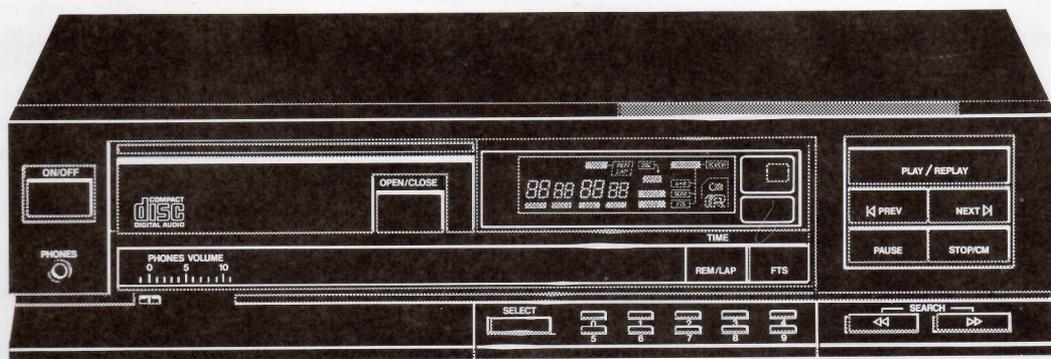




CONSUMER ELECTRONICS

PHILIPS



CD 960

(GB)

Compact Disc Player

(F)

Lecteur 'Compact Disc'

(D)

Compact-Disc-Spieler

(NL)

Compact Disc-Speler

(E)

Reproductor 'Compact Disc'

(I)

Lettore Compact Disc

(DK)

Compact Disc-Afspiller

(S)

Compact Disc-Spelaren

(SF)

Compact Disc -Soitin

English

Figures

page 1

page 74

Français

Figures

page 9

page 74

Deutsch

Abbildungen

Seite 18

Seite 74

Nederlands

Figuren

pagina 26

pagina 74

Español

Figuras

página 34

página 74

Italiano

Figure

pagina 42

pagina 74

Dansk

Figurer

side 50

side 74

Svenska

Figurer

sida 58

sida 74

Suomi

Kuvat

sivu 65

sivu 74

**CLASS 1
LASER PRODUCT**

CONTENTS

1. Introduction
2. Summary of controls etc.
3. Precautions
4. Installation
5. Using the player
 - A. Playing a complete disc
 - B. Special features during play
 - C. Possibilities at start of play
 - D. Programming
 - E. FTS (Favourite Track Selection)
 - F. Other possibilities
6. Additional information
 - A. Listening with headphones
 - B. Using the remote control handset
 - C. Replacing batteries in the remote control handset
 - D. Maintenance
 - E. Fitting a mains plug
7. Technical data
8. Before calling the repairman

1. INTRODUCTION

Welcome to the new sound experience of Compact Disc digital audio.

The Compact Disc player

This Compact Disc player not only offers excellent sound quality, ease of use and fast access to any point on a disc, but also a number of unique features.

- Favourite Track Selection (FTS) allows you to store your favourite selection of music for each of your discs in the player's permanent memory. When playing a disc you can then, if you wish, listen to your previously chosen selection for that particular disc.
- When making recordings of your Compact Discs, it is possible to automatically insert 4-second pauses between tracks. This is useful if your cassette player has track-seeking facilities.
- Furthermore, this player is fully prepared for future developments in digital signal processing and CD-I and has both wired (electrical) and optical digital outputs.

The Compact Disc

- Each separate piece of music on a compact disc is called a TRACK. Some new discs, mostly of classical music, also have INDEX numbers which show divisions within tracks. The track and index numbers for a disc are listed, together with the titles, on the card in the disc holder.
- All Compact Discs are made so that they contain track and time information as well as the music; this is called the table of contents. The player can display all this information so you can immediately see which track is being played and either the elapsed time for that track or the remaining time on the whole disc. The number of tracks and their playing times are also recorded in the table of contents on the compact disc. This information is read by the player at start-up.

This booklet explains how to install and use your new Compact Disc player. Read carefully and you will soon get used to the player and all its possibilities.

2. SUMMARY OF CONTROLS ETC.

Open the flap at the back of this booklet to see the labelled illustrations referred to in the text.

Front of player (Fig. 1a)

- ① ON/OFF switch: for switching the player on and off.
- ② Disc-tray: holds the Compact Disc.
- ③ OPEN/CLOSE button: for opening and closing the disc-tray.
- ④ Display: functions as on/off indicator; gives information about the number of tracks on the disc, the playing time, the progress of play and particular functions of the player; also signals faults during operation or programming.
- ⑤ IR indicator: lights up when the IR receiver receives signals from the remote control handset.
- ⑥ IR receiver: for receiving infra-red signals from the remote control handset.
- ⑦ PREV button: for returning to the previous track (or other earlier track) during play.
- ⑧ PLAY/REPLAY button: for starting play (PLAY) and returning to the beginning of a track (REPLAY).
- ⑨ NEXT button: for moving on to the next track (or other later track) during play.
- ⑩ PHONES socket: for connecting headphones to listen to discs without using an amplifier.
- ⑪ VOLUME control for headphones: for adjusting the volume when listening with headphones.
- ⑫ Slide-away keyboard
- ⑬ REM/LAP button: for switching between the remaining time of the whole disc ('REM') and the elapsed time of the current track ('LAP') on the display.
- ⑭ FTS button: for programming and recalling Favourite Track Selection. This is used in conjunction with other controls.
- ⑮ PAUSE button: for holding play at the start of a track or passage, or interrupting play.
- ⑯ ⏮ SEARCH button: for search backwards to a particular passage.
- ⑰ SEARCH ⏭ button: for search forwards to a particular passage.
- ⑱ STOP/CM button: for stopping play; also erases a program from temporary memory.

