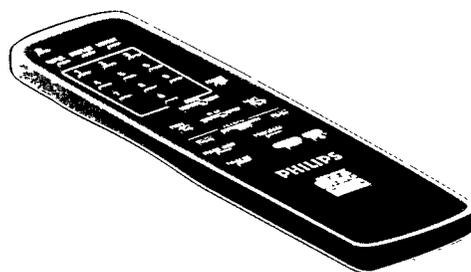
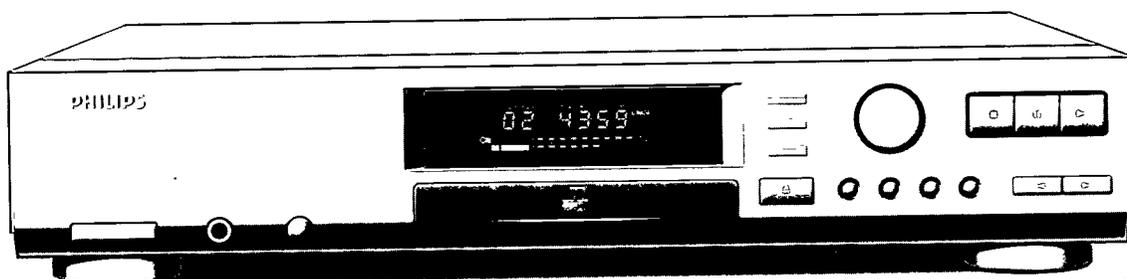


# CD-RECORDABLE/REWRITABLE

CDR870/CDR880



**USER MANUAL**

**MODE D'EMPLOI**

**MANUAL DEL PROPIETARIO**

**GEBRUIKSAANWIJZING**

**BEDIENUNGSANLEITUNG**

**MANUALE D'USO**

**MANUAL DE UTILIZAÇÃO**

**BRUKSANVISNING**

**BRUGSANVISNING**

**KÄYTTÖOHJE**

**ΟΔΗΓΙΕΣ ΧΡΗΣΕΩΣ**



# PHILIPS

## Important note for users in the UK

### Mains plug

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

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

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

### Note:

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

### How to connect a plug

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

Blue - 'Neutral' ('N'); Brown - 'Live' ('L')

1. The Blue wire must be connected to the terminal which is marked with the letter 'N' or coloured Black.
2. The Brown wire must be connected to the terminal which is marked with the letter 'L' or coloured Red.
3. Do not connect either wires to the earth terminal in the plug which is marked by the letter 'E' or by the safety earth symbol or coloured green or green-and-yellow.

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

### Copyright:

Recording and playback of material may require consent. See Copyright Act 1956 and The Performer's Protection Acts 1958 to 1972.

## For Customer Use:

Read carefully the information located at the rear plate of your CD-Recorder and enter below the Serial N°.  
Retain this information for future reference.

Model N°. .....CDR870/880.....

Serial N°.....

## DK

### Advarsel:

Usynlig laserudstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

## S

### Varning!

Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kann användaren utsättas för osynlig laserstråling, som överskrider gränsen för läserklass 1.

## SF

### Varoitus!

Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteille.

## 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.

**NEVER MAKE OR CHANGE CONNECTIONS WITH THE POWER SWITCHED ON.**

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



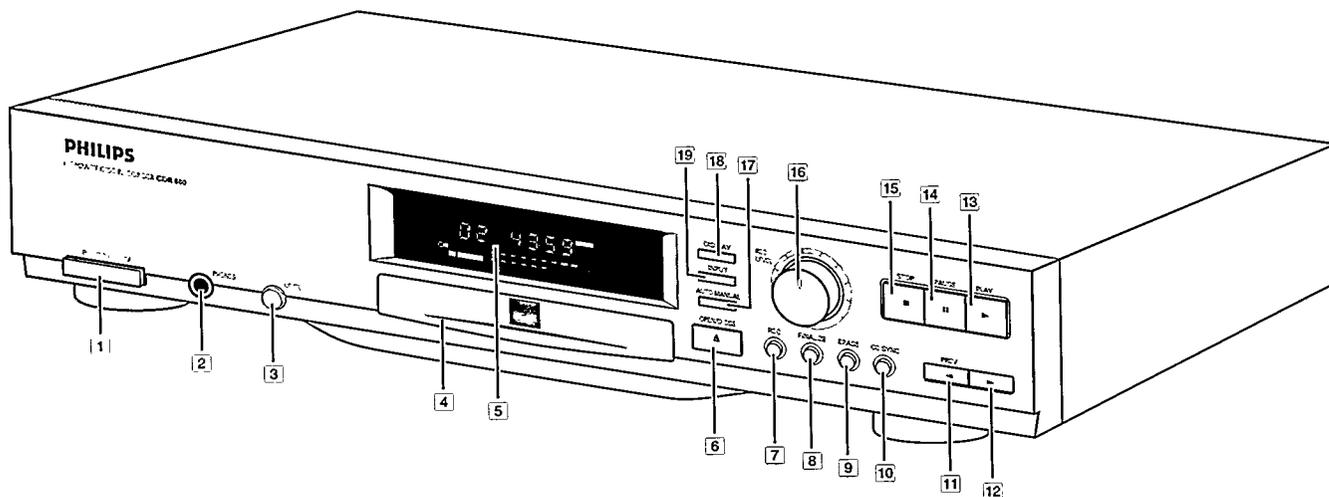
The CDR870/880 is in conformity with the EMC directive and low-voltage directive.

