use the corresponding buttons, after selecting the CD recorder or CD Changer by pressing CD-R or CD 1, CD 2, or CD 3.

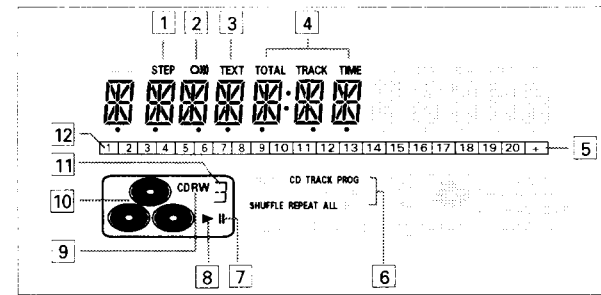


Connections at the back

- 1 Connection to power
- 2 **ANALOG IN**.....connects to the line output of a tape deck, amplifier or other analogue source
- 3 **ANALOG OUT CDR & CD**.....connects to the line input of an amplifier. (left and right)
- 4 **DIGITAL IN**.....connects to the digital coaxial output of an external CD player
- 5 **DIGITAL OUT CDR & CD**.....connects to the digital coaxial input of e.g. amplifier or recording device
- 6 **OPTICAL IN**.....connects to the digital optical output of an external CD player

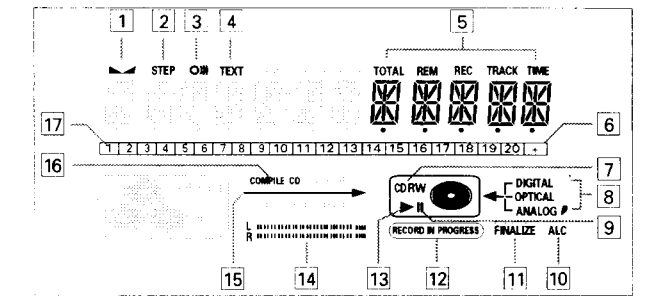
DISPLAY indications

CD changer section



- 1 **STEP**.....indicates the number of tracks in a program
- 2 **CD**.....remote control active
- 3 **TEXT**.....CD TEXT active
- 4 **TRACK TIME**.....track time (CDC)
TOTAL TIME.....total time (CDC)
TRACK.....track number
- 5 **+**.....disc or program contains more than 20 tracks
- 6 **PROG**.....flashes during programming/ lights in program mode
SHUFFLE.....plays tracks in random order
REPEAT TRACK.....lights up when a track is repeated
ALL.....lights up when all tracks on the discs in the changer are repeated/when a program is repeated
CD.....lights up when a complete disc in the changer or recorder is repeated
- 7 **II**.....pause function active
- 8 **▶**.....lights during play
- 9 **CD**.....CD selected (a pre-recorded CD or finalised CD-R or CD-RW disc)
CD R.....unfinalised CD R disc selected
CD RW.....unfinalised CD RW disc selected
- 10CD changer selected and CD(s) inserted in compartment 1, 2 and/or 3 (a prerecorded CD or finalised CD-R or CD-RW disc)
- 11disc in play or selected
- 12 **Track bar**.....indicates:
.....- number of tracks on a disc or in a program
.....- number of track in play

CD recorder section



- 1balance
- 2 **STEP**.....indicates the number of tracks in a program
- 3 **CD**.....remote control active
- 4 **TEXT**.....CD TEXT active
- 5 **TRACK TIME**.....track time (CDR)
TOTAL TIME.....total time (CDR)
REM REC TIME.....remaining recording time
REM TRACK TIME.....remaining track time
TOTAL REM (TRACK) TIME.....total remaining (track) time (in dubbing mode)
- 6 **+**.....disc or program contains more than 20 tracks
- 7 **CD**.....CD inserted (a pre-recorded CD or finalised CD-R or CD-RW disc)
CD R.....unfinalised CD R disc inserted
CD RW.....unfinalised CD RW disc inserted
- 8 **DIGITAL**.....digital input selected for external recording
OPTICAL.....optical input selected for external recording
ANALOG.....analog input selected for external recording
.....microphone input active
- 9 **II**.....pause function active
- 10 **ALC**.....Auto Level Control active
- 11 **FINALIZE**.....lights up during finalizing a recording
- 12 **RECORD IN PROGRESS**.....Lights during recording
- 13 **▶**.....lights during play
- 14 **L/R II II**.....indicates the audio signal level
- 15internal recording activated
- 16 **COMPILER CD**.....lights up when Compile CD mode is selected
- 17 **Track bar**.....indicates:
.....- number of tracks on a disc or in a program
.....- number of track in play

DISPLAY indications

Messages, as listed and explained here, may appear on the display for your guidance.

General

MARANTZ CD RECORDER

-when set is switched on
- READINGreading disc information
- OPEN CDE / CDRduring tray opening of changer/recorder
- PROGRAM FULLprogram full
- INSERT DISCinsert disc or insert disc in correct way/when recording is activated while no CD is inserted
- WRONG DISCinserted disc is no audio CD
- NOTFINALIZED lights up when unfinalized CDR(W) disc is inserted in CD changer
..... flashes when CDR disc tray is opened with unfinalised CDR(W) disc inserted
- MEMORY - 9/10 lights up when 87 % of memory is used
..... gives the amount of memory used, when tray is opened

Recording

- WAITwhen STOP ■ is pressed during recording the first 4 seconds of a track
- UPDATEupdating disc contents
- DISC-FULLno more recording possible
- AUX DIGITALdigital coaxial input 1 selected
- AUX OPTICALdigital optical input selected
- AUX ANALOGanalog input selected
- COPY PROTECTno digital recording can be made of the external source
- UNFINALIZED when opening the tray with an unfinalized disc inserted
- CD FAST ?high speed recording of a complete disc from the CD Changer
- TRACK FAST ?high speed recording of a single track from the CD Changer
- CD LISTEN ?normal speed recording of a complete CD from the CD Changer
- TRACK LISTEN ?normal speed synchronized recording of a single a track
- RECORD CD X ?recording of the entire disc selected
- COMPILE CD ?High Speed recording of compilation (program) selected
- AUX CD ?Synchronised Start of recording of a complete disc from external source
- AUX TRACK ?Synchronised Start of recording of a single track from external source
- AUX MANUAL ?Manual Start of recording from external source selected
- AUX MIX MIC ?Manual Start of mixed recording of microphone and external source input
- REC TR X ?select a track for recording

- MIC ONLY ?Manual Start of microphone recording
- CLEAR A-B ?when clearing a passage
- A-B FAST ?highspeed recording of a particular passage
- A-B LISTEN ?normal speed recording of a particular passage
- REC LEV - XX DBrecord level is being adjusted
- NOT FITTINGtime left on CDR(W) disc is not enough for proposed recording
- ANALOG RECcopy prohibited track found during internal recording. Track will be copied analog (Copy Protection Regulations).
- ERASE ?recorder asks for confirmation when erasing
- ERASE X + ?recorder asks for confirmation when erasing mote than one track
- ERASE DISC ?recorder asks for confirmation when erasing a disc
- FINALIZE ?recorder asks for confirmation when finalising a disc
- FINALIZEDwhen trying to finalise an already finalised disc
- FINALIZED CDwhen trying to record on an already finalized disc
- UNFINAL XXtime countdown during unfinalizing
- CHECK INPUTwhen RECORD is pressed while no digital source is detected
- ERASE XX XXtime countdown when erasing a track or a disc
- FINAL XX XXtime countdown when finalising a disc
- PROF SOURCEwhen a professional source is connected
- A - 0/00when point A of a passage to be repeated is stored

Play

- PROGRAMprogram mode selected
- PLAY PROGRAMplayback of program
- CLEAR PROG ?when clearing a program
- CD X ALLcomplete CD X selected for programming

Others

- AUTO FINALwhen activating/disactivating the auto finalize function
- NO AUDIO TRwhen the recorder enters a data track during recording
- FINALIZE CDlaser power calibration performed 96times, please finalize disc
- INITIALIZINGduring laser power calibration for unfinalized discs
- DISC RECOVERduring disc recovering after power failure
- OPC ERRORfailure during OPC procedure (OPC = Optimum Power Calibration)
- RECORD ERRORrecording error in menu mode
- DISC ERRORwhen trying to record on or finalize a recovered disc
- MEMORY FULL /when no more text can be stored for a
FINALIZE CDcertain disc. Another disc has to be finalized to obtain memory space
- NO TRACKSwhen text input is given for an empty disc
- TEXT EDITwhen entering Text Edit mode
- ALBUM ARTISTwhen editing or erasing an artist name
- ALBUM TITLEwhen editing or erasing a title
- TR N ARTISTwhen editing or erasing an artist name per track
- TR N TITLEwhen editing or erasing a title per track
- TEXT ERASEwhen erasing text
- ALL TEXTwhen erasing all text selected
- ERASEwhen confirmation for erasing has to be given with YES key
- ERASE ALLwhen confirmation for erasing has to be given with YES key
- ERASE MEMORYwhen waiting for confirmation when erasing a text
- TEXT MEMORYwhen selecting text review per unfinalised disc in memory
- MEMORY EMPTYwhen TEXT MEMORY is selected while no text is in memory
- AUTO TRACKwhen selecting auto track increment ON or OFF
- ALBUM TITLEwill be followed by album title
- TRACK TITLEwill be followed by track title
- ALBUM ARTISTwill be followed by artist name
- TRACK ARTISTwill be followed by track artist name
- NO TEXTno text stored for disc/track

Connections general

For playback on the CD recorder from the CD changer deck the following outputs are present:

- Digital coaxial output (CD & CD-R)
- Analog output (CD & CD-R)

We advise you to connect these to the TAPE or CD-R input on your amplifier.

For external recording the following inputs are present:

- Digital optical input
- Digital coaxial input
- Analog input (stereo)

The connections you make will depend upon the possibilities your audio equipment offers. Please refer to the user manuals for your other audio equipment first.

Digital recordings (optical or coaxial) give the best performance in audio and usability (e.g. auto-track).

(The digital optical connection is less sensitive to external disturbances).

If your equipment does not offer digital connections, the high quality Analog-Digital-Convertor of your set will ensure very good audio performance when recordings are made from the analog input.

Playback via the digital coaxial output of the CD recorder gives the best audio performance.

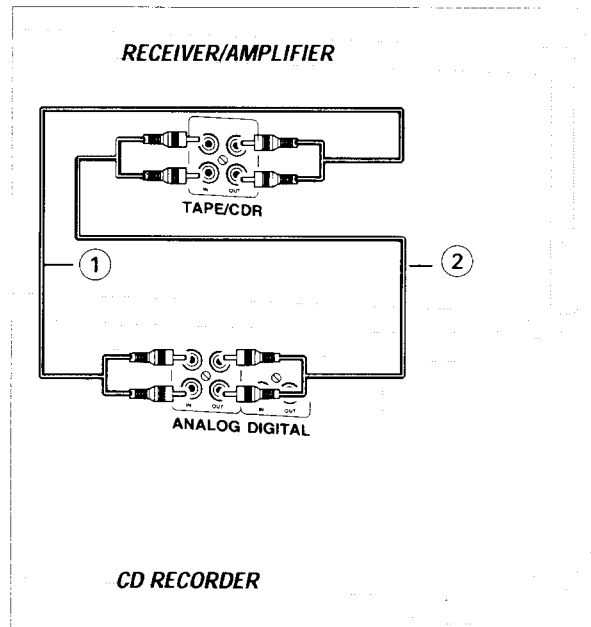
If your equipment does not offer digital connections, the high quality Digital-Analog-Convertor of the set ensures a very good sound quality via the analog output.

We advise you to always establish both digital and analog connections. In this way you can always make analog recordings when digital recording is not possible.

We have described the most common ways of connecting the CD recorder. If you still have difficulties with the connections you can always contact the **Marantz** Consumer Service desk in your country.