Note: The following buttons are located on the slide-away keyboard ⑫. Buttons ⑳ to ㉓ are only accessible if you open the keyboard by pushing it in the centre (Fig. 1b).

- ⑲ SELECT button: used during 'go to' or programming prior to entering certain information.
- ⑳ 0-9 digit buttons: for moving on to a particular position on the disc or to input details during programming.
- ㉑ STORE button: for storing details when compiling a program.
- ㉒ CLEAR button: for cancelling mistakes when compiling a program, cancelling an item from a program, breaking a continuous play loop or erasing an FTS program for a disc.
- ㉓ ◀ INDEX button: for returning to the beginning of the present index number and for moving to an earlier index number during play.
- ㉔ REVIEW button: for reviewing and checking a program. The contents of the program are displayed one by one.
- ㉕ SCAN button: for automatically playing the beginning of each track on the disc.
- ㉖ INDEX ▶ button: for moving to a later index number during play.
- ㉗ A-B button: for setting the start and stop points of a continuous play loop.
- ㉘ PLAY MODE switch: for selecting 'NORM (normal) PLAY', 'SINGLE PLAY', 'COPY PAUSE' or 'AUTO PAUSE'.
- ㉙ REPEAT button: for repeating a disc or program.

Most of the controls also appear on the remote control handset (Fig. 1c).

Display (Fig. 2)

The display lights when the player is switched on.

- 'TRACK': The track number shows the total number of tracks on the disc, or the track which is being played or selected.
- 'INDEX': The index number changes if a track contains different index numbers.
- 'MIN' and 'SEC': The numbers show: the total playing time of a disc, the elapsed time for the track being played, the remaining time of the whole disc or a program, or a selected time position in minutes and seconds.
- Either 'REM' or 'LAP' indicators (next to 'TIME') show that the time displayed is remaining total time ('REM') or elapsed track time ('LAP').
- 'DISC' flashes immediately after loading a disc.
- 'ERROR' lights briefly if you make a mistake when operating or programming.
- 'DISC' and 'ERROR' both light briefly if the disc is loaded upside down or if the disc is missing or damaged.
- 'PROGRAM' lights when a program is stored in the player's memory.
- 'A-B' lights when play is in a continuous loop between selected points A (start) and B (end). 'A-B' flashes when selection is not yet complete.
- 'FTS' lights when an FTS program is in operation. 'FTS' flashes after pressing the FTS button.
- 'SCAN' lights after you have pressed the SCAN button so that the player plays the beginning of each track on the disc.
- 'REVIEW' lights when reviewing a program.
- 'REPEAT' lights when repeating the whole disc or part of the disc.
- 'PAUSE' lights when play is temporarily stopped.
- The 'IR' indicator lights when the IR receiver receives signals from the remote control handset.

Rear of player (Fig. 3)

- (a) OPTICAL OUT socket: output for digital signal processing via an optical fibre.
- (b) DIGITAL OUT socket: output for digital signal processing or future developments such as CD-I.
- (c) REMOTE CONTROL sockets: for connection of alternative remote control.
- (d) REMOTE CONTROL-switch: to switch between reception of the signals from the remote control handset by the player itself ('INTERNAL') or by an alternative remote receiver ('EXTERNAL'). The switch must also be set to 'EXTERNAL' if the player is used in a Hi-Fi system which has its own remote control.
- (e) ANALOGUE OUT sockets: analogue output for connection to your audio amplifier.
- (f) FUSE holder: in case of fuse replacement, always use the specified type.
- (g) Mains connection socket: for connecting the mains lead.

3. PRECAUTIONS

- **Check** that your mains supply voltage is the same as that given on the type plate on the rear of the player. If not, contact your dealer.
- Certain versions of this player are equipped with a voltage selector on the rear panel. If you need to change the setting from 220/240 V to 110/120 V, you must at the same time replace the 200 mA fuse in FUSE holder (f) with a 400 mA type.
- **Never** place the player directly on top of an amplifier which may produce considerable heat.
- **Always** stand the player horizontally on a flat, firm base. Allow space around it for ventilation.
- **Never** place the player in a hot sunny position.
- **Never** allow the player to get damp.
- Do **not** connect the player to the PHONO input of your amplifier. This is not suitable for a Compact Disc player.
- **Never** attempt to repair the player yourself. This will make the guarantee void.
- **U.K. only:** If you have to fit a mains plug, refer to 6F - 'Fitting a mains plug'.

4. INSTALLATION

The following are supplied with your Compact Disc player:

- mains lead
 - audio connecting lead
 - remote control handset
 - batteries for remote control handset
1. Remove the two transit screws. These are fitted in red collars on the underside of the player and indicated by arrows (Fig. 4). **Always** keep the two transport screws and collars in a safe place. **Always** replace them before transporting the player.
 2. Position the player as required, bearing in mind the precautions given above.
 3. Insert both plugs from one end of the audio connecting lead supplied into the ANALOGUE OUT sockets (e). (L = Left channel; R = Right channel.)
 4. Insert the plugs from the other end of the lead into the corresponding CD or AUX sockets on your amplifier (or pre-amplifier, tuner/amp, etc.). If necessary, you can use the TUNER or TAPE IN sockets, but **not** the PHONO sockets.
 5. Insert the female plug of the mains lead supplied into the mains connection socket (g).
 6. Insert the mains plug into a mains socket.
 7. Lift back the cover at the rear of the remote control handset and insert the batteries, as indicated in the battery compartment (Fig. 5). Then close the cover again.
 8. Check that the REMOTE CONTROL-switch (d) is set to 'INTERNAL'.

Your Compact Disc player is now ready for use.

5. USING THE PLAYER

The following items are described in this section:

- A. Playing a complete disc
- B. Special features during play
- C. Possibilities at start of play
- D. Programming
- E. FTS (Favourite Track Selection)
- F. Other possibilities

– When using this Compact Disc player, various indications in the display explain what is happening. These are given below.