**CLASS 1  
LASER PRODUCT**

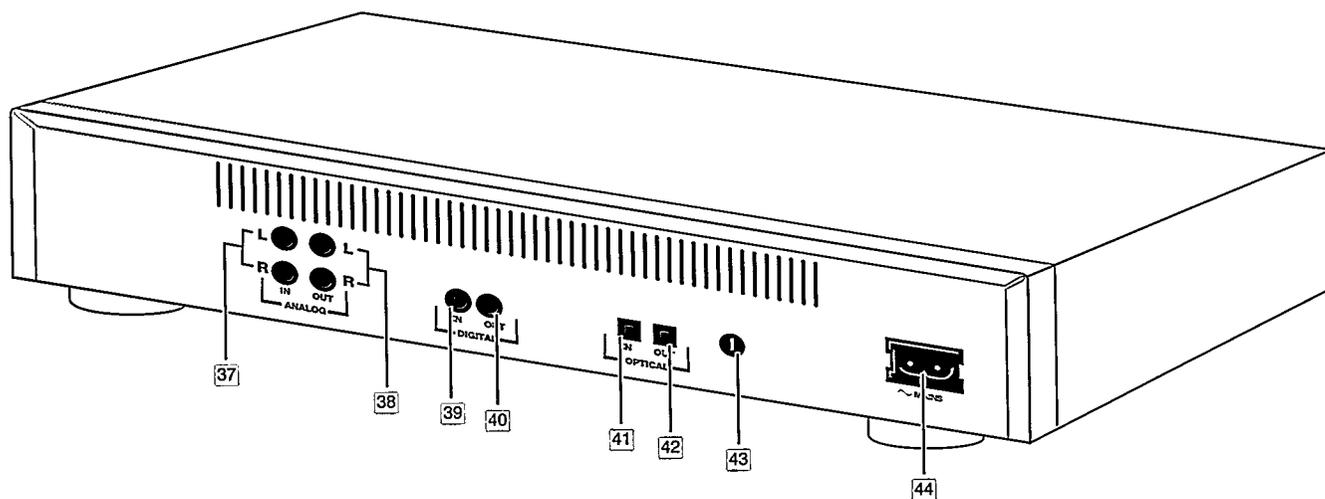
**LUOKAN I  
LASERLAITE**

**KLASS 1  
LASERAPPARAT**

# PLAYER FRONT



# PLAYER BACK





# CONTENTS

## ENGLISH

OPERATING BUTTONS	1	RECORDING	7
INTRODUCTION - INSTALLATION	3	FINALIZING/ERASING	9
CONNECTION	4	PLAYING - ADDITIONAL INFORMATION	10
USING THE RECORDER	6	FIXING PROBLEMS	11

English

## FRANÇAIS

ORGANES DE COMMANDE	12	ENREGISTREMENT	18
INTRODUCTION - INSTALLATION	14	FINALISATION/EFFACEMENT	20
CONNEXIONS	15	LECTURE - INFORMATIONS COMPLÉMENTAIRES	21
FONCTIONNEMENT DE L'APPAREIL	17	REMEDES EN CAS DE PANNE	22

Français

## ESPAÑOL

BOTONES OPERATIVOS	23	GRABACION	29
INTRODUCCION - INSTALACION	25	ULTIMACION/BORRADO	30
CONEXION	26	REPRODUCCION - INFORMACION COMPLEMENTARIA	32
USO DE LA GRABADORA	28	LOCALIZACION DE PROBLEMAS	33

Español

## NEDERLANDS

BEDIENINGSTOETSEN	31	OPNEMEN	37
INLEIDING - INSTALLEREN	33	VASTLEGGEN/WISSEN	39
AANSLUITEN	34	WEERGEVEN - EXTRA INFORMATIE	40
IN GEBRUIK NEMEN	36	VERHELPE VAN STORINGEN	41

Nederlands

## DEUTSCH

BEDIENUNGSELEMENTE	45	AUFNAHME	51
EINLEITUNG - INSTALLATION	47	FINALISIEREN/LÖSCHEN	53
ANSCHLÜSSE	48	WIEDERGABE - ZUSÄTZLICHE INFORMATION	54
BEDIENUNG DES RECORDERS	50	FEHLERBEHEBUNG	55

Deutsch

## ITALIANO

PULSANTI DI COMANDO	56	REGISTRAZIONE	62
INTRODUZIONE - INSTALLAZIONE	58	FINALIZZAZIONE/CANCELLAZIONE	64
COLLEGAMENTO	59	RIPRODUZIONE - INFORMAZIONI AGGIUNTIVE/INFORMATIONS	65
USO DEL REGISTRATORE	61	RISOLUZIONE DEI PROBLEMI	66

Italiano

## PORTUGUES

TECLAS DE OPERAÇÃO	68	GRAVAÇÃO	73
INTRODUÇÃO - INSTALAÇÃO	69	FINALIZAÇÃO/APAGAMENTO	75
LIGAÇÕES	70	LEITURA - INFORMAÇÃO SUPPLEMENTAR	76
UTILIZAÇÃO DO GRAVADOR	72	DEFINIÇÃO DOS PROBLEMAS	77

Português

## SVENSKA

FUNKTIONSKNAPPAR	78	INSPELNING	84
INLEDNING - INSTALLATION	80	SLUTBEHANDLING/RADERING	86
ANSLUTNING	81	UPPSPELNING - YTTERLIGARE INFORMATION	87
ANVÄNDNING AV INSPELAREN	83	LÖSA PROBLEM	88

Svenska

## DANSK

BETJENINGSKNAPPER	89	OPTAGELSE	95
INDLEDNING - INSTALLERING	91	FÆRDIGGØRELSE/SLETNING	97
TILSLUTNING	92	PLAYBACK - YDERLIGERE OPLYSNINGER	98
BRUG AF OPTAGEREN	94	FØR DU BEDER OM SERVICE	99