Analog connections

This connection must be made for playback on the CD recorder deck as well as the CD changer deck (cord 2). Cord 1 is only required if you want to make recordings from an external analog source.



Use the audio cords supplied. Connect the red plugs to the R jacks, and the white plugs to the L jacks.

- 1 For external recording, connect cord ① between the ANALOG IN-jacks on the set and the CDR LINE- or TAPE OUT-jacks of an amplifier.

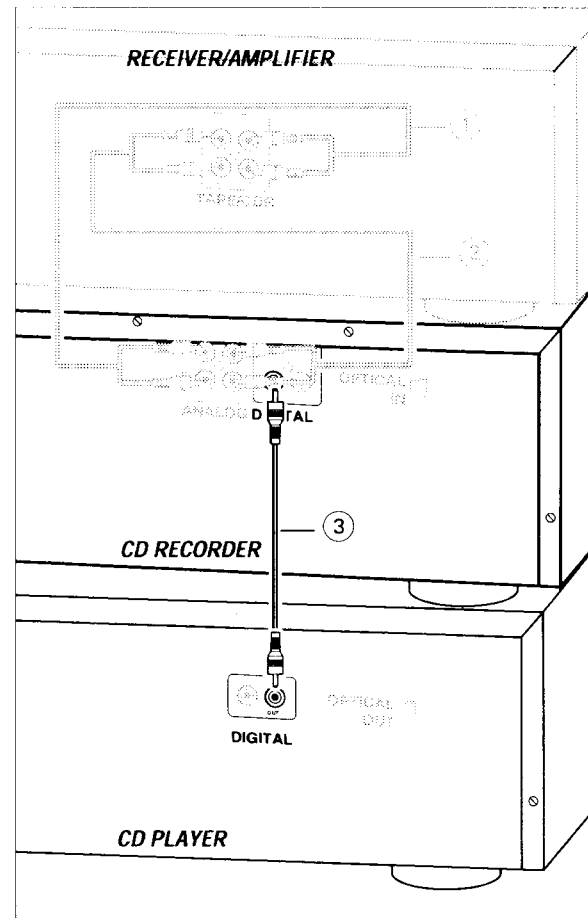
Note: For recording directly from a CD player or tape deck, the analog input of the set should be connected to the analog output of the CD player or tape deck.

- 2 For playback, connect cord ② between the ANALOG OUT-jacks on the set and the input jacks of an amplifier e.g. TAPE IN, CD-R or AUX.

Note: Never use the PHONO input.

Digital coaxial connections

This connection is required if you want to make recordings from an external CD player with a digital coaxial output.

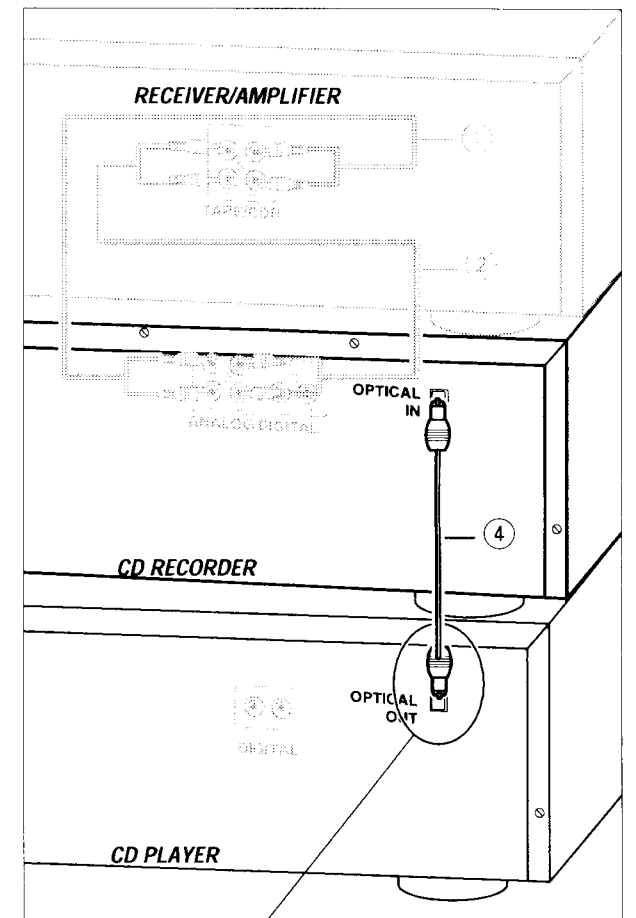


- 1 For external recording, connect the cord ③ between the DIGITAL IN-jack on the set and the DIGITAL OUT-jack of an external CD player.

Note: Your set is equipped with a digital coaxial output (common output for CD recorder & CD changer deck). This output can be used for digital playback.

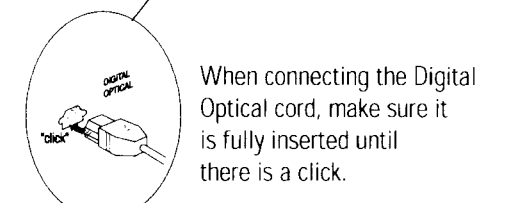
Digital optical connections

This connection is required if you want to make recordings from an external CD player with a digital optical output.

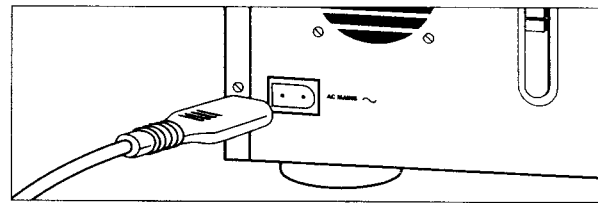


- 1 Remove the dust caps from the digital optical connection. (We recommend you save the cap.)
- 2 For external recording, connect a fibre-optic cord ④ between the digital optical input of the set and the digital optical output of an external CD player.

Note: For playback, the digital coaxial outputs or analog outputs of the CD Changer and CD recorder should be connected to an amplifier.



Power supply/Mains



The type plate is located on the rear of the set.

1 Check whether the power voltage as shown on the type plate corresponds to your local power voltage. If it does not, consult your dealer or service organisation.

2 Make sure all connections have been made before switching on the AC power supply.

3 Connect the power cord supplied to AC POWER - and to the wall outlet. This switches on the AC power supply.

4 Press ON/OFF to switch on the set.
→ MARRANTZ CD RECORDER will be displayed.

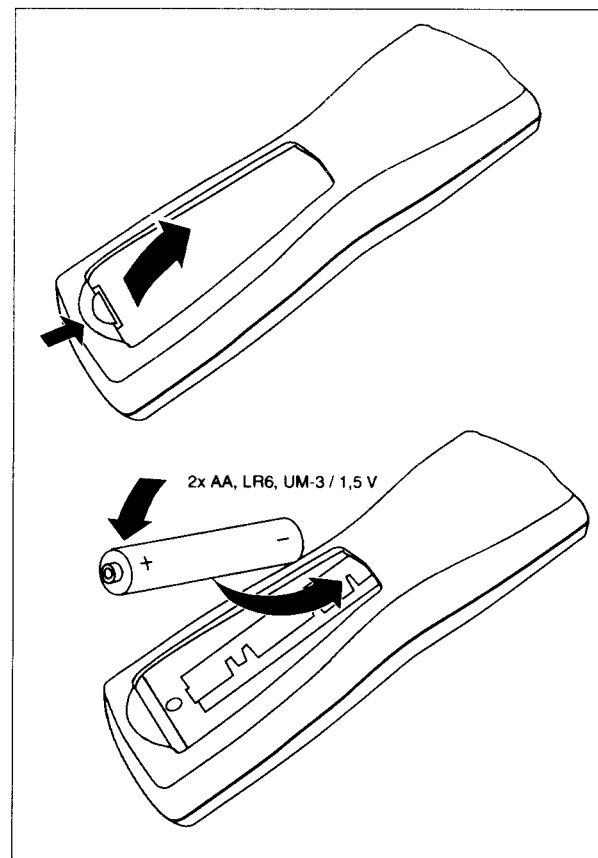
- Press ON/OFF again to switch off the set.
- Press \odot on the remote control to switch the set to Standby mode.

When the set is switched to standby, it is still consuming some power. To disconnect the set from the power completely, remove the power plug from the wall outlet.

Setup recommendations

- Place the set on a solid, vibration free surface.
- Make sure there is sufficient space around the set to prevent overheating.
- Do not place the set near a source of heat or in direct sunlight.
- Do not use the set under extremely damp conditions.
- If the set is placed in a cabinet, make sure that a 2.5 cm space remains free on all sides of the CD recorder for proper ventilation.
- Active mobile phones near to the set may cause malfunctions.

Inserting batteries in the remote control

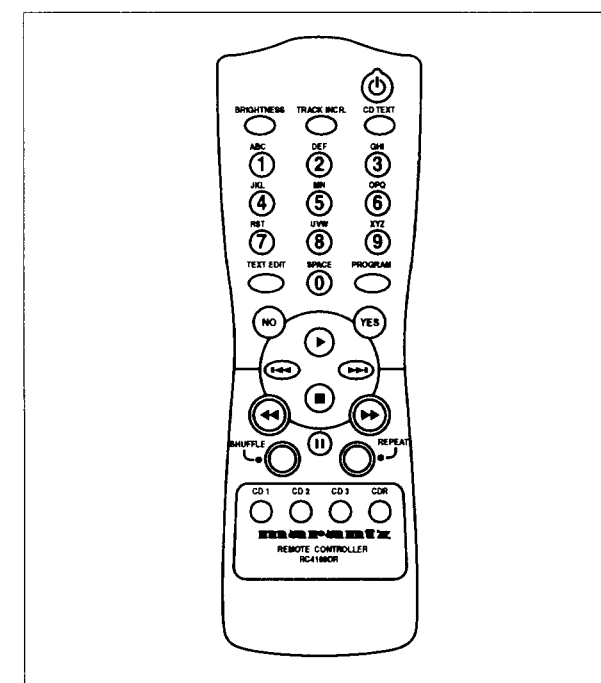


- 1 Open the battery compartment cover.
- 2 Insert 2 batteries (AA, LR6 or UM-3; as supplied) as shown.
- 3 Replace the cover.

Note: We recommend you use 2 batteries of the same type and condition.

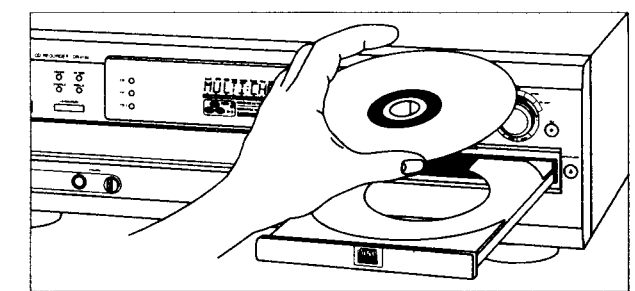
Batteries contain chemical substances, so they should be disposed of properly.