– If, however, something does not occur as expected, advice is also given to explain why this may be.

– To help you to locate buttons easily, the names used throughout the text are the same as those marked on the player. The numbers in circles refer to the main illustrations inside the back cover.

5A Playing a complete disc

1. Switch on your amplifier
2. Set the source selector on your amplifier to correspond to the Compact Disc player input.
3. Press ON/OFF switch ①.
– The display ④ lights.

If the display does not light:

Is the mains lead connected properly at both ends?
Is power available at the mains socket?

4. Set PLAY MODE switch ⑳ to 'NORM PLAY'.
5. Press OPEN/CLOSE button ③.
– The disc-tray ② opens.
6. With your hand open, and thumb and fingers extended, take the disc out of its holder and fit it, **label side up**, into the cradle in the disc tray (Fig. 6-7).
7. Close the disc-tray by pressing the OPEN/CLOSE button ③. You can also simply push in the disc-tray to close it.
– 'DISC' flashes on the display.
– The disc spins for a moment and then stops.
– The total number of tracks and total playing time of the disc are shown on the display.

If 'ERROR' appears briefly on the display:

Check that the disc has been inserted correctly.
Is the disc dirty or damaged in any way? (See Section 6E - Maintenance).

8. Press PLAY/REPLAY button ⑧.
– The disc starts to spin.
– The track and index numbers refer to the track being played, starting at track 1, index 1.
– The elapsed playing time of each track is shown above 'MIN' and 'SEC'.
– 'LAP' appears on the display.
– Play starts.

You can go directly from step 6 to step 8. In this case, programming is not possible.

If no sound (or distorted sound) is heard:

Is the correct source selected on the amplifier?
Is the volume control on the amplifier set to minimum?
Is the Compact Disc player connected to your amplifier correctly? See Section 4 - Installation.
Is the player positioned horizontally?

9. Press REM/LAP button ⑬ whenever you want to know the remaining time of the whole disc.
– 'REM' (instead of 'LAP') then appears on the display; the time indication changes.
– After playing the last track, the player stops automatically. The total number of tracks and the total playing time of the disc are again displayed.
10. Press OPEN/CLOSE button ③.
– The disc-tray opens.
– The information disappears from the display.
11. Take the disc from the disc-tray.
12. Close the disc-tray.
– 'ERROR' and 'DISC' appear briefly on the display, indicating there is no disc on the disc-tray.

13. Press ON/OFF switch ①.
– The display goes out.
– The player is now switched off.

5B Special features during play

Short interruption of play

1. Press PAUSE button ⑮.
– 'PAUSE' appears on the display.
– The music stops but the disc continues to spin.
2. Press PAUSE button ⑮ again to restart play from where it was interrupted.

◀◀ SEARCH, SEARCH ▶▶, NEXT and PREV may all be used during pause to move to a particular location. However, play will not commence until PAUSE button ⑮ is pressed again.

Stopping play

- Press STOP/CM button ⑱.
- The disc stops spinning.
 - The display again shows the total number of tracks and total playing time.

Returning to the start of the current track

- Press PLAY/REPLAY button ⑧.
- Play stops for a moment then restarts at the beginning of the track.

Moving to the next track (or any later track)

- Press NEXT button ⑨.
- Play stops for a moment, then restarts at the beginning of the next track.

If there is no next track on the disc:

'ERROR' appears briefly on the display.
Play continues with the current track.

You can jump forward two or more tracks by pressing NEXT two or more times in succession.

Moving back to the previous track (or any earlier track)

- Press PREV button ⑦.
- Play stops for a moment, then restarts at the beginning of the previous track.

If there is no previous track on the disc:

'ERROR' appears briefly on the display.
Play continues with the current track.

You can jump back two or more tracks by pressing PREV two or more times in succession.

Moving to the next (or any later) index number

- Press INDEX ▶ button ⑳.
- Play stops for a moment, then restarts at the beginning of the next index number (of the current track).

If the current track has no further index number:

'ERROR' appears briefly on the display.
Play starts again from the first index number of the current track.

You can jump forward two or more index numbers by pressing INDEX ▶ two or more times in succession.

If you want to jump forward to an index number in a later track, you must first select the required track number using NEXT button ⑨ and then the required index number using INDEX ▶ button ⑳.

Returning to the start of the current index number

- Press ◀ INDEX button ㉓.
- Play stops for a moment, then restarts at the beginning of the index number.

Moving back to the previous (or any earlier) index number

- Press ◀ INDEX button ㉓ twice quickly in succession.
- Play stops for a moment, then restarts at the beginning of the previous index number.

If the current track has no earlier index number:

'ERROR' appears briefly on the display.

Play starts again from the first index number of the current track.

You can jump back two or more index numbers by pressing ◀ INDEX three or more times quickly in succession.

If you want to jump back to an index number in an earlier track, you must first select the required track number using PREV button (7) and then the required index number using INDEX ▷ button (26).

Forward or reverse search during play

1. Press SEARCH ▷ button (17) for a forward search.

2. Press ◀ SEARCH button (16) for a reverse search.

Keep the button pressed until you reach the required piece of music.

There are three successive search speeds. If you keep the button pressed, the speed increases automatically. If you release the button for a moment, the search goes back to the lowest speed.

The first speed

- This is the slowest speed.
- It is maintained for a few seconds.
- Sound is audible.
- For location of a passage accurate to within one second.
- This speed is returned to whenever you press ◀ SEARCH or SEARCH ▷ again.

The second speed

- This speed is somewhat higher.
- Also maintained for a few seconds.
- Sound remains audible.
- For fairly accurate location of a passage.

The third speed

- This is the highest speed.
- It is reached after about 10 seconds.
- Sound is no longer audible.
- For a more general location of a passage anywhere on the disc.

If you try searching past either end of the disc:

'ERROR' appears briefly on the display.

If you reach the end of the disc and release SEARCH ▷, play jumps back a few seconds.