Dansk

## SUOMI

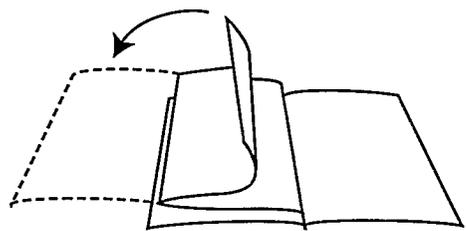
KÄYTTÖPAINIKKEET	100	TALLENNUS	106
JOHDANTO - ASENNUS	102	LEVYN VIIMEISTELY JA KAPPALOIDEN POISTO	108
KYTKENTÄ	103	TOISTO - LISÄTIETOJA	109
TALLENTIMEN KÄYTTÖ	105	VIANETSINTÄ	110

Suomi

## GREEK

ΠΛΗΚΤΡΑ ΛΕΙΤΟΥΡΓΙΑΣ	110	ΕΓΓΡΑΦΗ	117
ΕΙΣΑΓΩΓΗ - ΕΓΚΑΤΑΣΤΑΣΗ	113	ΟΛΟΚΛΗΡΩΣΗ ΔΙΣΚΟΥ/ΣΒΗΣΙΜΟ	119
ΣΥΝΔΕΣΕΙΣ	114	ΑΝΑΠΑΡΑΓΩΓΗ - ΕΠΙΠΡΟΣΘΕΤΕΣ ΠΛΗΡΟΦΟΡΙΕΣ	120
ΧΡΗΣΗ ΤΟΥ RECORDER	116	ΠΡΟΒΛΗΜΑΤΑ	121

Greek



# OPERATING BUTTONS

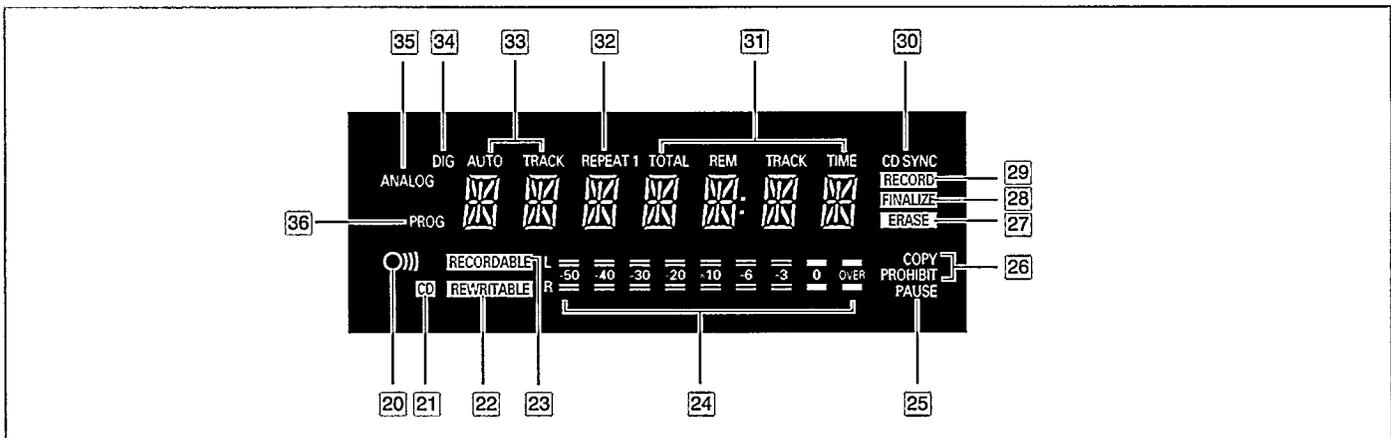
English

## Player front

For illustration: see front fold-out

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>1 POWER ON/OFF ..turns the player on/off</li> <li>2 PHONES .....plug for headphones</li> <li>3 LEVEL.....headphone volume</li> <li>4 Disc drawer</li> <li>5 Display (information screen)</li> <li>6 OPEN/CLOSE ▲ opens/closes disc drawer</li> <li>7 REC.....record</li> <li>8 FINALIZE .....finalize recording</li> <li>9 ERASE.....to erase recording</li> <li>10 CDSYNC.....synchronized recording (automatic start when recording)</li> </ul> | <ul style="list-style-type: none"> <li>11 PREV ◀.....previous track</li> <li>12 NEXT ▶.....next track</li> <li>13 PLAY ▶.....start to play or record</li> <li>14 PAUSE .....interrupt playing</li> <li>15 STOP ■ .....to stop</li> <li>16 Recording level (analogue)</li> <li>17 AUTO/MANUAL ...to determine track number</li> <li>18 DISPLAY.....to select display information</li> <li>19 INPUT .....to select input signal</li> </ul> |
|--|--|

## Display



- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>20 Remote control is active</li> <li>21 CD .....CD present (a pre-recorded CD or finalized CD-R or CD-RW disc)</li> <li>22 REWRITABLE .....disc present for recording</li> <li>23 RECORDABLE .....disc present for recording</li> <li>24 Indication of recording and playing level</li> <li>25 PAUSE .....pause function is active - during playing</li> <li>26 COPY PROHIBIT..digital recording not allowed</li> <li>27 ERASE.....to erase last track or entire CD (flashes in erase-waiting setting)</li> <li>28 FINALIZE .....to finalize recorded CD (flashes in finalize-waiting setting)</li> </ul> | <ul style="list-style-type: none"> <li>29 RECORD.....to record (flashes in record-waiting setting)</li> <li>30 CDSYNC.....CDSYNC recording</li> <li>31 Track number and duration</li> <li>32 REPEAT .....repeat function activated during playing</li> <li>33 AUTO TRACK .....automatically increasing track numbers</li> <li>34 DIG.....digital input signal</li> <li>35 ANALOG.....analogue input signal</li> <li>36 PROG.....playing based on program</li> </ul> |
|--|---|

