CONSUMER ELECTRONICS

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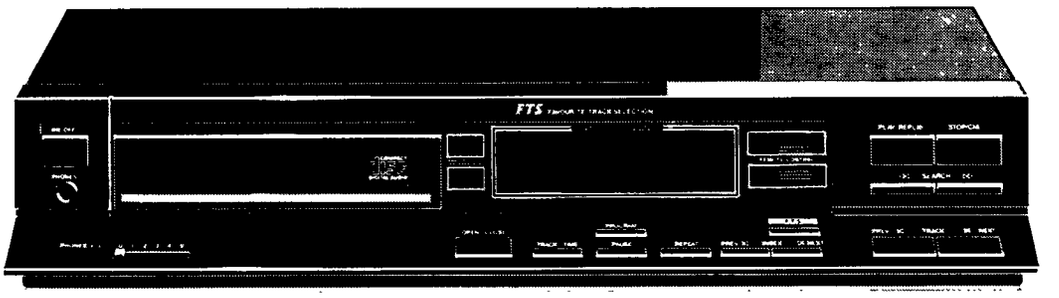


CD 473

(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 page 1
Figures page 74

Français page 9
Figures page 74

Deutsch Seite 18
Abbildungen Seite 74

Nederlands pagina 27
Figuren pagina 74

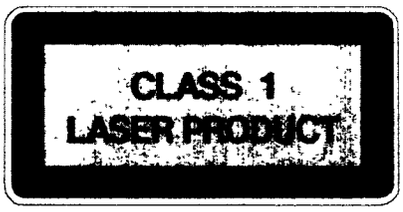
Español página 35
Figuras página 74

Italiano pagina 43
Figure pagina 74

Dansk side 51
Figurer side 74

Svenska sida 59
Figurer sida 74

Suomi sivu 66
Kuvat sivu 74



English

INTRODUCTION

Welcome to the new sound experience of Compact Disc Digital Audio.
Compact Disc is the biggest advance ever made in audio technology. By employing the most sophisticated digital and optical technologies, Compact Disc not only produces the ultimate in sound reproduction, it also gives you, the user, access to operating features which have never before been seen in audio equipment designed for the home, such as fast access to every track and index number on the disc and very simple programming facilities.
To make operation even easier, this Compact Disc player can be remotely controlled.
In these instructions you will find everything you need to know about installing, operating and programming your Compact Disc player. Read through the text carefully and you will quickly become familiar with all the facilities offered by this new way of listening to discs.

CONTENTS **Page**

INSTALLATION	1-2
Unpacking	1
Checking the Power Supply Setting	1
Removing the Transit Clamps	1
Siting the Player	1
Connections	1,2
OPERATION	2-4
The Display	2
Switching On and Off	3
Loading and Unloading the Disc	3
Changing to Track Number Indication	3
Playing the Complete Disc	3
Going back to the Beginning of a Track	3
Moving to Another Track	3
Moving to Another Index Number	3
Beginning at a Specific Track Number	3,4
Beginning at a Specific Index Number	4
Searching for a Particular Passage	4
Holding Play at the Start of a Track or a Passage/ Interrupting Play	4
Repeating the Disc	4
Stopping Play	4
PROGRAMMING	4-6
Programming the Short-term Memory	4,5
Programming the FTS Memory	5,6
USE OF THE REMOTE CONTROL HANDSET	6,7
Inserting the Batteries in the Remote Control Handset	6
The facilities of the Remote Control Handset	6
Adapting the Sound Level	6
Using Keys 0-9	6
Range of the Remote Control Handset	7
Connection of a Separate Receiver for the Remote Control Handset	7
ADDITIONAL INFORMATION	7
Listening with a Headphone	7
Disc Maintenance	7
Player Maintenance	7
Technical Data	7
FAULTS AND THEIR LIKELY CAUSES	8

INSTALLATION

Unpacking

The following accessories are supplied with this Compact Disc player:
- a power supply lead;
- a signal output cable for connection to the amplifier;
- a remote control handset;
- batteries for the remote control handset.

Make sure that you take all these accessories out of the box.
Remove all packaging materials from the player and the accessories.
Peel the transparent protective foil off the display. This foil is only held in place by static attraction and can easily be removed, beginning at one corner.

Checking the Power Supply Setting *(Fig. 1)*

The type plate, at the rear of your Compact Disc player, tells you the supply voltage for which the player is set.
If your mains supply voltage is different, or becomes different in the future, get your dealer or our Service Organisation to change the voltage setting for you.

Removing the Transit Clamps *(Fig. 2-3)*

On the bottom of the player you will see two red transit clamps. These lock the player mechanism and the disc tray to protect them during transportation.
Turn both of these clamps anti-clockwise, withdraw them from the player, and store them in the recesses provided.
If, at any time, you want to transport the Compact Disc player, you must lock the mechanism and the disc tray again to avoid damage. To do this, turn the player upside-down, insert the clamps in their slots and rotate them clockwise until they reach a stop.