Remote control commands



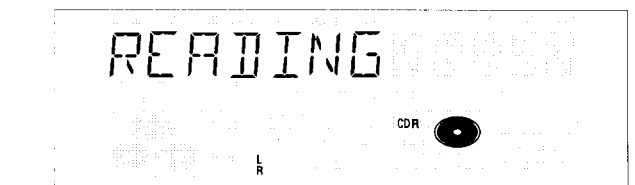
- STANDBY \odot switches to Standby
- BRIGHTNESS sets the brightness of the display
- TRACK INCR(ement) selects automatic or manual increase of track numbers during recording
- CD TEXT activates CD text mode
- Number/alphabet keys 0 - 9 selects a track by number
- TEXT EDIT opens Text Edit mode and stores entered text
- SPACE inserts space during text input
- PROGRAM opens/closes program memory
- NO deletes tracks from a program
- YES deletes complete program
- TEXT EDIT (arrow) deletes text in Text Edit mode
- YES (arrow) selects settings in Text Edit and Track Edit mode
- TEXT EDIT (arrow) stores Text settings
- YES (arrow) plays selected tracks
- TEXT EDIT (arrow) programs track numbers
- ▶ starts CD(RW) play
- ◀ previous track (Play and Program mode)
- ▶ (arrow) next track (Play and Program mode)
- stops CD(RW)
- ◀ (arrow) searches backward
- ▶ (arrow) cursor control in Prog. review mode
- ▶ (arrow) searches forward
- ▶ (arrow) cursor control in Prog. review mode
- || interrupts CD(RW) play
- SHUFFLE plays CDs, CD(RW) or program in random order
- REPEAT repeat play
- CD 1, 2, 3 selects discs in CD changer
- CDR selects CD recorder

CD recorder

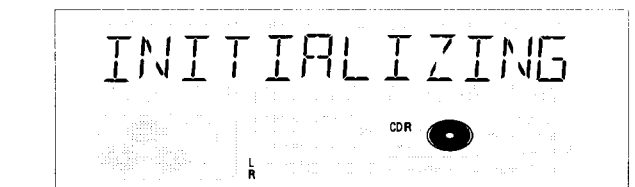


Note: Only Audio CDs will be accepted in the CD recorder deck. If a non-audio disc is inserted, the display shows WRONG DISC.

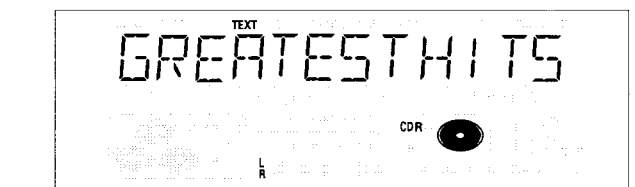
- 1 Press OPEN/CLOSE to open the disc tray.
→ OPEN CDR lights up.
- 2 Insert a CD, CDR or CDRW in the appropriate recess in the tray, label side up.
- 3 Press OPEN/CLOSE to close the tray (see also "Playing").
→ READING lights up and the display will show the type of disc inserted.



- If a CDR(W) is finalised it will show **cd** on the display.
- If you insert a blank or partly-recorded CDR or unfinalised CDRW, the CD recorder will calibrate the disc for optimum recording. During this process the display will first show READING; INITIALIZING and then the number of audio tracks. Calibration can take up to 25 seconds.



- If CD-text is available the TITLE/ARTIST will scroll by.



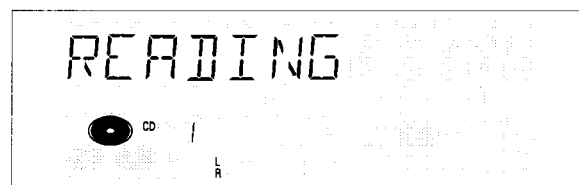
IMPORTANT! For recording it is important that the blank disc is completely free from dust particles or scratches (see CD(RW) handling).

CD changer

Note:

Only Audio CDs will be accepted in the CD changer deck. If a non-audio disc is inserted, the display shows **WRONG DISC**.

- 1 Press OPEN/CLOSE to open the disc compartment.
→ OPEN CDC lights up.
- 2 Insert CDs in the two outer disc trays, label side up.
 - Press CD CHANGE.
→ The CD carousel tray will rotate until the inner tray is at the right hand side.
- 3 Insert a CD in the tray, label side up.
- 4 Press OPEN/CLOSE to close the compartment (see also Playing a CD).
→ READING lights up and the display will show the type of disc inserted.



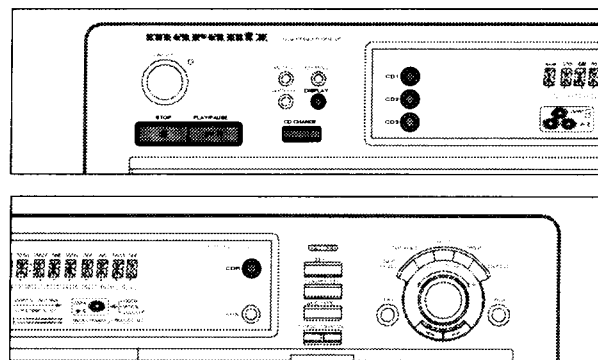
Changing discs during play

- 1 Press OPEN/CLOSE to open the disc compartment.
→ OPEN CDC lights up.
- 2 The CDs in the two outer disc trays can be changed while play continues.

IMPORTANT!

When an unfinalized disc is inserted reading may take up to 1 minute. READING will then be displayed, followed by NOT FINALIZED.

Playing

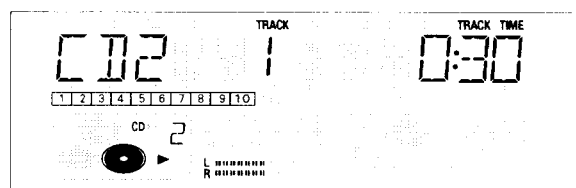
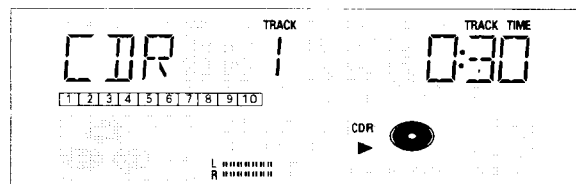


CD recorder

- 1 Press CDR.
→ The CDR label lights up.
- 2 Press PLAY/PAUSE ►|| to start play.

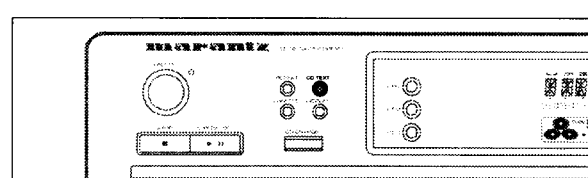
CD changer

- 1 Press CD 1, 2 or 3.
- 2 Press PLAY/PAUSE ►|| to start play.
 - Play starts with the first track of the disc in the CD recorder or the selected disc in the changer.
 - The track number and track time of the track in play appear on the display.



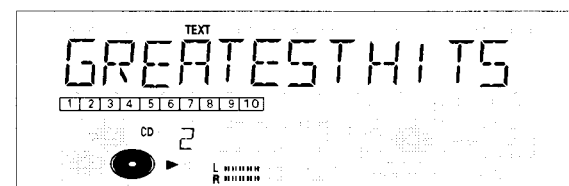
- Press DISPLAY once, twice or three times to see:
 - remaining track time, total remaining time, permanent CD text.
- To interrupt play temporarily, press PLAY/PAUSE ►|| again.
→ || lights on the display.
- To continue play, press PLAY/PAUSE ►|| again.
- 3 To stop play, press STOP ■.
 - The number of tracks and the total playing time appear on the display.
 - After the last track play will stop. If CDC was selected, play will continue with the next disc.

CD text



This feature allows the display of information such as album title or track title contained on a specially encoded CD.

- Make sure to insert a CD with CD text.
→ TEXT is shown and the album title is scrolled once.



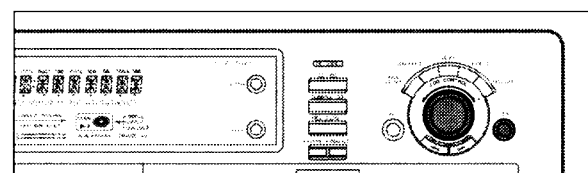
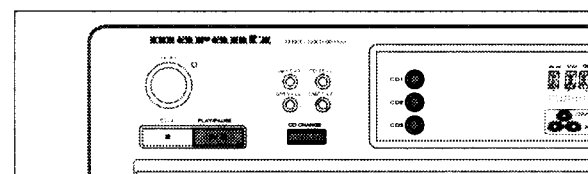
CD text when playback is stopped

- Press CD TEXT to see the following information, which will be scrolled once (if available):
 - Artist name of album
 - Album title

CD text during playback

- Press CD TEXT to see the following information, which will be scrolled once (if available):
 - Artist name for track (on CD recorder only)
 - Track title

Selecting a disc



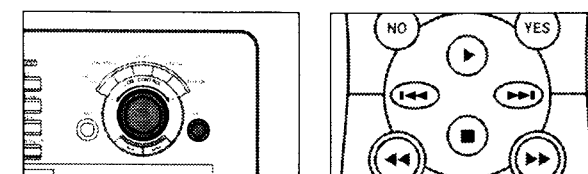
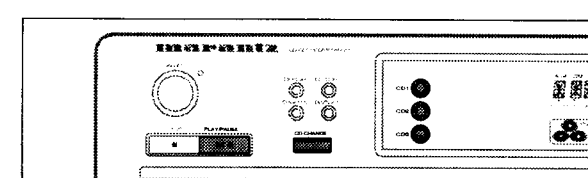
Selecting a disc during play

- 1 Press CD 1, 2 or 3 or CDR to select a particular disc.
→ Playback is stopped and the new disc is selected.
- 2 Press YES or PLAY/PAUSE ►|| to start play.

Selecting a CD in STOP mode

- 1 Press CD 1, 2 or 3 or CDR to select the required disc number.
- 2 Press PLAY/PAUSE ►|| to start play.
→ Play starts with the first track of the selected disc.

Selecting a track



Selecting a track during play

- 1 Rotate — JOG CONTROL + until the required track number appears on the display.
→ Play skips to the beginning of the selected track.

or

Select CDR or CDC (CD 1, 2 or 3) on the remote control and key in the required track number using the numerical keys on the remote control. For 2-digit track numbers, press the keys in rapid succession.

→ Play skips to the beginning of the selected track.

or

Press ◀◀ or ▶▶ on the remote control one or more times.

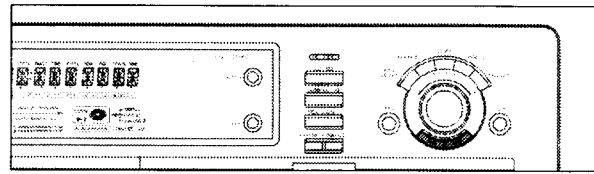
→ Play skips to the beginning of the present, previous or subsequent tracks.

Note: For tracks on another disc, first select the required disc by pressing CD 1, CD 2, CD 3 or CDR.

Selecting a track when CD play is stopped

- 1 Rotate — JOG CONTROL + until the required track number appears on the display.
 - 2 Press PLAY/PAUSE ►|| or YES to start playing.
- or
- 1 Select CDR or CDC (CD 1, 2 or 3) on the remote control and key in the required track number using the numerical keys. For 2-digit track numbers, press the keys in rapid succession.
- or
- 1 Briefly press ◀◀ or ▶▶ on the remote control one or more times.
- 2 Start playback by pressing PLAY/PAUSE ►||

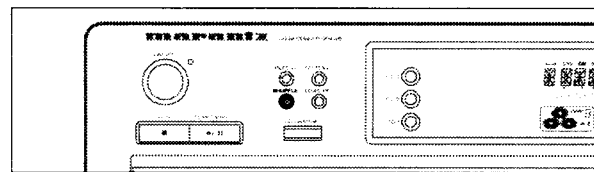
Search



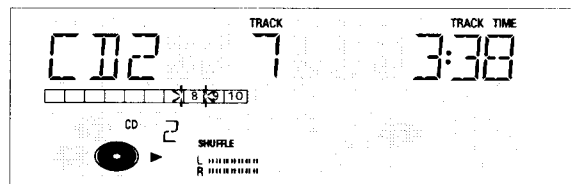
- 1 Hold down **◀◀** or **▶▶**.
→ The player first searches backwards or forwards at 10 times normal speed with sound at low volume, then goes to 50 times normal speed with sound muted.
- 2 Release the button at the desired passage.
→ Play starts at the desired passage.