# OPERATING BUTTONS

English

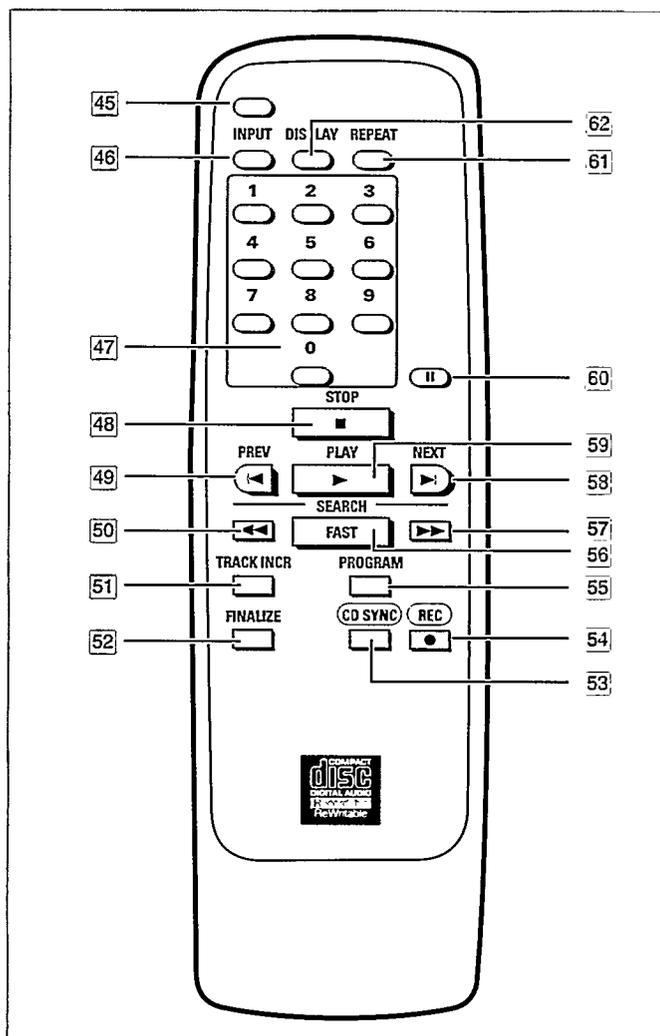
## Player back

For illustration: see front fold-out

- 37 Analogue input (left and right)
- 38 Analogue output (left and right)
- 39 Digital input
- 40 Digital output
- 41 Optical digital input
- 42 Optical digital output
- 43 Mains voltage selector (not on all models)
- 44 Connection to mains

## Remote control

- 45 OPEN/CLOSE ▲ ..Open or close disc drawer
- 46 INPUT .....select input signal
- 47 Number keys 0 - 9
- 48 STOP ■ .....stop
- 49 PREVIOUS ◀.....previous track
- 50 Search backward ◀◀
- 51 TRACK INCR.....determine track number
- 52 FINALIZE .....finalize
- 53 CDSYNC .....synchronized recording
- 54 REC ● .....record
- 55 PROGRAM .....select program
- 56 FAST .....fast search
- 57 Search forward ▶▶
- 58 NEXT ▶▶|.....next track
- 59 PLAY ▶.....play
- 60 PAUSE .....interrupt playing
- 61 REPEAT .....repeat play
- 62 DISPLAY.....selection for information to be displayed



# INTRODUCTION

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 and combined CDs, such as CD Extra.

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:

- 1 CD Recordable Audio (record once):  
Fully recorded and subsequently finalized audio CD-R discs can be played on all CD players and recorders. 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:



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.**

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

English

# INSTALLATION

## Unpacking

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

- CD-Recorder CDR870/880
- Remote control with batteries packaged separately
- Power cord
- Audio cables (2 - with red and white plugs)
- Digital coaxial audio cable (with black plugs)
- Instructions

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.

## Mains voltage selection

Check whether the voltage indicated on the back of the appliance is the same as the voltage of the mains. Some models of this recorder have a switch on the back (43). Set the switch to the position indicated for the local mains voltage.

## Set-Up

- Place the recorder on a strong, vibration-free surface.
- Do not place the recorder near a source of heat or in direct sunlight.
- 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.**

# CONNECTION

English

The numbers between parentheses refer to the front fold-out.

## Connections

This CD-Recorder can be used to record directly or through a (pre-) amplifier from any digital or analogue audio source.

In addition, the appliance can be used as a regular CD player. Read how to connect the CD-Recorder based on the possibilities your other audio equipment offers.

Please refer to the operating instructions for your other audio equipment first.

The following options are available:

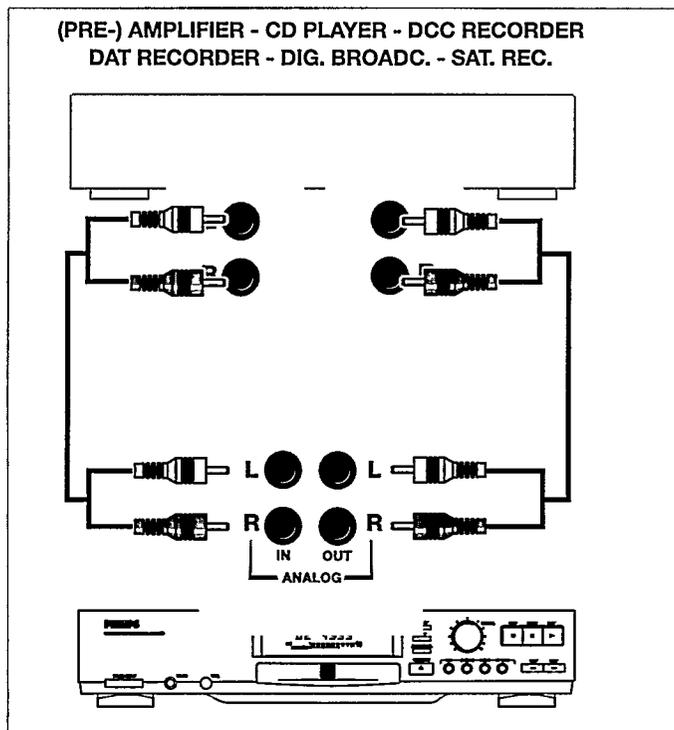
- analogue connections
- digital connections
- optical connections