Siting the Player

This Compact Disc player can equally well be sited free-standing as in an audio rack, or it can be stacked with other components. Never stand the player in persistent direct sunlight or near any heat source.

a. Free-standing - If sited free-standing, the player must always stand horizontally on a flat, firm surface, not on a mat or anything similar.
If siting the player in a cupboard or a wall unit, always allow a minimum free space of 3 cm above the player so as not to interfere with the cooling of the player.

b. In an audio-rack - In an audio-rack the player can be sited in any desired position.

c. Stacked - In a stack of your own selected equipment, site the player for preference at the bottom or on the top. Under no circumstances stand the player directly upon a high-power amplifier, because such an amplifier gives off a substantial amount of heat.

Warning - Do not place audio or video cassettes on the player because of the effects of the magnetic fields produced by the player transformer.

Connections *(Fig. 4)*

At the back of the player you will find the following connection sockets:
a OUT: for the signal output cable to the amplifier.
b RC5 IN/OUT: for a separate receiver for the signals from the remote control handset.

c DIG OUT: for digital equipment. This socket makes the player suitable for future Compact Disc applications such as CD-I and digital signal processing.
d Connection for the mains lead.

Connecting the Signal Output Cable - The signal output cable has, at both ends, a red plug (for the right channel) and a black or white plug (for the left channel).
Insert one red plug in the socket R (right channel) and the corresponding black or white plug into the socket L (left channel). Insert both other plugs into the corresponding sockets of the CD or AUX input on your (pre-)amplifier.
If these sockets are already in use, you can also use the TUNER or TAPE IN connection, but *never* the PHONO input! This latter is not suitable for the connection of a Compact Disc player.

Connecting the Mains Lead - Fit the female plug of the mains lead into the connection socket on the player, and the male plug into a suitable mains supply socket.

OPERATION *(Fig. 5)*

Your Compact Disc player is now ready for use. Before attempting to operate it, however, it is advisable to familiarise yourself with the functions of its keys and display as described briefly below. The names used here for the controls will be used throughout the text. In this connection, see also 'USE OF THE REMOTE CONTROL HANDSET'.

1 ON/OFF key: for switching the player on and off.
2 Display: functions as on/off and stand-by indicator; shows the total number of tracks on the disc; during play, indicates the number of the track which is being played and the elapsed time of that track; can also show the total playing time of the disc; signals faults in operation or programming; at the same time gives information about particular functions of the player. See also 'The Display'.
3 REMOTE CONTROL eye: for receiving the signals from the remote control handset.
4 ⏮ SEARCH ⏭ keys: for fast search to a particular passage (⏮ backwards, ⏭ forwards).
5 PLAY/REPLAY key: for starting play (PLAY) and returning to the beginning of a track (REPLAY).
6 STOP/CM key: for stopping play during playback (STOP) and for erasing a programme (CM = Clear Memory).
7 PHONES socket: for the connection of a headphone for listening to discs without using an amplifier. See also: 'Listening with a Headphone' under 'ADDITIONAL INFORMATION'.
8 PHONES VOL control: for adjusting the volume when listening with a headphone.
9 OPEN/CLOSE key: for opening (OPEN) and closing (CLOSE) the disc tray.
10 TRACK TIME key: for switching from playing time to track number indication and vice-versa.
11 PROGRAM key: for storing the track numbers of a programme, erasing track numbers from a programme, and displaying the stored programme.
12 PAUSE key: for holding play at the start of a track or passage, and for interrupting play.
13 REPEAT key: for repeating a disc or a programme.
14 PREV. ⏮ INDEX ⏭ NEXT keys: for returning to a previous index number or moving on to a later one during play; also for indicating the index number which you want play to begin with (PREV. ⏮ from index number 99 to index number 01, ⏭ NEXT from index number 01 to index number 99).
15 FTS key: for storing and playing favourite selections.
16 PREV. ⏮ TRACK ⏭ NEXT keys: for returning to a previous track number or moving on to a later one during play; also for indicating the track number you want to begin with, and selecting track numbers when compiling a programme (PREV. ⏮ from high to low and ⏭ NEXT from low to high).

The Display *(Fig. 6-14)*

Because of the diversity of indications the display can show, these are described separately below.

On/Off Indication (6) - When the player is switched on, the TIME, min, sec and '- -' indications light up, together with all the numbers on the track matrix (1-20) and the IR emblem. They go off again when the player is switched off.

Stand-by Indication (7) - At the moment that the disc tray closes, the indication '- -' starts to flash as a sign that the player is scanning the contents list on the disc. The indication keeps flashing until this is finished.