Note: During Shuffle, Repeat Track or Programmed play, search is restricted to within the track being played at the time.

Shuffle (random order) play



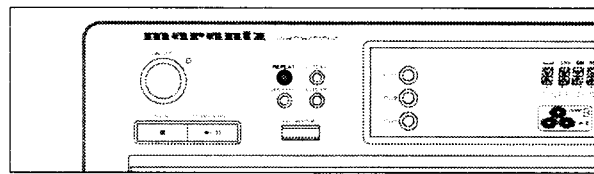
- 1 Press SHUFFLE before or during CD play to start shuffle play.
→ The tracks on the CD(RW) in the recorder (**SHUFFLE**), the tracks on the CDs in the changer (**SHUFFLE**) or the tracks in the program (**SHUFFLE PROG**) play in random order.



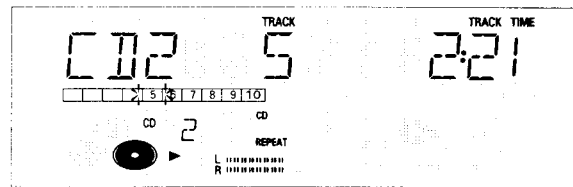
- 2 Press SHUFFLE again to return to normal CD play.

Note: Shuffle is also cleared if you open the disc tray.

Repeat CD(s), track or program



- 1 Press REPEAT one or more times during CD play.
→ When **REPEAT TRACK** lights up, the current track plays repeatedly. When **REPEAT ALL** lights up, the discs in the changer or the program play(s) repeatedly. When **REPEAT DISC** lights up, the selected disc in the changer or the recorder plays repeatedly.

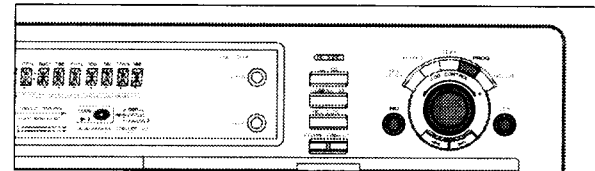
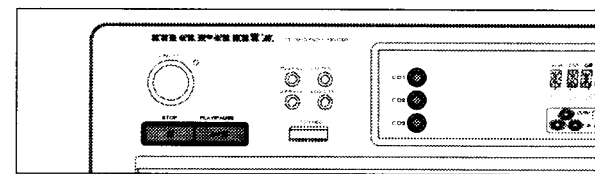


- 2 To return to normal play, press REPEAT one or more times until:
→ the **REPEAT** label disappears from the display.

Note:

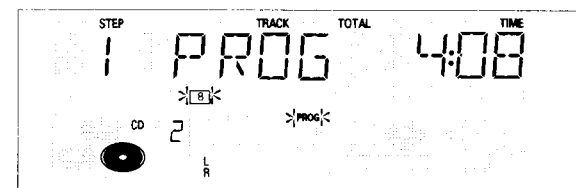
- You can use shuffle in combination with **REPEAT ALL** or programmed play of the CD Changer.
- **REPEAT** is also cleared if you open the disc tray.

Programming track numbers

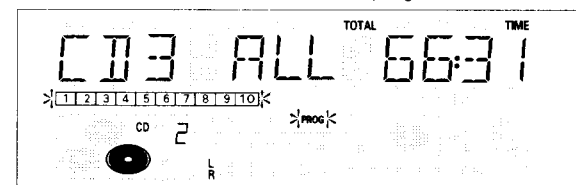


You can select tracks and store them either in the CD changer, or CD recorder memory. If you use the program for playback you can choose one of the two memories, else if you like to specify tracks for recording, use the CD changer memory only! You can store any track more than once.

- 1 Load the desired disc(s) in the disc tray(s).
- 2 Press either CD 1, CD 2, CD 3, or CDR to select the disc.
- 3 Press PROG(ram).
→ **PROG** starts blinking and **PROGRAM** is displayed.
- 4 Rotate **- JOG CONTROL +** (press the numerical keys on the remote control; for 2-digit numbers, press the keys in rapid succession) to select the required track numbers and store each track by pressing YES.
→ The number of programmed tracks (**STEP**), **PROG** and the total program time are displayed.

**CD changer only**

- If you wish to program a complete CD from the CD Changer rotate **- JOG CONTROL +** to select **CD 1** (or **2, 3**) **ALL** and press YES.
→ All tracks of CD 1 (or 2, 3) will be programmed.



- 5 Press PROG(ram) to end programming.
→ **PROG** stays shown and the program is currently available.

*Note: If the maximum number of programmable tracks is reached, the display shows **PROGRAM FULL**.*

Erasing a track from the program

- 1 If necessary press STOP ■.
- 2 Press either CD 1, CD 2, CD 3, or CDR to select the desired memory.
→ **CLEARED** is displayed briefly.
- 3 Press PROG(ram), followed by **◀◀** or **▶▶** to move through the program steps.
→ The track number at the selected step and the total program time are displayed.
- 4 Press NO to remove the track from the program.
→ **CLEARED** is displayed briefly.
→ The next programmed track number will move up to this position and is displayed together with the step number and the remaining total program time.

Clearing the program

- 1 If necessary press STOP ■.
- 2 Press NO.
→ **CLEAR PROG ?** is displayed.
- 3 Press YES to clear the program.
→ **PROG CLEARED** will be displayed and **PROG** goes off.

Note: If you open the CD recorder or the CD changer tray the respective program will be cleared.

Making a program for recording

See 'High speed recording and automatic finalizing (optional) of the current program' under chapter 'Internal recording'.

Basic information

We will describe:

– **Digital recording from internal CDC** (fast or normal recording).

– **Recording from external CD player:**

- Digital
- Digital (synchronized start with external CD player)
- Analog

– **Finalizing discs:**

Finalizing a CDR(W) disc is a simple procedure, necessary to:

- play a recorded CDR on a standard CD player
- play a recorded CDRW on a CDRW compatible CD player

• The recording procedure is the same for CDR and CDRW discs. **Make sure that the CDR(W) is absolutely free of scratches and dust particles.**

• It is advisable to use a CDRW disc for your first try.

• If the disc already contains recordings, the CD recorder will automatically search for the end of the last track, so that recording can start from there.

• For recordings, the minimum track length is 4 seconds. You can record up to a maximum of 99 tracks on a disc. The minimum of recording time left on the disc is 7 seconds. Else, **NOT FITTING** is displayed and you cannot enter into the record standby mode.

• When you try to record a copy protected material from an external source, **COPY PROTECT** will be displayed. No further digital recording is possible then.

• The **Serial Copy Management System** (SCMS) only allows digital recording under specific conditions:

- This means that it is not possible to make a digital copy from a digital copy.
- Analog recording is always possible !
- The number of recordings from the original is unlimited.

• Recordings from DAT or DCC players will not always stop automatically.

Important:

If you want to play the recorded CDR disc on any regular CD player, it must first be finalised. See finalising discs.

Finalised CDRW discs play only on CDRW compatible CD players.

For recording from external CD changers do not use AUX MANUAL, but AUX TRACK or AUX CD.

Direct Line Recording (DLR)

The CD recorder is equipped with the high-performance **Direct Line Recording** technique. It ensures a perfect recording of the source material, meaning a true "bit for bit" recording. DLR will always become active, when you make normal recordings in listen mode as well as in double speed mode.

Auto Level Control (ALC)

Auto Level Control ensures that the tracks on the recorded disc have a similar volume level. Always the already recorded tracks of the CDR(W) disc will be taken as reference for the volume level of the following recordings. ALC is active, when **ALC** is shown.

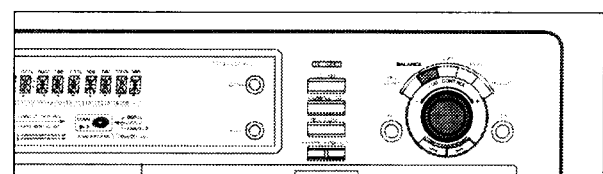
Auto level control becomes active, when:

- COMPILE CD is being used,
- a disc, a track or a track edit (A-B) is being high speed recorded,
- a program from the CD changer is being high speed recorded.

Auto level control will not become active, when:

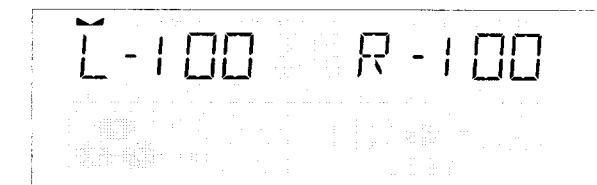
- CD→CD is being used for an empty CDR(W),
- making recordings from an external source, or
- making normal recordings in listen mode.

BALANCE key



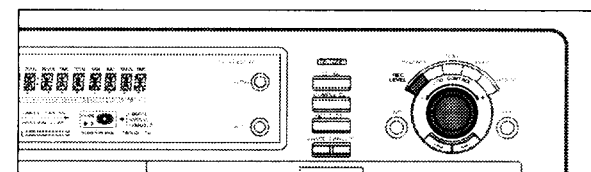
You can set the reference record balance for both digital and analog recordings.

- 1 Keep BALANCE on the set pressed to enable the – JOG CONTROL + to set the BALANCE.
- 2 Rotate the – JOG CONTROL + to set the desired balance. → The set balance will be displayed.



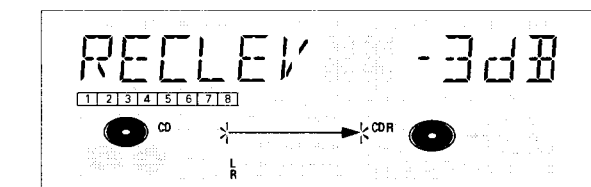
• The balance is reset after the set has been switched to standby.

REC LEVEL key



You can adjust the reference record level for both digital and analog recordings. This is also possible when ALC is active. This feature can be used for fading your recordings in or out.

- 1 Select the required recording mode (see Recording modes).
- 2 Keep REC LEVEL on the set pressed to enable the – JOG CONTROL + to adjust the record level.
- 3 Rotate the – JOG CONTROL + to the left to adjust the desired record level. → The actual record level (in dB) will be displayed.



• The record level is reset after the set has been switched to standby.

Remarks on recording

- During high speed recording, the original recording quality will be maintained.
- When Auto Track is on (default setting), track numbers will automatically be increased during recording.
- If a finalised CDR disc is inserted in the CD recorder and CD→CD is pressed, **FINALIZE CD** will be displayed. Recording is not possible.
- If a finalised CDRW disc is inserted in the CD recorder and REC TYPE is pressed, **UNFINALIZE ?** will be displayed. If YES is pressed, the disc will be unfinalised.

*Note: If during recording **ANALOG REC** appears, the track is copy protected and will be recorded as analog, at normal speed. All other tracks will be copied normally (at double speed).*

Warning: No more recording possible after finalizing CDR discs!

The CD-Recorder records the text memory simultaneously when using the internal CD-deck. Some discs are prohibited to copy the text memory. If such a disc is copied, no text memory will be recorded.

- When you copy a special disc such as HDCD or DTS, you have to
 - set the sampling frequency at 44.1kHz.
 - use the digital connection.
 - set the digital rec-volume of the CD-Recorder at 0 dB.
- When you copy the tracks from a DAT recorded by different sampling frequencies, noise might be recorded in the disc. Please set a sampling frequency for every track in a DAT.
- This CD-Recorder can record about 17 seconds of a pause time, which decreases the time count just before music start in a track on the display. If you record a track including more than 17-seconds-pause time by digital recording, the pause time will be recorded the different length of time from original. However, the entire track time will not be changed and be able to listen to the music as same as original.

Recording modes

For recording from the internal CD Changer-deck you can choose following recording modes:

– **High speed recording and automatic finalizing:**

Fast and easy! Record and finalize your CDR(W) in one quick step while the sound is muted. You can record:

- the current CD (**CD → CD**);
- a program (**COMPILE CD**).