## Analogue connections

- 1 For recording and playing, connect (using the enclosed cable with red and white plugs) the CD-Recorder to an amplifier (preferably the CD-Recorder or TAPE connection) based on the diagram below:

### Note:

- Direct recordings can also be made from: CD player, tuner, analogue satellite receiver, etc.
- For playing, the output (Left and Right) on the CD-Recorder (38) must be connected to the input of an amplifier (preferably CD-R or TAPE, AUX, etc., but not the PHONO input).

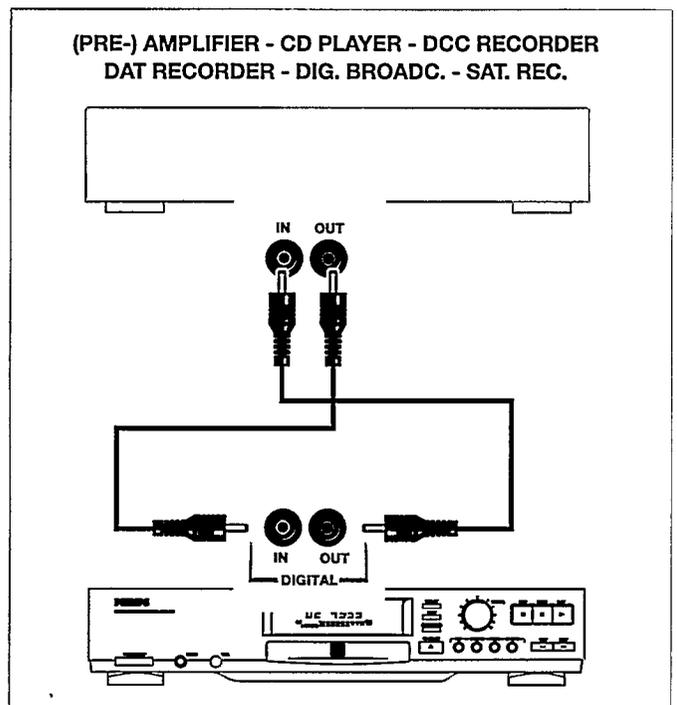


## Digital connections

- 1 For recording and playing, connect (using the enclosed cable with black plug) the CD-Recorder to a digital amplifier based on the diagram below:

### Note:

- Direct recordings can also be made from other digital sources, such as a CD player, tuner, DCC recorder, DAT recorder or digital satellite receiver.
- For playing, the digital output on the CD-Recorder (40) must be connected to the digital input of an amplifier (preferably CD-R or DCC, AUX, etc.).



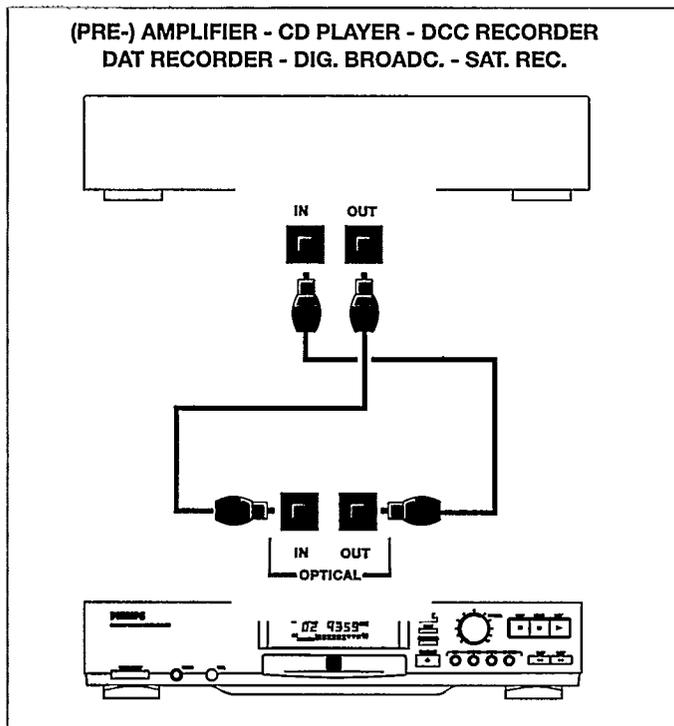
The numbers between parentheses refer to the front fold-out.

## Optical digital connections

- 1 For recording and playing (using a suitable fibre-optic cable, available from your supplier) connect the CD-Recorder to a digital amplifier (with optical connections) based on the diagram below. To do so, remove the dust caps from the digital optical connections. We recommend that you save the caps.

### Note:

- Direct recording can also be made from another digital source with optical connections, such as a CD player, DCC recorder, DAT recorder or digital satellite receiver.
- For playing, the optical digital output (42) on the CD-Recorder must be connected to the digital input on an amplifier.



# USING THE RECORDER

English

The numbers between parentheses refer to the front fold-out.