Track number matrix (8) - As soon as the contents list on the disc has been read, the numbers displayed on the track number matrix show the number of tracks present on the disc (e.g. '1-14') for a disc with 14 tracks). The progress of play can be followed by the successive flashing and going off of these numbers.

Elapsed Playing Time Indication (9) - During play, the TIME indication is lit, and the elapsed playing time of each track appears in minutes and seconds under min and sec.

Track and Index Number Indication above TRACK and INDEX (10) - You can display the numbers of the tracks and indexes on the disc above TRACK and INDEX. To do this, you press the TRACK TIME key. The TIME, min and sec indications then go off and TRACK and INDEX light up.
According to the progress of play, the numbers are shown as 101, 201 and so on. The numbers above INDEX change only if different passages within a track have index numbers: see the contents list in the disc-holder.

Total Playing Time Indication (11) - If you want to know the total playing time of a disc, close the tray with the OPEN/CLOSE key or by hand. Under min and sec, the total playing time now appears in minutes and seconds. (For example '59 17'.)

Discs with more than 20 tracks (12) - In playing these discs you must take into account the operation of the track number matrix. This works normally for the first 20 tracks, i.e. after the reading of the contents list, all 20 numbers remain alight. In addition, the +20 indication lights up.
The 20 numbers go off in succession as play progresses. When the 20th track ends, the +20 indication starts flashing, to indicate that there are still more tracks to follow. The numbers of these tracks are not displayed on the track number matrix, but you can still display them above TRACK and INDEX by pressing the TRACK TIME key.
If you close the disc tray with the OPEN/CLOSE key, or by hand, you can also display the total number of tracks on the disc above TRACK by pressing TRACK TIME.

Error Indication (13) - If you make a mistake when operating or programming, the Err (for Error) warning appears for a short time. It also appears, though not of course meant as a warning, when you switch on the player with an empty disc tray, and close the empty tray after use.

Other indications (14) - PAUSE and REPEAT light when you press the corresponding keys. FTS flashes or lights continuously after the FTS key has been pressed. ◌))) lights up when you give a command via the remote control handset.

Switching On and Off (ON/OFF)

Switching on - You switch the player on by pressing the ON/OFF key. The TIME, min, sec and on/off indication '- -' light, together with the full track number matrix and the IR emblem.
Switching off - When you press ON/OFF again, the player is switched off. All lights are extinguished.

Loading and Unloading the Disc (OPEN/CLOSE)

Loading (Fig. 15-16) - You open the disc tray by pressing the OPEN/CLOSE key. The tray then slides out automatically. The tray must not be obstructed in this, otherwise it will stop after about 3 seconds. Should this happen, you should press the key twice in succession to bring the tray fully out.
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.
You close the tray by pressing the PLAY/REPLAY or the OPEN/CLOSE key , or by simply pushing the front of the tray with the hand. The best method for you to use is given for each specific case.
In all cases, the tray slides in automatically. Again, the tray must not be obstructed as it closes. Should this in fact happen, the tray stops, and you must press OPEN/CLOSE to slide the tray out again.
If the Err indication appears after the tray is closed, it means that you have loaded the disc upside-down or forgotten to load the disc at all, or that the disc is dirty, badly scratched or otherwise unacceptable.

Unloading - You open the disc tray by pressing OPEN/CLOSE. When unloading, hold the disc in the same way as when loading, this avoids soiling.
Close an empty tray by pushing the front of the tray with the hand or by pressing OPEN/CLOSE.
To prevent the ingress of dust, avoid leaving the tray standing open.
Avoid opening the tray during play also, unless your intention is to stop the disc.

Changing to Track Number Indication (TRACK TIME)

If you want the track number indication above TRACK and INDEX instead of the playing time indication - which you get automatically after switching on - you can at any time press the TRACK TIME key.
To return to playing time indication you have to press TRACK TIME again. Selection of the track number indication is also cancelled when the player is switched off.

Playing the Complete Disc (PLAY/REPLAY)

If you simply want to play the whole disc, close the tray by pressing the PLAY/REPLAY key. Once the contents list on the disc has been read:
- the track number matrix shows how many tracks the disc contains,
- the '1' of the track number matrix starts flashing,
- the display also indicates '1',
- and play begins simultaneously with the display of elapsed playing time under min and sec.

Each time a track finishes, the corresponding number of the track number matrix goes off and the following number starts flashing; at the same time, the elapsed playing time display starts again at '000'.
As soon as all the tracks have been played, the disc stops. The track number matrix again shows the total number of tracks on the disc and the total playing time appears under min and sec.

Going back to the Beginning of a Track (PLAY/REPLAY)

You can go back to the beginning of a track which is being played, by pressing the PLAY/REPLAY key. After the track number has been briefly displayed, the track then starts again from the beginning.