– **High speed recording (REC TYPE):**

Record your CDR(W) fast while the sound is muted. You can record:

- an entire CD (**CD FAST**);
- a track (**TRACK FAST**);
- a program (**COMPILE CD/ PROG FAST**);
- a track edit (**AB FAST**).

– **Normal recording and listening (REC TYPE):**

Listen to the recording while you are making it. You can record:

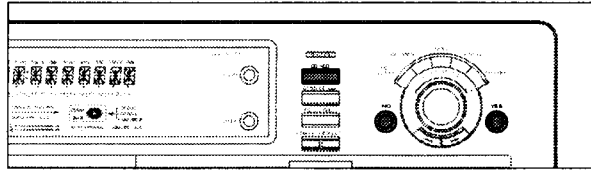
- an entire CD (**CD LISTEN**);
- a track (**TRACK LISTEN**);
- a program (**PROG LISTEN**);
- a track edit (**AB LISTEN**).

– **Microphone recording:**

Mix sound from the internal CD Changer with microphone input (**CD MIX MIC**).

High speed recording and automatic finalizing

High speed recording and automatic finalizing of the current disc



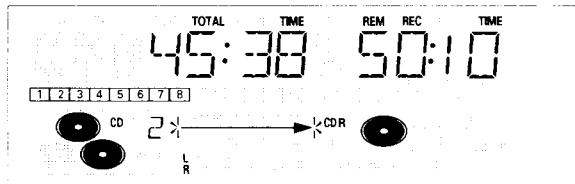
Notes:

- During High Speed recording, the Pause function is not operative.
- Copy prohibited tracks will be copied analog. ANALOG REC is displayed.
- During High Speed recording, the sound is not audible.
- When the CDR(W) already contains a recording the ALC function will become active. ALC then lights up on the display.
- If required the recording level can be set first, using the REC LEVEL key. See "Rec Level key" under "Recording General".

1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.

2 Press CD→CD to enter into the record mode.

- Both decks will be selected in the display, the arrow and the YES key start blinking. The remaining recording time of the CDR(W), the total playing time of the source CD and RECORD CD 1 (or 2, 3) ? are displayed.



3 Press YES to start recording and finalizing.

- The arrow lights, RECORDING IN PROGRESS and FINALIZE are shown, high speed recording and finalizing start and the actual recording time left starts to count down.

- To check the elapsed recording time, press DISPLAY. This can be done during recording.

- Recording will stop automatically.

4 To stop recording manually, press STOP ■.

- If STOP was pressed within 3 seconds after YES, no recording will take place.

Note: If a program was already available before pressing CD→ CD, this will be ignored. PROG goes off and the current disc will be recorded. After finishing the recording, PROG is shown and the program is available again.

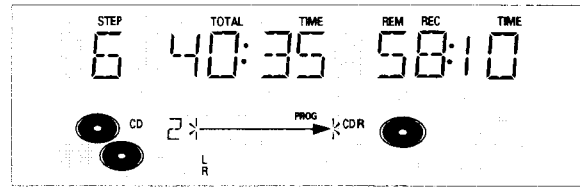
High speed recording and automatic finalizing (optional) of the current program

1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.

2 Select and store all desired tracks in the CD changer memory (see "Programming track numbers").

2 Press COMPILE CD to enter into the record mode.

- Both decks will be selected in the display, the arrow starts blinking. The remaining recording time of the CDR(W), the total playing time of the program and RECORD PROG ? are displayed.



- If the total time of the program is of bigger size than the remaining recording time of the CDR(W):
 - NOT FITTING ! will be displayed briefly, followed by the remaining recording time and RECORD PROG ?
 - If you still start recording, only the tracks of the program that fit onto the CDR(W) will be recorded.

3 Press either:

NO to change the program.

- PROG starts blinking. Now you can change the program (see "Program") and return to the record mode by pressing COMPILE CD.

or

YES to confirm recording.

- AUTO FIN ? is displayed.

4 Press either:

YES, if the CDR(W) shall be finalized after recording,

or

NO, if the CDR(W) shall not be finalized after recording.

- The recording process starts. The arrow lights, RECORDING IN PROGRESS is shown, high speed recording and FINALIZE (if selected) start and the actual recording time left starts to count down.

- To check the elapsed recording time, press DISPLAY. This can be done during recording.

- Recording will stop automatically.

5 To stop recording manually, press STOP ■.

- If STOP was pressed within 3 seconds after YES, no recording will take place.

Note:

If no program is available and you press COMPILE CD, you enter immediately into the program menu. Start your programming and return to the record mode by pressing PROGRAM or COMPILE CD.

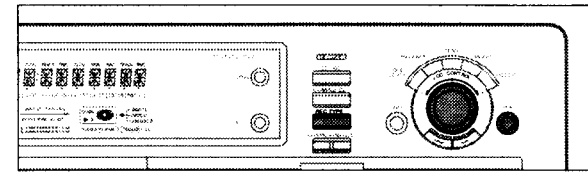
Important:

If you want to play the recorded CDR disc on any regular CD player, it must first be finalised. See 'Finalising discs'.

Finalised CDRW discs play only on CDRW compatible CD players.

High speed recording

High speed recording of an entire disc, a track, a program or a track edit



1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.

2 Press either CD 1, CD 2 or CD 3 to select the disc you wish to record from.

3 Press REC TYPE on the set to enter into the recording menu.

4 Rotate JOG CONTROL + to select one of the following high speed record modes:

If a disc from the CD changer is selected:

- CD FAST ? : for high speed recording of an entire disc.
 - Continue with step 5.
- TRACK FAST ? : for high speed recording of a track.
 - Press YES to confirm.
 - Rotate JOG CONTROL + to select the track.
- REC TR ? and the tracknumber is displayed.
 - Continue with step 6.

If CD changer program mode is available:

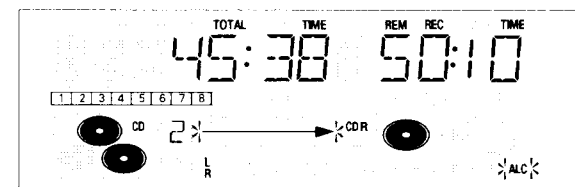
- PROG FAST ? : for high speed recording of the selected disc or of the program.

If CD changer track edit mode is available:

- A-B FAST ? : for high speed recording of the A-B track.

5 Press YES to confirm your selection.

- Both decks will be selected in the display, the arrow starts blinking. The remaining recording time of the CDR(W), the total recording time of the CDR(W) and either RECORD CD 1 (or 2, 3) ?, RECORD PROG ? or RECORD A-B ? is displayed.



6 Press YES to start high speed recording.

- The arrow lights, RECORDING IN PROGRESS is shown, high speed recording starts and the actual recording time left starts to count down.

- To check the elapsed recording time, press DISPLAY. This can be done during recording.

- Recording will stop automatically.

- To stop recording manually, press STOP ■.

- If STOP was pressed within 3 seconds after YES, no recording will take place.

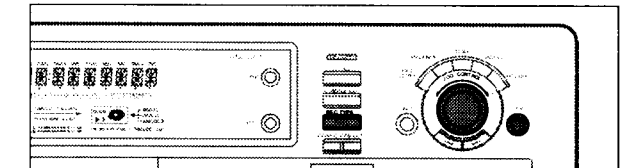
Important:

If you want to play the recorded CDR disc on any regular CD player, it must first be finalised. See 'Finalising discs'.

Finalised CDRW discs play only on CDRW compatible CD players.

Normal speed recording and listening

Normal recording and listening of an entire disc, a track, a program or a track edit



1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.

2 Follow step 2 and 3 of "High speed recording".

3 Rotate JOG CONTROL + to select one of the following normal record options:

If CD changer is selected:

- CD LISTEN ? : for listening to the entire disc during normal recording
 - Follow step 5 and 6 of "High speed recording".
- TRACK LISTEN ? : for listening to the track during normal recording
 - Press YES to confirm.
 - Rotate JOG CONTROL + to select the desired track.
- REC TR ? and the tracknumber is displayed.
 - Continue with step 6 of "High speed recording".

If CD changer program mode is available:

- PROG LISTEN ? : for listening to the program during normal recording

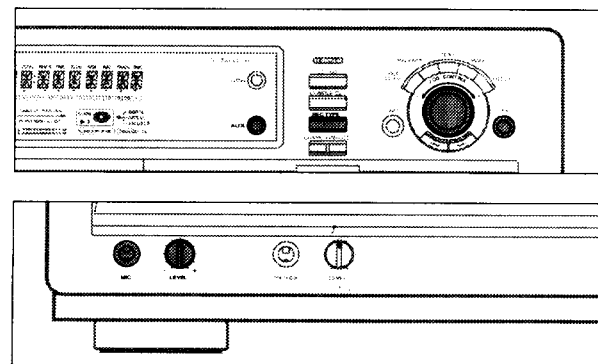
If CD changer track edit mode is available:

- A-B LISTEN ? : for listening to the A-B track during normal recording

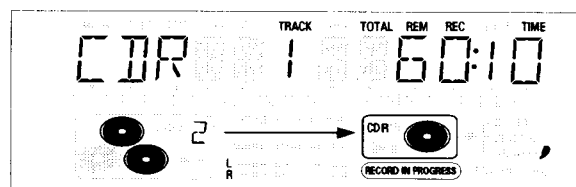
4 Follow step 5 and 6 of "High speed recording".

Note: If required the recording level can be set first, using the REC LEVEL key. See "Rec Level key" under "Recording General".

Microphone recording



- 1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.
- 2 Set MIC LEVEL to the minimum level to prevent acoustic feedback (e.g. a loud howling sound) before you connect the microphone.
- 3 Connect a microphone to MIC.
- 4 Press CD 1, CD 2 or CD 3 to select the disc you wish to mix the microphone with.
- 5 Press REC TYPE on the set to enter into the recording menu.
- 6 Rotate — JOG CONTROL + to select the manual record mode for the microphone:
→ CD MIX MIC is displayed.
- 7 Press YES to confirm.
→ WAIT is displayed.
→ RECORD ? is displayed.
- 8 Press YES to confirm.
→ Recording is started
- 10 Press PLAY/PAUSE II ► to start playback.
- 11 Rotate — JOG CONTROL + to select the desired track.
→ The selected source is mixed to the microphone.

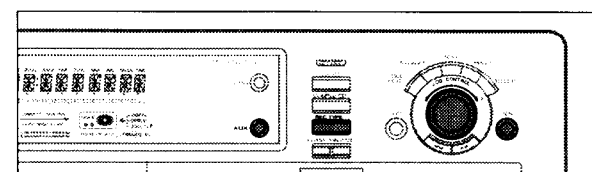


- 12 Press STOP ■ to stop recording.

- To perform microphone recording only see "Manual recording" of the chapter "External recording".

Note: The set is standard adjusted for a mono microphone. If you wish to use a stereo microphone, press AUX for more than 5 seconds. The set will display MONO ?. Press NO to select STEREO or YES to select MONO. STEREO MIC or MONO MIC will be displayed.

Analog or digital recording



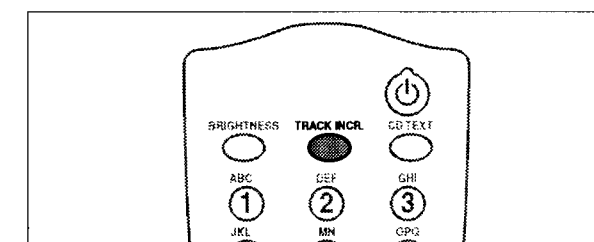
When making recordings from an external source, we recommend to do analog recording only if digital recording is not possible. Digital recording will usually result in better sound quality.