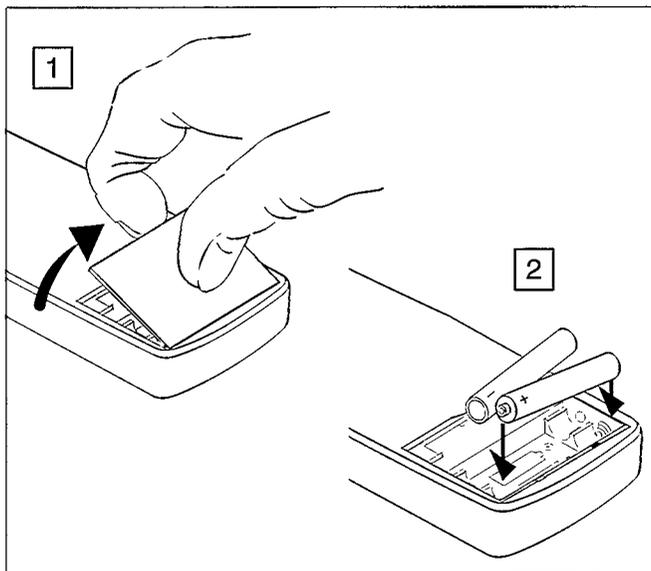
## Switching ON and OFF

- 1 Connect the plug on the mains cable in the proper connection point (44). Plug the cable into the mains.
- 2 Press the Power ON/OFF button on the front (1) of the CD-Recorder to turn it on (display will light up) or off.

## Using the remote control

### Inserting the batteries

- 1 Open the battery lid.
- 2 Insert two 'AAA' (R03 or UM-4) batteries in the manner indicated.
- 3 Replace the lid.



### Attention!

Do not use old and new batteries together.

Never use different types of batteries (standard, alkaline, etc.) together.

### Note:

- The player cannot be switched on and off using the remote control.
- Always point the remote control directly towards the recorder and make sure there are no obstacles between the remote control and the appliance.
- When you press a button on the remote control, the indicator (20) on the display of the CD-Recorder will light up.

## Inserting and removing discs

### Inserting discs

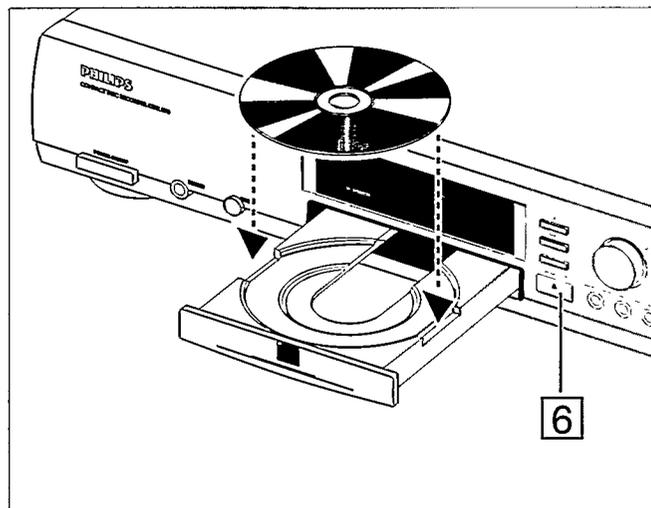
- 1 Press the OPEN/CLOSE button (6) on the front of the appliance to open the disc drawer.
- 2 Insert an appropriate disc (see introduction p. 3) in the appropriate area in the drawer with the label facing up.
- 3 Gently press the front of the drawer or press the OPEN/CLOSE button (6) to close the drawer.

### Note:

- Check to ensure that the recording side of the disc is clean (See Disc Maintenance, p. 11).
- If an inappropriate disc is inserted, the display will show **! ! !** **AUDIO**.
- If you insert a blank disc or non-finalized CD-R or CD-RW in the drawer, the recorder will calibrate the disc for optimum recording. During this process, the display will first show **0:00** and then the recording time used and the last track number.

### Removing discs

- 1 Press the OPEN/CLOSE button (6) on the front of the appliance to open the disc drawer.
- 2 Remove the disc from the drawer.
- 3 Gently press the front of the drawer or press the OPEN/CLOSE button (6) to close the drawer.



The numbers between parentheses refer to the front fold-out.

## General Comments

Make sure the display indicator 'CD-RECORDABLE' (23) or 'CD-REWRITABLE' (22) is on; the recording procedure is the same for both types of disc.

If the disc already contains recordings, the CD-Recorder will automatically search for the end of the last track so that recording can be started from there.

Recordings can only be made if there are at least seven seconds of recording time left on the disc. You can check this by pressing the Display button (18), after which the remaining recording time will be shown.

If the display indicates 'COPY PROHIBIT' (26), no digital recording can be made of the digital source material.

The Serial Copy Management System (SCMS) ensures that digital recordings cannot be digitally re-recorded. Analogue recording of the disc is unrestricted.

A maximum total of 99 tracks can be recorded on a disc.

### Attention!

Never switch the CD-Recorder off when recording; this can damage the disc.

If a power failure occurs during recording, the CD-Recorder will attempt to repair the disc as soon as the power is restored; during this procedure, the display will indicate *RECOVER*.

## Manually recording an analogue source

### Preparing to begin recording

→ Make sure the disc is free of scratches and/or dust particles.

1 Press the INPUT button (19) until 'ANALOG' (35) appears on the display.

2 By pressing AUTO/MANUAL (17), you can optain for manually or automatically increasing the track numbers. If Auto is selected, 'AUTO TRACK' (33) will appear on the display.

→ With automatic increments, a new track number will be automatically added after a silence on the original of at least three seconds; track numbers cannot be added manually.

→ With manual increments, you can add track numbers at any time during recording by pressing REC (7) or TRACK INCR (51) (on the remote control); the minimum track length is four seconds. Track numbers cannot be added after recording.