Repeating play

1. Press REPEAT button (29).
 - 'REPEAT' appears on the display.
 - The whole disc is repeated over and over.
2. To stop repeat, press REPEAT button (29) again.
 - 'REPEAT' goes out.
 - Play stops at the end of the disc.

Setting up a continuous play loop

1. During play, press A-B button (27) at the required start point.
 - 'A-B' flashes on the display.
 - 'PROGRAM' appears on the display.
 - The start point of the play loop is set.
2. Press A-B button (27) again when the required stopping point is reached.
 - 'A-B' lights continuously.
 - The stop point of the play loop is set.
 - Play immediately jumps back to point A and commences from there until point B is reached. Play then returns to point A and so on.

If you wish to speed up the procedure, you can use SEARCH ▷ button (17) or NEXT button (9) to move to the required start and stop times.

3. To break out of the continuous play loop, press CLEAR button (22).
 - 'A-B' and 'PROGRAM' go out.
 - The continuous play loop is broken, play continues as normal.

5C Possibilities at start of play

If you make a mistake, provided that you have not yet pressed PLAY/REPLAY, you can press CLEAR button (22) at any time and start again.

Starting with a particular track (Go to track...)

1. Place the disc on the disc-tray.
2. Close the disc-tray.
3. Enter the desired track number using the 0 - 9 digit buttons (20).
 - 'TRACK' flashes on the display.
 - The selected track number is shown on the display.
4. Press PLAY/REPLAY button (8).
 - Play starts at the beginning of the selected track.

If you select a track which does not exist:

'ERROR' appears briefly on the display.

Starting at a particular index number (Go to track.../index...)

1. Enter the required track number.
2. Press SELECT button (19).
 - 'INDEX' flashes on the display.
3. Enter the required index number.
 - The selected index number is shown on the display.
4. Press PLAY/REPLAY button (8).
 - Play starts at the selected track and index number.

If you select an index number which does not exist:

'ERROR' appears briefly on the display.

Play starts at the beginning of the selected track.

Starting at a selected time within a track (Go to track.../time...)

1. Enter the required track number.
2. Press SELECT button (19) twice.
 - 'MIN' flashes on the display.
3. Enter the minutes of the desired start time.
4. Press SELECT button (19) once more.
 - 'SEC' flashes on the display.
5. Enter the seconds of the desired start time.
6. Press PLAY/REPLAY button (8).
 - Play starts at the selected time.

If you select a time position which does not exist:

'ERROR' appears briefly on the display.

Play starts at the beginning of the selected track.

Scanning a disc

1. Press SCAN button (25).
 - 'SCAN' appears on the display.
 - The first 10 seconds of each track are played in turn.
 - The track number indicates the track being played.
 - At the end of the scan, the disc stops and the display again shows the total number of tracks and total playing time of the disc.

During the scan, it is possible to use NEXT button (9) or PREV button (7).

2. During scan, press PLAY/REPLAY button (8) the moment you hear a track you wish to play.
 - 'SCAN' goes out.
 - The remainder of the disc is now played, starting at the current point.

5D Programming

You can set up and store a program to determine what parts of a disc are to be played and in what order. Your program can contain any combination of:

- track numbers
- index numbers
- start and stop times within a track

However, you are limited to 20 'memory blocks'. Each track number takes up 1 block, each index number takes up 2 blocks and each time position takes up 5 blocks. If you try to use more than 20 blocks, 'ERROR' appears on the display.

Before setting up a program, insert the disc and close the disc-tray.

If you make a mistake, provided that you have not yet pressed STORE, you can press CLEAR button (22) at any time and start again.

Storing a track number

1. Enter the required track number, using the 0 - 9 digit buttons (20).
 - 'TRACK' flashes on the display.
 - The track number is shown on the display.
2. Press STORE button (21).
 - 'PROGRAM' appears on the display.
 - The track number is now memorized.
3. Repeat steps 1 and 2 for each track number you want to store.
 - The number of tracks and playing time of your program are shown on the display.

If 'ERROR' appears on the display:

Does the selected track number exist?
Are all 20 memory blocks full?

Storing an index number

1. Enter the required track number.
2. Press SELECT button (19).
 - 'INDEX' flashes on the display.
3. Enter the required index number.
 - The index number is shown on the display.
4. Press STORE button (21).
 - 'PROGRAM' appears on the display.
 - The index number is now stored.

In this case, since the playing time of index numbers is not included in the table of contents recorded on the compact disc, the time is not added to the total playing time of the stored program. The remaining time indication will therefore not be accurate.

5. Repeat steps 1-4 for each index number you want to store.

Storing a specific playing time for a track

1. Enter the required track number.
2. Press SELECT button (19) twice.
 - 'MIN' flashes on the display.
3. Enter the minutes of the start time.
4. Press SELECT button (19) again.
 - 'SEC' flashes on the display.
5. Enter the seconds of the start time.
6. Press STORE button (21).
 - The start time is stored.
 - 'MIN' flashes again.
7. Enter the minutes of the stop time.
8. Press SELECT button (19) once more.
 - 'SEC' flashes again.
9. Enter the seconds of the stop time.
10. Press STORE button (21).
 - The stop time is stored.
11. Repeat steps 1-10 for each playing time you want to store.

Storing track numbers using SCAN

This method of programming only applies if you want to store track numbers *in the same order* as they appear on the disc.

1. Press SCAN button (25).
 - 'SCAN' appears on the display.
 - The first 10 seconds of each track are played in turn.
 - The track number indicates the track being played.
2. Whenever a track which you want to store is played, press STORE button (21).
 - 'PROGRAM' appears on the display.
 - The track number is stored.
 - The player immediately starts to scan the next track.
3. Repeat step 2 for each track you want to program.

Reviewing a program

Press REVIEW button (24).

- 'REVIEW' appears on the display.
- Details of the selection are displayed in the programmed sequence.