Recording modes

For external recording you can choose following recording modes:

- AUX CD - to make an automatic recording of an external source simply by starting the source.
- AUX TRACK - to make an automatic recording of a single track from an external source simply by starting the source.
- AUX MANUAL - to start a manual recording from an external source.
- AUX MIX MIC - to start a mixed recording of microphone and external source input.
- MIC ONLY - manual start of microphone recording.

Automatic track increment



In recording mode tracks will be incremented automatically such that the track numbers are positioned on the same position as the original.

- Press as often as necessary TRACK INCREMENT on the remote control during stop when CDR is selected to switch the automatic track increment function on.
→ AUTO TR ON is displayed and the function is switched on. Track increments are now automatically detected from digital source material. In analog source material a silence of 2.7 seconds or more is detected as a track increment.
- Press as often as necessary TRACK INCREMENT on the remote control during stop when CDR is selected to switch the automatic track increment function off.
→ AUTO TR OFF is displayed and the function is switched off. Track numbers can now be incremented manually by pressing TRACK INCREMENT on the remote control during recording. The minimum track length is 4 seconds.

Notes:

- Track numbers cannot be changed after recording.
- The automatic track increment only works with consumer sources with a digital output signal according to the IEC 958 (consumer part) audio standard. DAT, DVD and DCC do not deliver this signal.

Recording with automatic synchronized start

Recording of an entire disc or a track with automatic start

Important:

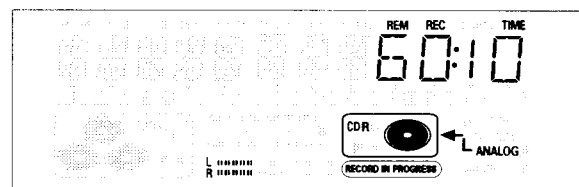
- Recording from CD-changers should always be started in the Auto-Start mode.
- For recording from external CD changers do not use **AUX MANUAL**, but **AUX TRACK** or **AUX CD**.

- 1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.
- 2 Press repeatedly AUX to select the input for the external source you want to record from.
 - **AUX DIGITAL** is displayed if the digital coaxial input is selected.
 - **AUX OPTICAL** is displayed if the digital optical input is selected.
 - **AUX ANALOG** is displayed if the analogue input is selected.
- 3 Press REC TYPE on the set to enter into the recording menu.
- 4 Rotate **- JOG CONTROL +** to select either:
 - **AUX CD ?**: for recording with synchronised start of an entire disc
 - **AUX TRACK ?**: for recording with synchronised start of a track
- 5 Press YES to confirm your selection.
 - **WAIT** is displayed for a few seconds.
 - **START SOURCE** is shown.

Notes:

- **IFCHECK INPUT** is flashing, check the digital connection.
- If required the recording level can be set first, using the **REC LEVEL** key. See "Rec Level key" under "Recording General".

- 6 Start playback on the selected source.
 - The CD recorder starts to record simultaneously and recording in progress is shown. The remaining recording time left of the CDR(W) is displayed.



Note: If you start playback on the selected source within a track, recording starts at the beginning of the next track or after 2.7 seconds of silence in analogue recordings.

7 If a digital source is selected:

After the recording process, the CD recorder stops automatically.

Note: Recordings from DAT or DCC will automatically stop after 20 seconds silence.

If an analogue source is selected:

After the recording process, the CD recorder stops after a silence of 20 seconds on the source material.

- To stop recording manually, press **STOP** on the set.
 - **RECORDING IN PROGRESS** goes off.

Important:

If you want to play the recorded CDR disc on any regular CD player, it must first be finalised. See finalising discs.

Finalised CDRW discs play only on CDRW compatible CD players.

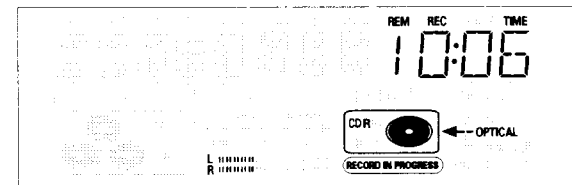
Manual recording

Manual recording from an external source

- 1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.
- 2 Press repeatedly AUX to select the input for the external source you want to record from.
 - **AUX DIGITAL** is displayed if the digital coaxial input is selected.
 - **AUX OPTICAL** is displayed if the digital optical input is selected.
 - **AUX ANALOG** is displayed if the analogue input is selected.
- 3 Press REC TYPE on the set to enter into the recording menu.
- 4 Rotate **- JOG CONTROL +** to select the record type.
 - **AUX MANUAL ?**: for manual start of recording
- 5 Press YES to confirm your selection.
 - **WAIT** is displayed.
 - **RECORD ?**, **AUX** and the remaining recording time of the CDR(W) are displayed.
- 6 Start playback on the external source in order to set the optimal recording level on the CD recorder (see "REC LEVEL key").

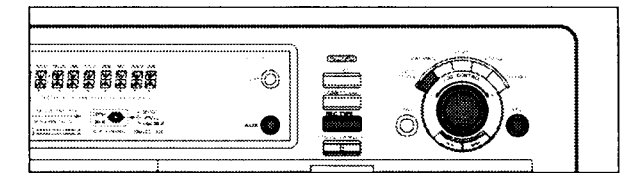
Note: IfCHECK INPUT is flashing, check the digital connection.

- 7 Stop playback on the external source.
- 8 Go to the beginning of the desired track.
- 9 Press YES on the set and simultaneously start playback on the external source.
 - The CD recorder starts to record and recording in progress is shown. The remaining recording time left of the CDR(W) is displayed.



- 10 Press **STOP** on the set to stop recording.
 - **UPDATE** is displayed and **RECORDING IN PROGRESS** goes off.

Manual microphone recording



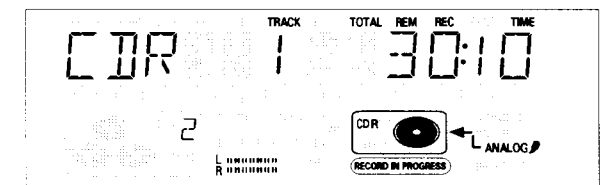
- 1 Make sure that the CDR(W) is absolutely free of scratches and dust particles.
- 2 Set MIC LEVEL to the minimum level to prevent acoustic feedback (e.g. a loud howling sound) before you connect the microphone.
- 3 Connect a microphone to MIC.
- 4 Press repeatedly AUX to select the input for the external source you wish to mix the microphone with.
- 5 Press REC TYPE on the set to enter into the recording menu.
- 6 Rotate **- JOG CONTROL +** to select the record type:
 - **AUX MIX MIC**: the microphone is mixed to the external source.
 - **MIC ONLY**: only the microphone is recorded.
- 7 Press YES to confirm your selection.
 - **WAIT** is displayed.
 - **RECORD ?**, **AUX** and the remaining recording time of the CDR(W) are displayed.
- 8 Set the optimal recording level on the CD recorder (see "REC LEVEL key").

• In addition you can also set the optimal recording level of the microphone by turning MIC LEVEL.

9 If AUX MIX MIC is selected:

Press YES on the set and simultaneously start playback on the external source.

- The CD recorder starts to record and recording in progress is shown. The remaining recording time left of the CDR(W) is displayed.



If MIC ONLY is selected:

Press YES on the set to start recording.

- The CD recorder starts to record and **RECORDING IN PROGRESS** is shown. The remaining recording time left of the CDR(W) is displayed.

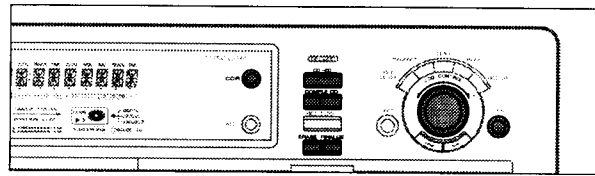
- 10 Press **STOP** on the set to stop recording.
 - **UPDATE** is displayed and **RECORDING IN PROGRESS** goes off.

Note: The set is standard adjusted for a mono microphone. If you wish to use a stereo microphone, press AUX for more than 5 seconds. The set will display MONO ?. Press NO to select STEREO or YES to select MONO. STEREO MIC or MONO MIC will be displayed.

Important:

If you want to play the recorded CDR disc on any regular CD player, it must first be finalized. See finalising discs.

Finalised CDRW discs play only on CDRW compatible CD players.

Finalising CDR & CDRW discs

Finalizing a CDR(W) disc is a simple procedure, necessary to:

- play a recorded CDR on a standard CD player
- play a recorded CDRW on a CDRW compatible CD player and CD recorder
- avoid further unwanted recordings on a disc
- avoid erasure of tracks on a CDRW

Notes:

- Finalizing will take about 2-4 minutes.
- After finalization of the CDR(W), CDR(w) changes to CD on the display.
- During finalization no other operating commands can be executed.

Auto finalizing

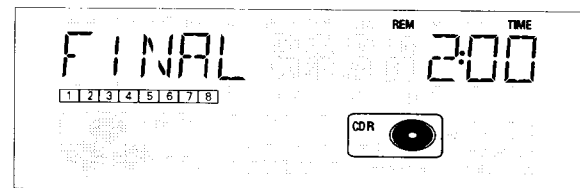
When you use either CD→CD or COMPILE CD, your recordings will be finalized automatically (see: "High speed recording and automatic finalizing").

Manual finalizing when recording is in progress

- 1 Press FINALIZE on the set during recording.
→ AUTO FINAL ? is displayed.
- 2 Press YES to confirm.
→ FINALIZE is shown. The finalization will start after recording and the actual finalizing time left will start to count down.

Manual finalizing when recording is stopped

- 1 Insert the CDR(W) you want to finalize in the CD recorder tray.
- 2 Press CDR to select the CD recorder.
- 3 Press FINALIZE on the set.
→ FINALIZE ? is displayed.
- 4 Press YES to start finalizing.
→ FINALIZE is shown, FINAL is displayed and the actual finalizing time left starts to count down.

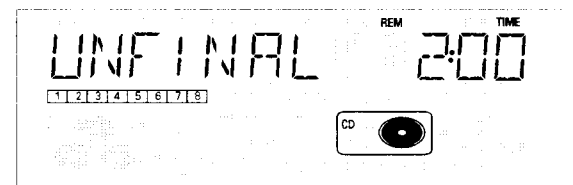
**Unfinalising CDRW discs**

If you want to record (or erase) on (from) an finalized CDRW, you have to unfinalize it first.

Notes:

- Unfinalizing will take approximately 2 minutes.
- After unfinalizing of the CDRW, CD changes to CDRW on the display.
- When unfinalizing a CDRW with CD text on it available, this text will be transferred to the CD recorder memory. In case the memory is full, you have to erase text (see "Erasing text") or to finalize another disc first in order to obtain memory space.

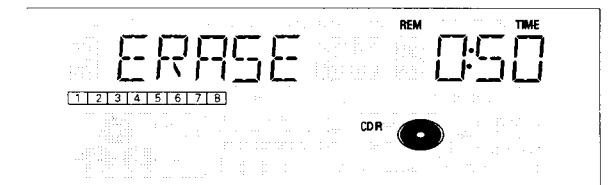
- 1 Insert the CDRW you want to unfinalize in the CD recorder tray.
- 2 Press CDR to select the CD recorder.
- 3 Press FINALIZE on the set.
→ UNFINALIZE ? is displayed.
- 4 Press YES to start unfinalizing.
→ UNFINAL is displayed and the operation time left starts to count down.

**Erasing from a CDRW disc**

It is possible to erase one or more tracks (starting from the end of the last track) or the entire CDRW.

Erasing an entire CDRW

- 1 Insert the CDRW you want to erase in the CD recorder tray.
- 2 Press CDR to select the CD recorder.
- 3 Press ERASE to enter into the erasing menu.
- 4 Rotate - JOG CONTROL + to select:
→ ERASE DISC ?; for erasing the entire disc.
- 5 Press YES to confirm your selection.
→ ERASE ? and the total number of tracks to be erased are displayed. All track numbers are blinking in the music calendar.
- 6 Press YES to start erasing.
→ ERASE is displayed and the operation time left starts to count down. The track number of the actual erased track will go off in the music calendar.