### Attention!

If the original has pauses lasting less than three seconds, the track numbers should be increased manually. If you are recording from LP's, we recommend that you always select manual operation of the track numbering.

### To start recording

1 Switch the record-waiting setting on by pressing the REC (7) button. The display indicator will start to flash 'RECORD' (29).

→ To set the desired recording level, start playing the analogue source and adjust the recording level using the button (16) so that all of the blue but none of the red segments light up on the recording and playing level indicator on the display (24) during the loudest fragments.

→ If you want a period of silence at the beginning of a new number, press PAUSE (14). A three-second pause (silence) will be recorded.

2 Press PLAY (13) to start recording, and immediately start the analogue source.

→ The relevant track number and the recording time used will be displayed. Press the Display button (18) to view the amount of recording time remaining.

3 Press the STOP button (15) to stop in the recording modes.

### Note:

- In the automatic mode, recording will stop after a twenty-second pause (silence) on the original.

→ You can also use the PAUSE button (14) instead of the STOP (15) button if you want to make more than one recording.

→ After recording, the temporary table of contents of the disc will be automatically up-dated. During this process, the display will indicate *UPDATE*.

### Attention!

If you want to play the disc in another, regular CD-player, the disc must be finalized. See 'Finalizing discs' p. 9.

# RECORDING

The numbers between parentheses refer to the front fold-out.

## Manual recording from a digital source

### Preparations for recording

In order to record from a CD, DCC, DAT or MD

- 1 Press the INPUT button (19) a number of times until (depending on the connection used) DIG COAXIAL or DIG OPTICAL appears on the display.
  - 2 By pressing AUTO/MANUAL (17), you can optain for manual or automatic increments for the track numbers. If 'automatic' is selected, 'AUTO TRACK' (33) will appear on the display.
- In Auto mode, track numbers are automatically detected from the digital source material. In this mode, you cannot insert track numbers manually.
  - In the manual mode, you can add track numbers at any point by pressing on REC (7) or TRACK INCR (51) (on the remote control). The minimum track length is four seconds. Increments cannot be inserted after recording.

### Note: (ONLY FOR CDR880)

- With the CDR880, direct recordings can be made from sources with an 'Input Sample' Frequency of 44.1 kHz +/- 100 ppm. The Sample Rate Converter will then be automatically switched off. In all other cases, the Sample Rate Converter will translate the input signals into CD signals (44.1 kHz).

### To start recording

- 1 Activate the record-waiting setting by pressing the REC (7) button. The display indicator 'RECORD' (29) will start flashing.
- If the digital connection is incorrect, the display indicator 'DIG' (34) will flash.
  - If you want a pause at the beginning of a new number, press the PAUSE button (14). A three-second pause (silence) will then be recorded.
- 2 Press the PLAY button (13) to start recording and immediately start the digital source.
- The relevant track number and the recording time used will appear on the display. Press DISPLAY (18) to view the remaining recording time.
- 3 Press STOP (15) to stop recording in either the manual or automatic mode.
- In the automatic mode, recording will stop after a twenty-second pause (silence) on the original.

### Note:

- You can also use the PAUSE button (14) instead of the STOP (15) button if you want to make more than one recording.
- After recording, the temporary table of contents will be automatically up-dated. During this process, the display will indicate LIFDATE.

### Attention!

If you want to play the disc in a different, regular CD-player, the disc must be finalized. See 'Finalizing discs' p. 9.

## Automatic recording from a digital source

In order to make recordings easily and quickly, the recorder is equipped with the handy CD-SYNC function. This function can be used to synchronously record individual tracks or entire discs. The original may be a CD, DCC, DAT or MD.

### Preparations for recording

- 1 Press the INPUT button (19) a number of times until (depending on the connection used) DIG COAXIAL or DIG OPTICAL appears on the display.
- Do not start the digital source yet.

### To start recording

- 1 To record a single track, press CDSYNC (10) once to record one track; SYNC - / will appear on the display. To record all tracks, press CDSYNC (10) twice in rapid succession to record all tracks; SYNC will appear on the display.
- Wait until the record-waiting setting is activated and the display indicator 'RECORD' (29) starts to flash. If the digital connection is incorrect, the display indicator 'DIG' (34) will flash.
- 2 Press Play (13) on the digital source.
- The CD-Recorder will now automatically start to record. If you start the source in the middle of a track, automatic Synchro recording will not commence until the beginning of the next track.
  - The relevant track number and the recording time used will appear on the display.
  - To view the recording time remaining, press DISPLAY (18).
- 3 Press STOP (15) to stop recording.
- In the automatic mode, recording will stop after a twenty-second pause (silence) on the source.

### Note:

- You can also use the PAUSE button (14) instead of STOP (15) to make more than one recording.
- After recording, the temporary table of contents will be automatically up-dated. During this process, the display will indicate LIFDATE.

### Attention!

If you want to play the disc on a different, regular CD player, the disc must be finalized first. See 'Finalizing a disc', p. 9.

### Note:

- If you do not want a twenty-second pause to be recorded, you must manually stop recording.

- Do not record a programmed sequence from a DCC or DAT, because this will result in the wrong track numbering. Always record numbers in the original (non-programmed) sequence.
- A track on a CD will sometimes immediately start with music information. The CD-Recorder will not start unless it recognizes a digital signal. Although the reaction time is less than 200 milliseconds, a fraction of the beginning of a number may sometimes not be completely recorded. If this happens, you can start the recording manually (see Manual recording from a digital source).

## FINALIZING/ERASING

The numbers between parentheses refer to the front fold-out.

### Finalizing a disc

Finalizing is an extremely simple procedure that is necessary in order to play the disc on another, regular CD player. It is not necessary if the disc is used in another CD-Recorder.