If 'ERROR' appears on the display:

The memory is empty and nothing is stored.

You can review a program prior to or during programmed play.

Erasing a track number, index number or time sequence from a program

1. Press REVIEW button (24).
 - Each item is displayed in the programmed sequence.
2. Press CLEAR button (22) at the moment the track number appears which you want to erase.

Programmed play

1. Set PLAY MODE switch (28) to 'NORM PLAY'.
2. Press PLAY/REPLAY button (8).

- Play begins with the first item of your program.

If you press PLAY/REPLAY button again, play returns to the first item of the program.

Other controls remain operative but now obey the sequence of your program rather than the order on the disc. Search (forwards or backwards) is limited to the track being played.

You can repeat the program by pressing REPEAT.

The program remains stored until you press STOP/CM, OPEN/CLOSE or switch the player off.

Returning to the start of the current item of the program

Press PLAY/REPLAY button (8).

- Play stops for a moment then restarts at the beginning of that item of the program.

To erase the program

Press STOP/CM button (18).

- The program is erased.

5E Favourite Track Selection (FTS)

To make a program of selected tracks permanent, so that you can use it each time you play a particular disc, you can store it in FTS memory.

The player has enough FTS memory for an absolute maximum of 226 discs. However, the number of FTS programs that can be stored depends on the number of memory blocks taken up. For example, if you store 5 tracks per disc, programs for 157 different discs may be stored.

Once stored, you can recall an FTS program for a disc whenever you want to play your previously programmed selection. However, you need not use the FTS program each time you play a disc; you can equally set up a new temporary program as in Section 5D. The brief flashing of 'FTS' after the disc is loaded reminds you, however, that it has an FTS programme.

Only one program, with a maximum of 20 memory blocks, is allowed per disc. If you try storing two (or more) FTS programs for a disc, the earlier one is deleted and the most recent one will be used. The new program is given the same FTS ranking number.

Note: When using FTS, the FTS button (14) is used in conjunction with other buttons. Do not allow more than 5 seconds to elapse between pressing combinations of buttons, otherwise the player assumes you have changed your mind. If this happens, 'FTS' stops flashing. Press FTS button again to restart the command.

Storing a program in FTS memory

1. Set up the required program as described in section 5D - Programming.
2. Press FTS button (14).
 - 'FTS' flashes on the display.
3. Press STORE button (21).
 - 'FTS' stops flashing.
 - The display indicates the FTS ranking number of this program for a few moments.
 - The program is stored in FTS memory under this ranking number and can be recalled whenever you insert this disc.

If 'ERROR' appears on the display:

The FTS memory is full; however, the ranking number is still lower than 226. You must erase some old FTS programs if you wish to store this program.

The ranking number exceeds 226. In this case you will have to erase the entire FTS memory; see: 'To erase the entire FTS memory'.
No program has been set up.

FTS programmed play

1. Set PLAY MODE switch (28) to 'NORM PLAY'.
2. Press FTS button (14).
 - 'FTS' flashes on the display.
3. Press PLAY/REPLAY button (8).
 - The FTS program is recalled and played automatically.

If 'ERROR' appears on the display:

There is no FTS program in memory for that disc.

To erase an FTS program for one disc

To do this, you need to know the FTS ranking number for the program you wish to erase.

1. Unless you have previously noted down the ranking number, insert the disc concerned.
2. Press FTS button (14), then PLAY/REPLAY button (8).
 - The required ranking number is indicated briefly on the display.
3. Make a note of the FTS ranking number.
4. Press FTS button (14), then REVIEW button (24).
 - The display shows the lowest FTS ranking number in memory.
5. Press, and keep pressed, FTS button (14) and press NEXT button (9) as many times as necessary to reach the required ranking number.
 - The display shows the FTS ranking number.

If 'ERROR' appears on the display:

You have pressed NEXT too many times and gone past the last ranking number in memory; start again from step 4.

6. When the required ranking number is shown, and still keeping the FTS button pressed, press CLEAR button (22).
 - The display shows '000' for a few moments.
 - That particular FTS program is erased from memory.

To erase the entire FTS memory

Note: Only use this to erase the FTS programs for *all* your discs, for example the FTS memory is full or you wish to start anew.

1. Press FTS button (14).
 - 'FTS' flashes on the display.
2. Press PAUSE button (15) and keep it pressed then immediately press OPEN/CLOSE button (3).
 - The complete FTS memory is erased.
 - The display shows '000' for a few moments.

5F Other possibilities

PLAY MODE switch (28)

This switch can be set to one of four positions:

- 'NORM PLAY': for normal use - each track is played one after the other.
- 'SINGLE PLAY': play stops after the current track has finished, unless the player is in the REPEAT mode. In this case the current track will be played over and over.
- 'COPY PAUSE': a 4-second pause is inserted after each track before playing the next one.
- 'AUTO PAUSE': stops play at the end of a track until you press PAUSE.

Recording from your Compact Disc player*

You can of course make recordings on a cassette recorder (or other tape recorder) from your Compact Disc player. You can either connect the recorder directly to the Compact Disc player or via your Hi-Fi system.

When recording, you may find it useful to set PLAY MODE switch (28) to 'COPY PAUSE' or 'AUTO PAUSE'.

- 'COPY PAUSE' is useful if your cassette recorder has track-seeking facilities where the gaps between tracks are detected.
- 'AUTO PAUSE' enables you to determine the gaps between tracks yourself. At a later stage, you can record material from another source in this gap.

* **Note for users in U.K.** - Recording of material may require consent. See Copyright Act 1956 and The Performers' Protection Acts 1958 to 1972.

6. ADDITIONAL INFORMATION

6A Listening with headphones

With headphones connected to the PHONES socket (10), you can listen to discs without having to use an amplifier.

The headphones must have a 6.3 mm jack plug and an impedance between 8 and 1000 ohms.