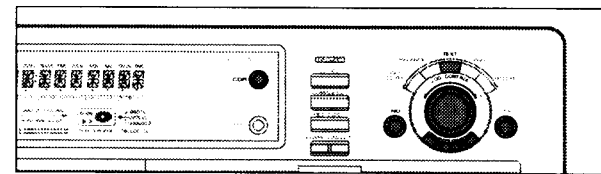
**Erasing one or more tracks**

- 1 Insert the CDRW you want to erase from in the CD recorder tray.
- 2 Press CDR to select the CD recorder.
- 3 Press ERASE to enter into the erasing menu.
- 4 Rotate - JOG CONTROL + to select the track number(s) you wish to erase:
→ ERASE and the track number (e.g. 10 +) are displayed.
- To select more tracks to be erased repeat step 4.

Note: When erasing more tracks, the tracks to be erased must be selected in sequence, starting from the last recorded track. Example: The CDRW has 5 tracks recorded on it. Now, you can erase track 5 and 4. You can also erase track 5, 4 and 3, however you cannot erase track 5 and 3!

- All track numbers selected for erasing are blinking in the music calendar. The remaining track numbers light up.
- 5 Press YES to confirm your selection.
→ ERASE ? is displayed.
- 6 Press YES to start erasing.
→ ERASE is displayed and the operation time left starts to count down. The track number of the currently erased track will go off in the music calendar.

Text edit (on CD recorder only)



After you have recorded your CDR(W), the TEXT EDIT feature allows you to give names to discs and tracks. Disc and track names will be displayed during playback. All names will be stored in the memory and can be called up and changed at any time.

A maximum of 60 characters per item can be stored.

The following items can be selected:

ALBUM ARTIST: for editing the CD artist.

ALBUM TITLE: for editing the CD title.

ARTIST TR(ack): for editing the artist of track 1, 2, 3, etc.

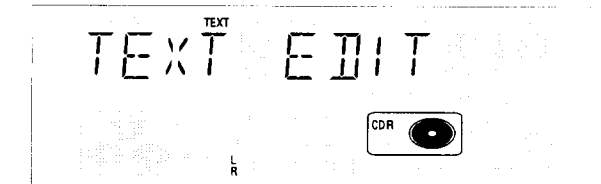
TITLE TR(ack): for editing the title of track 1, 2, 3, etc.

Storing text during STOP mode

1 If necessary press STOP ■.

2 Press CDR to select the CD recorder.

3 Press TEXT/store to enter into the text edit menu.
→ TEXT lights up and TEXT EDIT is displayed.



4 Press YES to confirm.

5 Rotate — JOG CONTROL + to select either:

→ ALBUM ARTIST.

→ ALBUM TITLE

→ ARTIST TR 1 or (2, 3,...): for editing the artist of track 1 or (2, 3,...).

→ TITLE TR 1 or (2, 3,...): for editing the title of track 1 or (2, 3,...).

6 Press YES to confirm the selection.

7 Rotate — JOG CONTROL + (press the alphabet keys on the remote control) to select a character.

8 Press YES to confirm the selection.

→ The cursor moves to the next character space.

9 Repeat steps 7 and 8 for adding further characters.

10 Press TEXT/store to save the characters that have been selected and to exit to the last position in the text editing menu.

→ UPDATE is displayed.

Storing text during recording

You can store and edit text even while recording a single track or single CD, or when recording from an external source. Editing text during finalizing is not possible. Make sure, when using high speed recording and automatic finalizing, to enter the text before finalizing starts, otherwise automatic finalizing will be cancelled.

• Follow steps 3–10 of "Storing text during stop mode".

Note: Editing text is not possible when a copy protected track is analogue recorded. Editing is stopped, "CD TEXT SAVED" is displayed and your text is saved for later editing."

Auto copied text

When an artists name has been stored for a track, it will be copied automatically into the next track.

• Press either:

TEXT/store to confirm the copied text.

or

NO to delete the copied text and to enter a new one.

Inserting a space

1 Press ◀ or ▶ to move to the position where the space is to be inserted.

→ The position starts blinking.

2 Press YES to confirm the position of the insert character.

→ A space will be inserted, text will move to the right.

• You can also use the SPACE button on the remote control to insert a space.

Deleting and substituting a character

1 Press ◀ or ▶ to move to the characters position to be deleted or substituted.

→ The character starts blinking.

If you want to delete the character:

2 Press NO.

→ The character is deleted and the text is shifted one position to the left.

If you want to substitute the character:

2 Rotate — JOG CONTROL + (press the alphabet keys on the remote control) to select a new character.

Press YES to confirm the selection.

• To change another character press ◀ or ▶.

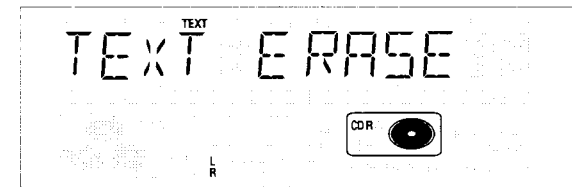
Erasing text

1 Press TEXT/store to enter into the text edit menu.

→ TEXT lights up and TEXT EDIT is displayed.

2 Rotate — JOG CONTROL + to select the text erase menu.

→ TEXT ERASE is displayed.



3 Press YES to confirm.

4 Rotate — JOG CONTROL + to select either:

→ ALL TEXT: All text of the selected disc is chosen to be erased in one step.

→ ALBUM ARTIST: CD artists name is chosen to be erased.

→ ALBUM TITLE: CD title is chosen to be erased.

→ ARTIST TR 1 or (2, 3,...): artists name of track 1 or (2, 3,...) is chosen to be erased.

→ TITLE TR 1 or (2, 3,...): title of track 1 or (2, 3,...) is chosen to be erased.

5 Press YES to confirm your selection.

→ ERASE ? or ERASE ALL ? is displayed.

6 Press YES to start erasing.

→ UPDATE is displayed and the chosen text is erased.

Erasing from the memory

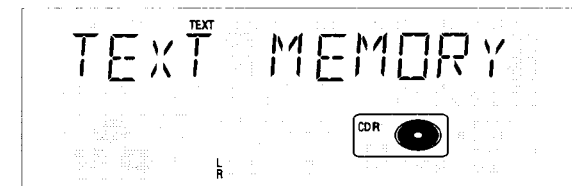
When the text memory of your CD recorder is full, the messages MEMORY FULL and FINALIZE DISC will be displayed. If you still want to add a new disc to the text memory, you have either to erase another disc from the memory or you have to finalize another disc.

1 Press TEXT/store to enter into the text edit menu.

→ TEXT lights up and TEXT EDIT is displayed.

2 Rotate | JOG CONTROL ÷ to select the memory view menu.

→ TEXT MEMORY is displayed.



3 Press YES to confirm.

4 Rotate — JOG CONTROL + to select the disc you wish to erase from the text memory.

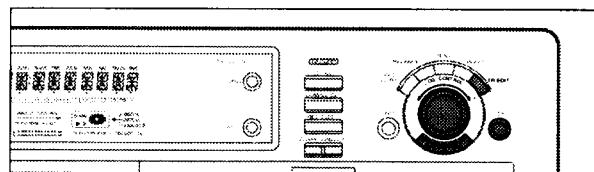
5 Press YES to confirm.

→ ERASE MEMORY is displayed.

6 Press YES to confirm the text erasure of that particular disc.

Note: If there are no discs in the text memory stored MEMORY EMPTY will be displayed.

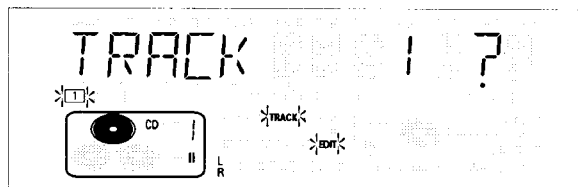
Track editing (on CD changer only)



You can create a "track" by marking a passage of music within one track on the current disc. This new "track" can be used for recording or playing. The minimum track length is 4 seconds.

1 Press TRACK EDIT on the set.

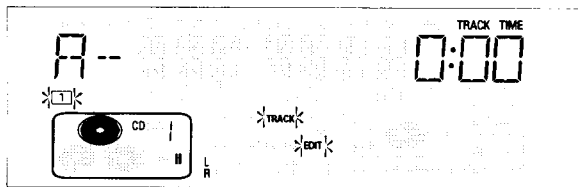
→ TRACK EDIT starts blinking, TRACK and the current track number ? are displayed. The current track number is also blinking in the track bar.



2 Rotate — JOG CONTROL + until the desired track number is displayed.

3 Press YES to confirm the selected track.

→ The marker position B and the track time will be displayed. The first 4 seconds of the track will be played continuously.



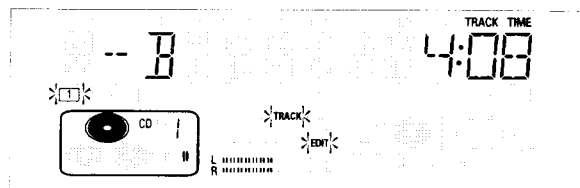
4 Press PLAY/PAUSE ► II on the set to play to the desired start position of your new "track" (the initial position of marker A is always the start of the chosen track).

• To fast forward to the desired start position press ◀◀ or ►► on the set.

• To fine tune the position press first PLAY/PAUSE ► II on the set, then rotate — JOG CONTROL +.

5 Press YES to confirm the position of marker B.

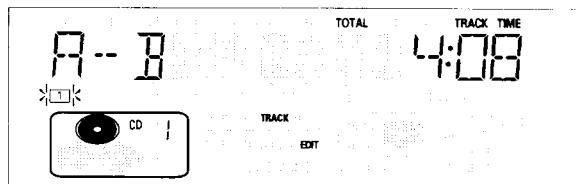
→ The marker position B and the new "track" time will be displayed. The first 4 seconds before marker position B until marker position B will be played continuously.



6 Press PLAY/PAUSE ► II on the set to play to the stop position of your new "track" (The initial position of marker B is always the position of marker A plus 4 seconds).

7 Press YES to confirm the marked passage.

→ TRACK EDIT is shown, A-B and the track edit time are displayed.



• Press TRACK EDIT again to leave Track Edit mode.
→ The new "track" will be stored.

Note: If you open the CD changer tray the edit is deleted.

Clearing the track edit

1 Press NO during stop.

→ CLEAR A-B ? is displayed.

2 Press YES to clear the markers.

→ The markers A-B are cleared.

WARNING

Under no circumstances should you try to repair the set yourself as this will invalidate the warranty. Do not open the set as there is a risk of electric shock.

If a fault occurs, first check the points listed, before taking the set for repair.

If you are unable to solve a problem by following these hints, consult your dealer or service center.

LASER SAFETY

This unit employs a laser. Only a qualified service person should remove the cover or attempt to service this device, due to possible eye injury.