#### Attention!

Finalizing makes it impossible to record further on a CD-R disc. With a CD-RW disc, the entire disc must be erased before it can be used again.

#### To start finalizing

- 1 Place the disc you want to finalize in the CD-Recorder (if it is not yet in the recorder).
  - 2 From the STOP setting, press FINALIZE (8) and then REC (7) within two seconds.  
The approximate finalization time will be shown on the display and will be at least two minutes.
- During finalization, the display will count the timedown. Finalization is complete when the total number of tracks and the total time recorded appears in the display.

#### Note:

- During finalization, the CD-Recorder will not accept any operating commands.
- In order to prevent damages to the disc, the CD-Recorder may not be switched off or disconnected during finalization.

### Erasing a disc

With a CD-RW disc, recordings can be erased and replaced by a new recording.

There are two options:

#### Erasing the last recording

- 1 Place the disc to be erased in the CD-Recorder (if it is not yet in the recorder).
- 2 From the STOP setting, press the ERASE button (9) once and then REC (7) within two seconds to erase the last track; *TRACK* and 'ERASE' (27) will appear on the display.

#### Erasing the entire disc

- 1 From the STOP setting, press the ERASE button (9) twice within five seconds, and then press REC (7) within two seconds to erase the entire disc; *DISC* and 'ERASE' (27) will appear on the display.
- This process may take up to 1,5 minutes.

#### Note:

- Before the disc is finalized, the last track recorded can be erased.
- A finalized disc must be completely erased before being used again to record.
- While erasing, the CD-Recorder may not be switched off.

# PLAYING



The numbers between parentheses refer to the front fold-out.

## Normal playing

- 1 Press **PLAY (13)** to start playing (this button may be pressed when the disc drawer is either open or closed). The relevant track number and the playing time passed will appear on the display.
  - Press **DISPLAY (18)** to view the remaining playing time of the track.
  - Press **DISPLAY (18)** twice to view the total remaining playing time of the disc.
  - Press **DISPLAY (18)** a third time to deactivate the record indicators (blue and red indicators) on the display. The playing time passed will once again appear on the display.
  - Press **PAUSE (14)** to temporarily interrupt playing. Press this button again to continue playing.
  - Press **NEXT (12)** to go to the next track.
  - Press **PREV (11)** to go to the previous track.
  - You can select any track number by pressing the track number using the number buttons **(47)** on the remote control. For a two-digit number, press the two digits in rapid succession.
  - Press **▶▶ (57)** or **◀◀ (50)** to search forward or backward at twice the playing speed.

- Press **FAST (56)** and then **▶▶ (57)** or **◀◀ (50)** to search forward or backward at eight times the playing speed.
  - Press **REPEAT (61)** to repeat the track that is currently displayed. 'REPEAT 1' **(32)** will appear on the display.
  - Press **REPEAT (61)** again to repeat the entire disc or pre-programmed sequence. 'REPEAT' **(32)** will appear on the display.
- 2 Press **STOP (15 or 48)** to stop playing.

## Programmed play

- 1 With the CD-Recorder stopped, press **PROGRAM (55)** on the remote control.
- 2 Enter the tracks you want to play using the numeric keys **(47)**. For 2-digit track numbers, enter both digits in quick succession.
  - You can program up to 20 tracks in any order.
- 3 To play your program, press **PLAY (13 or 59)**.
  - To cancel the program, press **STOP (15 or 48)** twice, or open the disc.

# ADDITIONAL INFORMATION

## Specific display messages

MESSAGE.....MEANING

**READING** .....disc information is being read  
**OPC** .....laser power calibration in progress  
**NO DISC** .....no disc present or disc is unreadable  
**UPDATE** .....the table of contents of the disc is being updated after a recording  
**WAIT** .....the player is performing internal actions  
**FULL** .....the program already contains twenty numbers; it is full  
**CD FULL** .....there is no room for additional recording  
**EMPTY** .....the disc contains no recordings; it cannot be finalized  
**INPUT** .....no digital input was selected for CD SYNC

**FINAL** .....OPC has been performed 96 times (maximum number of calibrations); the disc must be finalized  
**RECOVER** .....recovery procedure performed automatically after power failure during recording. If this procedure fails, the CD-R disc - unlike the CD-RW disc - may no longer be usable  
**OPCFAIL** .....OPC has failed; disc is damaged or player is defect  
**SERVICE** .....recorder's self-test has failed; see 'Fixing problems'; contact your supplier  
**NO AUDIO** .....no audio information is available on the disc. You are trying to record on a CD-R disc that is not intended for digital audio (see Introduction, user instructions)



## GENERAL

- System : compact disc digital audio
- Number of channels : 2 (stereo)
- Applicable discs : CD, CD-R, CD-RW
- Power supply : AC 230V(/00), 120V(/17),  
120/230V(/11)
- Power consumption : 15 W
- Operating temperature : 5-35°C
- Weight : 4 kg
- Dimensions : 435(W)x310(D)x75(H) mm

## AUDIO

- Frequency response : 20Hz-20kHz
- Playback S/N : 105dB
- Playback dynamic range : 98dB
- Playback total harmonic distortion : 85dB
- Recording S/N : 90dB
- Recording dynamic range : 95dB
- Recording total harmonic distortion : 85dB
- Line output voltage : 2Vrms
- Digital coaxial output : 0.5V(pp)/75Ω
- Digital optical output : -20dBm
- Headphones : 0-5Vrms/8-2000Ω
- \*recording values for line input/output
- Digital coaxial input : 32-48kHz  
(automatic sample rate conversion)
- Digital optical input : 32-48kHz  
(automatic sample rate conversion)
- Analogue input : 700mVrms/50kΩ

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