You adjust the sound level with the VOLUME control (11).

6B Using the remote control handset

When the player is switched on and the disc is in place, virtually all functions can also be operated using the remote control handset. In this case the REMOTE CONTROL-switch (a) has to be set to 'INTERNAL'.

The remote control handset works up to a distance of about 8 metres from the player. When the player receives a remote control signal, the IR indicator (5) lights.

If, because of the siting of the player, it is difficult for the beam from the remote control handset to reach the player directly, or if the distance between the player and the place where you want to use the handset is more than about 8 m, you can connect a separate receiver to the REMOTE CONTROL IN-socket (c). This receiver is available as an accessory under type number EM 2200. While using the receiver you have to set the REMOTE CONTROL-switch (a) to 'EXTERNAL'.

Although the signals of the remote control handset can also be received via reflection, you are recommended to aim the remote control handset directly at the player or the receiver, as far as possible, because the power of the signal beam decreases as the batteries become drained.

6C Replacing batteries in the remote control handset

The remote control handset runs on three R03, UM4 or AAA 1.5 Volt batteries. The life of a set of batteries is normally about one year.

Remove the batteries as soon as they are flat or if you are not going to use the remote control handset for any length of time, in order to prevent damage by possible battery leakage.

6D Maintenance

Discs

Although Compact Discs are covered with a protective layer, it is still advisable to treat them carefully.

As long as you always pick up discs by the edge, and put them back in their holders immediately after use, cleaning will not normally be necessary.

However, should fingerprints, dust or dirt appear, you can wipe them off with a soft, lint-free cloth. Wipe the disc in a straight line from centre to edge.

Never use detergent, abrasive cleaning agents or cleaning agents used for conventional records!

The Player

The player mechanism is fitted with self-lubricating bearings, and must not be oiled or greased.

Only use a damp cloth to clean the outside of the player. Do not use cleaning agents containing alcohol, spirits, ammonia or abrasives.

The disc-tray should be kept free of dust.

6E IMPORTANT - Fitting a mains plug (U.K. only)

The wires in the mains lead are coloured:

Blue - Neutral

Brown - Live

As these colours may not correspond with the colour markings identifying the terminals in your plug, proceed as follows:

The Brown wire must be connected to the terminal which is marked with the letter L or coloured Red.

The Blue wire must be connected to the terminal which is marked with the letter N or coloured Black.

Note: This apparatus must be protected by a 3 amp fuse if a 13 amp plug is used, or, if any other type of plug is used, by a 5 amp fuse either in the plug or adaptor, or at the distribution board. If in doubt consult a qualified electrician.

7. TECHNICAL DATA

Typical Audio Performance

- Number of Channels: 2
- Frequency Range: 2-20 000 Hz
- Amplitude Linearity: ± 0.01 dB (20-20 000 Hz)
- Phase Linearity: $\pm 0.2^\circ$ (20-20 000 Hz)
- Dynamic Range: 96 dB (20-20 000 Hz)
- Signal-to-Noise Ratio: 101 dB (20-20 000 Hz)
- Channel Separation: 100 dB (20-20 000 Hz)
- Total Harmonic Distortion: 0.0015% (20-20 000 Hz)
- Wow and Flutter: quartz crystal precision
- D/A Conversion: quadruple oversampling (176.4 kHz) with digital filter and two 16-bit D/A converters
- Error Correction System: Cross Interleaved Reed Solomon Code (CIRC)
- Audio Output Level: $2 V_{\text{rms}}$
- Headphones load impedance: 8-1000 ohms

Optical Readout System

- Laser: semi-conductor AlGaAs
- Wavelength: 780 nm

Signal Format

- Sampling Frequency: 44.1 kHz
- Quantization: 16 bit linear/channel

Power Supply

- Mains Voltage: see type plate at rear of player
- Mains Frequencies: 50 and 60 Hz
- Power Consumption: 30 W approx.
- Safety Requirements: IEC

Cabinet, general

- Material/finish: metal and polystyrene with decorative trim
- Dimensions (w x h x d): 420 x 100 x 378 mm
- Weight: 10 kg approx.

Disc

- Diameter: 120 mm
- Thickness: 1.2 mm
- Direction of Rotation (seen from reading side): anti-clockwise
- Scanning Velocity: 1.2-1.4 m/s
- Rotation Speed: 500-200 rpm
- Playing Time (theoretical): 74 min (stereo)
- Track Pitch: 1.6 μm
- Material: plastic

The right is reserved to change data if necessary

This Compact Disc player complies with the radio interference requirements as laid down in EEC (European Economic Community) regulations.

8. BEFORE CALLING THE REPAIRMAN

If you suspect that your player is faulty, first consult this checklist. You may find you have overlooked something quite simple. Under no circumstances should you open up the player; this will invalidate all rights under the guarantee.

1. After pressing the POWER switch, the display does not light.

- The button is not pressed in far enough.
- One of the plugs of the mains lead is not connected or is not making contact.
- There is no supply at the mains socket. Plug in another electrical appliance and check if that works.

2. After pressing OPEN/CLOSE, the disc-tray does not slide out.

- The transit screws have not been removed.
- The player is not switched on. Check if the display is lit.
- The microprocessor has not received the command properly. Check if the disc-tray opens if you switch the player off and on again, and then press OPEN/CLOSE once more.
- The disc-tray drive is not functioning. You cannot rectify this yourself.

3. After pressing OPEN/CLOSE, PLAY/REPLAY or SCAN, the disc-tray does not slide in.

- The mains supply has been interrupted. Check if the display is lit.
- The microprocessor has not received the command correctly. Check if the disc-tray closes if you switch the player off and on again.
- The disc-tray drive is not functioning. You cannot rectify this yourself. If a disc is in position, remove it, then push the disc-tray in carefully to close it.