SYMPTOM

• possible solution:

No power

- ensure that the ON/OFF button is on: the set is in standby mode, press any key to activate it
- ensure that the power cord is plugged in correctly
- switch the set OFF and then immediately back ON

Auto track does not work

- check if auto track is selected
- check if there are 2.7 seconds silence in between the tracks (analog recording only)
- check if the source is a consumer source with the digital output according to the IEC audio standard
- source is DVD player (no track information)

No sound

- check the audio connections
- if using an amplifier, try using a different source

Amplifier sound is distorted

- check that the CD set analog output is not connected to the amplifier Phono input

Play will not start

- ensure that the label of the CD is facing up
- clean the disc
- check that the disc is not defective by trying another disc

Remote control does not work

- point the remote control directly at the set
- check the batteries and replace if necessary
- select the right source first

DISC RECOVER indication

- a power failure has occurred during recording, the CD recorder is attempting to repair the disc
- if DISC ERROR then appears on the display, the disc cannot be recorded further, and cannot be finalised. But it can still be played on the CD recorder or another CD recorder.
- on a CDRW disc, the track being recorded is lost, but further recording and finalisation can still be done

INSERT DISC indication

- replace or clean the disc
- insert a CD(RW), label upwards
- wait until the lens has cleared

USE AUDIO CD indication

- insert a digital audio disc marked with "Digital audio" and the special logo

CHECK INPUT indication

- select the correct input
- make sure the connection cord is properly connected

Will not record

- clean the disc
- check if CDR(W) is an unfinalised disc
- check that the disc is recordable and replace if necessary
- the disc is not an AUDIO disc (WRONG DISC)
- wrong input source chosen. Input label flashing (CHECK INPUT)
- text memory full (MEMORY FULL / FINALIZE CD). When a CDRW has to be unfinalised for recording. Erase text for other disc(s) or finalise other disc(s) to obtain memory space

Recording is distorted

- make sure the recording level is correct

20 second pause between recordings

- see "Recording with automatic synchronized start".

Set does not react

- switch the set OFF and then immediately back ON

Recorded disc does not play in other standard CD player

- finalize the CDR(W)
- insert the CDRW in a CDRW compatible player

TECHNICAL SPECIFICATIONS

GENERAL

System	Compact disc digital audio
Number of channels	2 (stereo)
Applicable discs	CD, CD-R (digital audio), CD-RW (digital audio)
Power Requirement	AC 120 V 60 Hz
Power Consumption	16W
Operating Temperature	41 -95 °F (5 - 35 °C)
Dimension (MAX)	
Width	17-3/8 inches (440 mm)
Height	5-1/2 inches (140 mm)
Depth	14-3/16 inches (360 mm)
Weight	13.2 lbs (6.0 Kg)

AUDIO

Frequency Response	20 Hz - 20 kHz
Playback S/N (CD/CDR)	105 / 98 dB
Playback Dynamic Range (CD/CDR)	96 / 96 dB
Playback Total Harmonic Distortion	0.003 %
Recording S/N	88 dB
Recording Dynamic Range	90 dB
Recording Total Harmonic Distortion	0.005 %
Digital Coaxial Output	0.5 V (p-p)/75 Ω
Line Output Voltage	2 V RMS
Headphones	0 - 5 Vrms/ 8 - 2000 Ω

Recording values for line input

Digital Coaxial Input (automatic sample rate conversion)	32 - 48 kHz
Digital Optical Input (automatic sample rate conversion)	32 - 48 kHz
Analog Input	600 mVrms/ 50 kΩ

Specifications subject to change without prior notice.

<None>COUNTRY	COMPANY	ADDRESS
ALGERIE	Azur 2000	8, Lotissement Ben Hatadi, Alger, Algeria
ARMENIA	NGYIG Ltd.	47 A/75 St. Lalaiants, 375000 Yerevan, Armenia
AUSTRALIA	Jamo Australia Pty. Ltd.	24 Lionel Road, Mt. Waverley, VIC 3149, Australia
AUSTRIA	Huber & Prohaska GmbH	Taborstraße 95 / Ladestraße 1, Gebäude Hangartner, A-1200 Wien, Austria
BAHREIN	Ambassador Stores	P.O. Box 237,141, Government Avenue, Manama, Bahrain
BANGLADESH	Target	1078, Ramjoy Mohanja Lane Asadgonj, Chittagong 4000, Bangladesh
BELGIUM	Van der Heyden Audio N.V.	Brusselbaan 278, 9320 Erembodegem, Belgium
BULGARIA	Ariescommerce GmbH	Makedonia Blvd. 16, 1606 Sofia, Bulgaria
CANADA	Lenbrook Industries Limited	633 Granite Court, Pickering, Ontario
CHINA	Guang Chang Audio International Co., Ltd.	No.38 Yushan Road, ShiQiao, Pan Yu, Guang Dong, China
CYPRUS	Empire Hifi systems Ltd.	P.O. Box 5604, Nicosia, Cyprus
CZECH REPUBLIC	Audio International	Sokolska 41, 67902 Rajecko, OKR,Blansko, Czech Republic
DENMARK	Audio Nord	Dali Allé 1, 9610 Noerager, Denmark
DUBAI	V.V.& SONS	P.O. Box 105, Dubai, U.A.E.
EGYPT	Solimco	9, El Attibaa St. Doki, Cairo, Egypt
ESTONIA	HiFi Club Estonia	Ehte 4, 90503 Haapsalu, Estonia
F.Y.R.O.M.	T.P. KODI	ul.Cedomir Kantargiev 21a, Skopje, Former Yugoslavian Republic of Macedonia
FINLAND	Audio Nord	Uudenmaankatu 4-6, Helsinki SF-00120, Finland
FRANCE	Marantz France	A division of Marantz Europe B.V., P.O. Box 301, 92 156 Suresnes Cedex, France
GERMANY	Marantz Deutschland	Hakenbusch 3, 49078 Osnabrück, Germany
GREECE	Adamco S.A.	188, Hippocratous Street, 11471 Athens, Greece
HEADQUARTERS EUROPE	Marantz Europe B.V.	Building SFF-2, P.O. Box 80002, 5600 JB Eindhoven, The Netherlands
HONG KONG	Marantz Asia Ltd.	Unit 1706, Metroplaza II, 223 Hing Fong Road, Kwai Fong, N.T., Kowloon, Hong Kong
HUNGARY	Infovox Ltd.	Terez Krt.31, 1067 Budapest, Hungary
ICELAND	ID Electronics Ltd.	Armula 38, 108 Reykjavik, Iceland
INDIA	NOVA Audio Private	8,Punam Co-op.Society 29/30 Road#5, Union Park MUMBAI 400052, India
IRAN	Home Co.	5th floor no 878 Philips Building Enghelab ave. P.O. 11365/7844 Tehran, Iran
IRELAND	Marantz Ireland	Clonskeagh, Dublin 14, Ireland
ISRAEL	Elmor Ltd.	52 Heh Beiyar Street, Kikar Hamedina, Tel Aviv, Israel
ITALY	Marantz Italy	Via Casati 23, 20052 Monza (Milano), Italy, Servizio Consumatori 1678-20026, Numero Verde
IVORY COAST	Hifivoir	B.P.2428, Abidjan 01, Ivory Coast
JAPAN	Marantz Japan Inc.	35-1 Sagami Ohno 7-Chome, Sagamihara-shi, Kanagawa 228-8505, Japan
KOREA	Mk Enterprises Ltd.	121-210, 2F Shinhan Bldg., 247-17 Seokyo-dong, Mapo-ku, Seoul, Korea
KUWAIT	alAlamiah Electronics Intl.	P.O. Box 8196, Salmiah 22052, Kuwait
LATVIA	Ace Ltd.	61, LacPlesa Str., Riga LV 1011, Latvia
LEBANON	AZ Electronics S.A., 1,	P.O. Box 11 2833, Beirut, Lebanon
LITHUANIA	Accapella Ltd.	Ausros, Vartu G/5, Pasazo SKG., 2001 Vilnius, Lithuania
MALAYSIA	Wo Kee Hong Electronics Sdn Bhd.	102 Jalan SS 21/35, Damansara Utama, 47400 Petaling Jaya, Selangordarul Ehsan, Malaysia
MALTA	Doneo Co Ltd.	78 The Strand, Sliema SLM07, Malta
MAURITIUS	SKR Electronics Ltd.	P.O. Box 685, Bell Village, Port Louis, Mauritius
MILITARY MARKET EUROPE	PASCO GmbH	PO BOX 1280, Sandhausen 69200, Germany
NETHERLANDS	Marantz Domestic Sales	A division of Marantz Europe B.V., Building SFF2, P.O. Box 80002, 5600 JB Eindhoven, The Netherlands
NEW ZEALAND	Wildash Audio Systems	14 Malvern Road, Mt. Albert, Auckland, New Zealand
NORWAY	Audio Nord	Sandkerveien 64, Oslo 0483, Norway
OMAN	Mustafa & Jawad Trading CO.	P.O. Box 1918, Ruwi, Oman
POLAND	Philips Polska Sp. z o.o.	Al.Jerozolimskie 195b, 02 222 Warszawa, Poland
PORTUGAL	Corel2	Comércio de Electrónica Lda., Av. Luis Bivar, No 85 A, 1050 Lisboa, Portugal
PROFESSIONAL EUROPE	Marantz Professional Products	Kingsbridge House, Padbury Oaks, 575-583 Bath Road, Longford, Middlesex UB7 0EH, U.K.
PROFESSIONAL U.S.A.	Marantz Professional Products	Distributed by: Superscope Technologies Inc., 1000 Corporate Blvd. Ste.D, Aurora, Illino
QATAR	Almana & Partners W.W.L.	P.O. Box 49, Doha, Qatar
REUNION	Vision +	180 Rue du Marechal Leclerc, 97400 Saint Denis, Ile de la Reunion
ROMANIA	Nova Music Entertainment	5, Zagazului Str. Bl.1G,apt.18, sector 1,Bucharest, Romania
RUSSIA	Absolute Audio	7/2, Montazhnaya Street, 107497 Moscow, Russia
SAUDI ARABIA	Adawlia Univ. Electr. Apl	P.O. Box 2154, Alkhobar 31952, Saudi Arabia
SINGAPORE	Forward Marketing (S) Pte. Ltd.	Wo Kee Hong Centre, 29 Leng Kee Road, Singapore 159099, Singapore
SLOVAKIA	Bis Audio s.r.o.	Nam. SNP 10, 96001 Zvolem, Slovakia
SLOVENIA	Bofex	Smartinska 152, HALA V/3, 61000 Ljubljana, Slovenia
SOUTH AFRICA	Coherent Imports (PTY) Ltd.	P.O. Box 1614, Alberton, 1450, South Africa
SPAIN	Marantz Spain	Martinez Villergas 2, Apartado 2065, Madrid 28027, Spain
SRI LANKA	The listening Room	Mezzanine Floor, The Landmark 385, Galle Road, Colombo - 3, Sri Lanka
SWEDEN	Audio Nord	Almedalsvagen 4, Gotenborg 402-23, Sweden
SWITZERLAND	Sound Company AG	Postfach, 8010 Zürich, Switzerland
Syria	Hamzeh & Partners	Hafez Ibrahim Str.No 117, Damascus Shalan, Syria
TAHITI	Covecolor	Av. Prince Hinoi, Cours de l'union sacré, P.O. Box 2334, Papeete, Tahiti
TAIWAN	Pai-Yung Co. Ltd.	6th No 148 Sung Kiang Road, Taipei 10429, Taiwan R.O.C.
THAILAND	MRZ Standard Co. Ltd.	746-750 Mahachai Road, Wangburapa, Bangkok 10200, Thailand
TUNESIA	Societe EDEVIG	40, Avenue du Golfe Arabe, El Menzah, 1004, Tunesia
TURKEY	Türk Philips Ticaret A.S.	Yukari Dudullu Organize sanayi Bolgesi, 2 Caddé no.28, 81260 Umraniye-Istanbul, Turkey
U.K.	Marantz Hifi UK Ltd.	Kingsbridge House, Padbury Oaks, 575-583 Bath Road, Longford, Middlesex UB7 0EH, U.K.
U.S.A.	Marantz America Inc.	440 Medinah Road, Roselle, IL 60172, U.S.A.
YUGOSLAVIA	ITM Company	Omladinskih Brigada 86, 11070 Belgrade, Yugoslavia
EXPORT	Marantz Domestic Sales	A division of Marantz Europe BV,Building SFF2, P.O. Box 80002, 5600 JB Eindhoven, TheThe Netherlands

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