4. After closing the disc-tray, 'DISC' and 'ERROR' light briefly.

- The disc is not inserted with the label upwards or there is no disc in the disc-tray.
- The disc is dirty. See if cleaning the disc, or using another, clean disc, clears the fault.
- The disc is defective. Try another disc.
- There is an unwanted object in the disc-tray, e.g. a piece of paper or a remnant of packaging.

5. The disc is being played (indicated by the track number or the elapsed time indication moving on regularly) but there is no sound.

- The amplifier is not switched on.
- The position of the amplifier source selector switch does not correspond with the input to which the player is connected.
- The amplifier or the loudspeakers connected to it are not working. Check with another sound source to see if this is the case.
- The microprocessor has not received the command correctly. Check if switching the player off and on again, and then restarting clears the fault.
- The connection between the player and the amplifier is broken.
- The input to which the player is connected is defective. Check this by connecting the player to another input socket.

6. The sound is poor or distorted, or you can hear only one channel.

- The player is not connected to the CD, AUX, TUNER or TAPE IN input of the amplifier but to the PHONO input.
- One of the plugs of the connection cable is either not connected or not properly connected.
- The disc is dirty or badly scratched. See if cleaning the disc or using another, clean or scratch-free disc improves the situation.
- There is an unwanted object in the disc-tray, e.g. a piece of paper or a remnant of packaging.
- The amplifier or the loudspeakers connected to it are not working properly. Check with another sound source to see if this is the case.

7. Programming is not working.

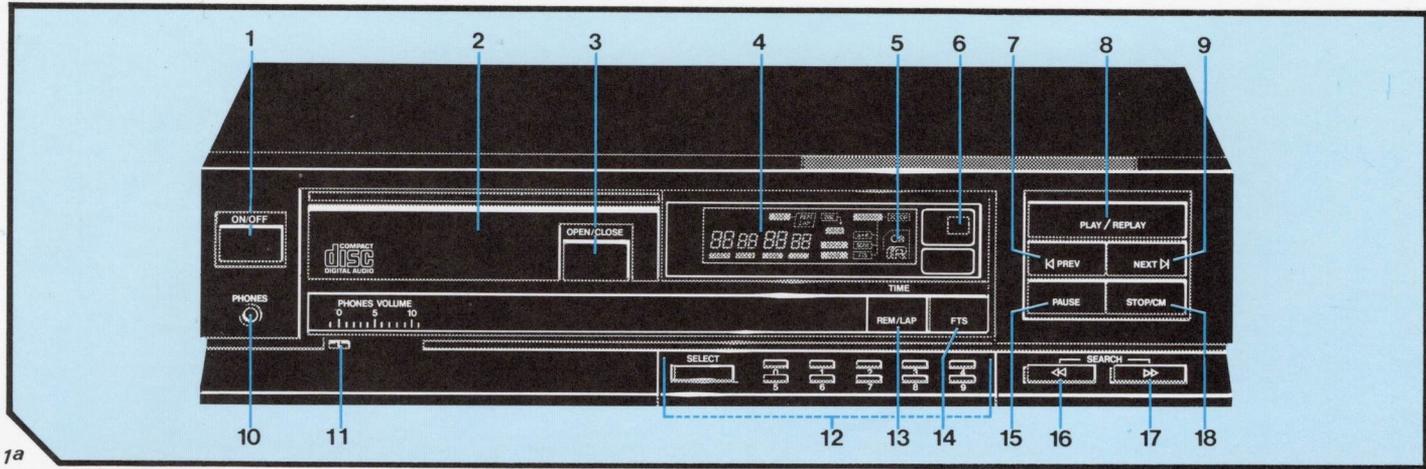
- The disc is dirty or badly scratched. See if cleaning the disc helps or try programming another disc.
- The microprocessor has not processed the commands properly. Erase the program by pressing STOP/CM and store it again; restart play and check if the fault has cleared.
- All 20 memory blocks are already occupied and you have missed 'ERROR' which indicates this.
- FTS memory is full.

8. Playback does not begin with the first track on the disc or of the program, but with another.

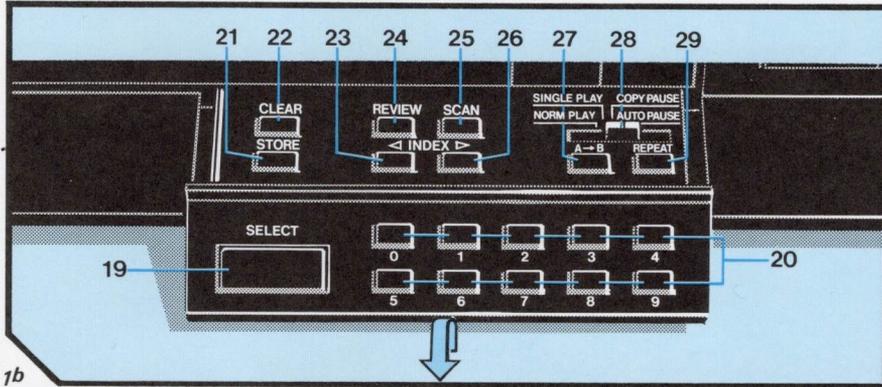
- The microprocessor has not processed the command correctly. Check if switching the player off and on again, and then restarting clears the fault.
- The disc is dirty or badly scratched. See if cleaning the disc or using another, clean or scratch-free disc clears the fault.
- The disc is defective. Try another disc.
- There is an unwanted object in the disc-tray, e.g. a piece of paper or a remnant of packaging.

9. Playback stops before the end of the disc or the program.

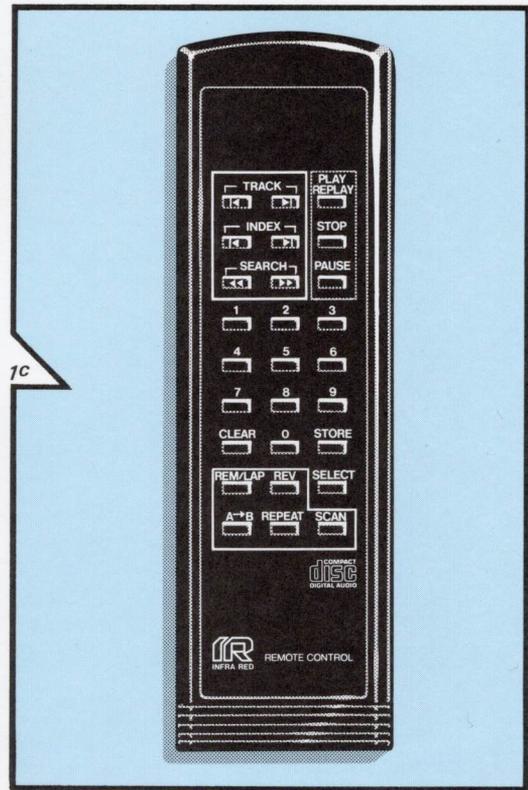
- The PLAY MODE switch is not in the 'NORM PLAY' position.



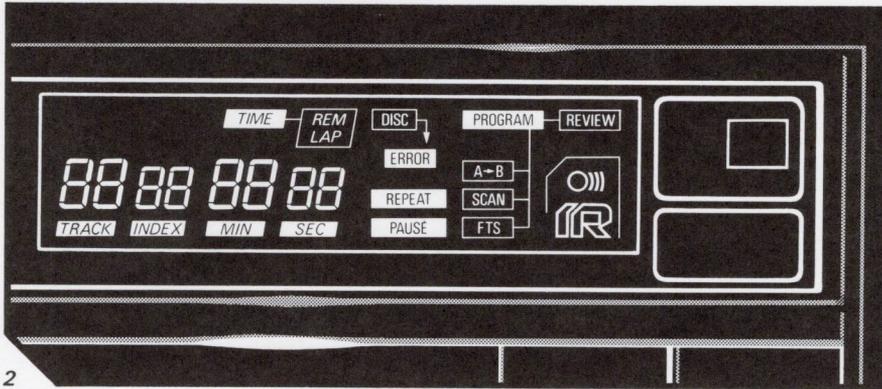
1a



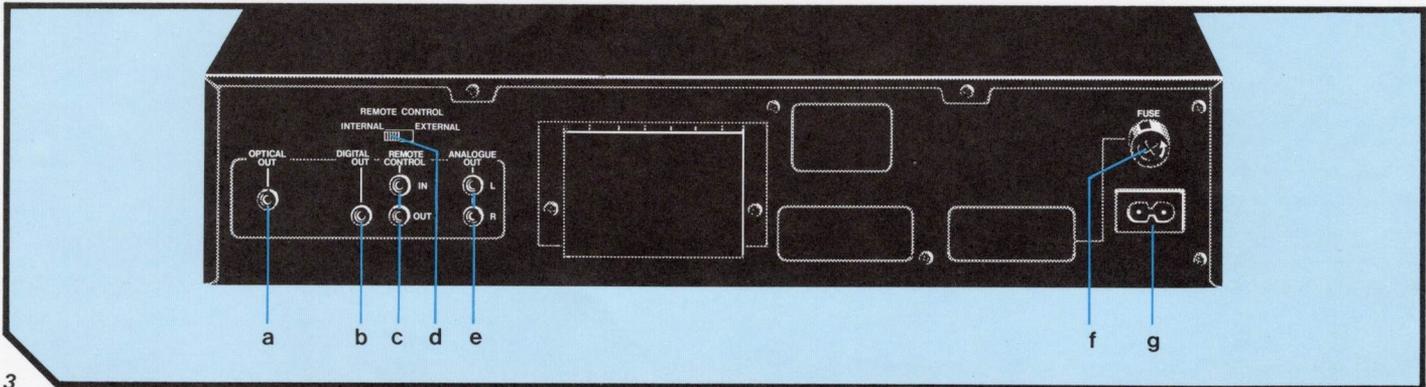
1b



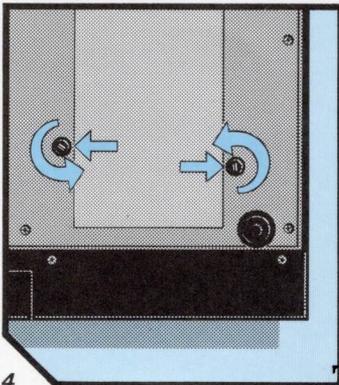
1c



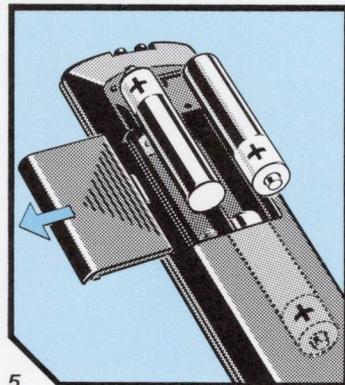
2



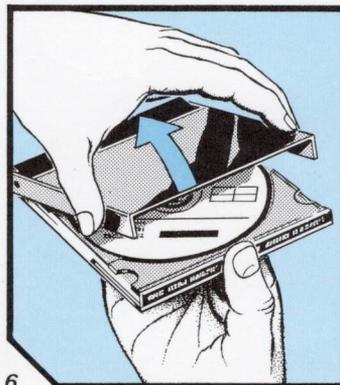
3



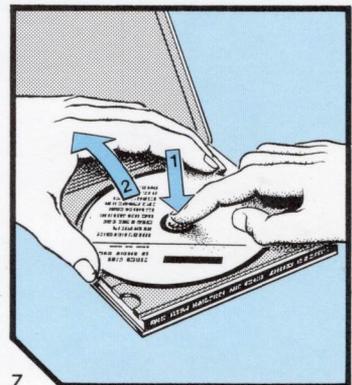
4



5



6



7