Moving to Another Track (PREV. ⏮ TRACK ⏭ NEXT)

Any time during play you can select another track. This can be either a following track or a previous one.
As soon as you touch a key to make your choice, the elapsed playing time indication gives way to the track number indication, although the TRACK and INDEX indications do not light up. When you release the key, play is interrupted, to be resumed as soon as the chosen number begins to flash on the track number matrix and the elapsed playing time indication returns.

Selecting a Following Track - Press the TRACK ⏭ NEXT key until the desired track number appears on the display.
If you press TRACK ⏭ NEXT when playing the last track, the Err indication appears, to remind you that there is no next track, and play continues with the last track. If the player is in the repeat mode, the Err indication does not appear, and play continues with the first track.
You can also use TRACK ⏭ NEXT to get a quick idea of the disc contents by listening briefly to the beginning of each track.

Selecting a Previous Track - Press the PREV. ⏮ TRACK key until the desired track number appears on the display.
If you press PREV. ⏮ TRACK during the first track, the Err indication appears, to remind you that there is no previous track, and play continues with the first track. If the player is in the repeat mode, the Err indication does not appear, and play continues with the last track.

Moving to Another Index Number
(TRACK TIME and PREV. ⏮ INDEX ⏭ NEXT)

During play you can also change to a following index number or return to a previous one. This can either be an index number of the same track or an index number of another one.
To see which index number is being played, press the TRACK TIME key. The track and index numbers being played then appear above TRACK and INDEX.
As soon as you have made your choice play is interrupted, to be resumed immediately the laser pick-up reaches the beginning of the selected index number.
If you make a mistake by selecting too high an index number, the Err indication appears and play begins with the first index number of the track.
If you want to return to elapsed playing time indication after making your choice, you must press TRACK TIME again.

Selecting within the Same Track - Press the INDEX ⏭ NEXT or the PREV. ⏮ INDEX key until the desired index number appears above INDEX.

Selecting within Another Track - First select the desired track number using TRACK ⏭ NEXT or PREV. ⏮ TRACK. Then press the INDEX ⏭ NEXT or the PREV. ⏮ INDEX key until the desired index number appears above INDEX.

Beginning at a Specific Track Number
(PREV. ⏮ TRACK ⏭ NEXT and PLAY/REPLAY)

Instead of the first track you can also start play with any other track.
In this case you close the tray with OPEN/CLOSE or by hand. The highest track number you can choose is then stored in the player memory, and cannot be exceeded.

The display, however, shows the total playing time of the disc until you make your choice: TRACK ⏭ NEXT brings the first track number on to the display and PREV. ⏮ TRACK brings the highest. Use the key which brings up the required track number quickest. The selected number remains displayed until play begins. On the track number matrix the selected number begins flashing, while all lower numbers go out.
Start play by pressing PLAY/REPLAY; this also restores the elapsed playing time display.

Beginning at a Specific Index Number (TRACK TIME, PREV. ⏮ TRACK ⏭ NEXT, PREV. ⏮ INDEX ⏭ NEXT and PLAY/REPLAY)

You can start play with a specific index number too. For this, you must first select the desired track number, and then the index number.
Once more close the tray with OPEN/CLOSE or by hand, and press the TRACK TIME key.
By pressing TRACK ⏭ NEXT or PREV. ⏮ TRACK, bring the desired track number to appear above TRACK.
Then press the INDEX ⏭ NEXT or the PREV. ⏮ INDEX key until the desired index number appears above INDEX.
If you make a mistake by not selecting a track number first, the Err indication appears.
Press PLAY/REPLAY as soon as the selection has been made. Play will begin with the index number as shown.
If you have selected too high an index number, the Err indication appears and play begins with the first index number of the track.
If, after play has begun, you want to return to elapsed playing time indication, you must press TRACK TIME again.

Searching for a Particular Passage (⏪ SEARCH ⏩)

During play, you can quickly locate a particular passage in a track with the ⏪ SEARCH and SEARCH ⏩ keys. While you hold ⏪ SEARCH down, the laser pick-up runs back towards the beginning; while you hold SEARCH ⏩ down, the laser pick-up runs forwards towards the end. The two search directions can be used alternately, until the desired passage is found. At the moment you release the key, play re-starts at once.
During search, the laser pick-up moves at three successive speeds: for the first seconds relatively slowly, thereafter somewhat faster; and the highest speed is reached after approximately 10 seconds if you continue to hold down the key.
At the first two speeds the sound of the disc remains audible, though accelerated, unless you have also pressed PAUSE; after that it disappears. When searching for a passage by ear it is therefore advisable to release the key at that moment; you then keep the sound as an aid to searching.
Of course, you can also search with the help of the elapsed playing time indication or index numbers; in that case there is no reason not to use the highest speed. As soon as you then reach the vicinity of the desired passage release the key momentarily to go back to the lowest speed.
If, by pressing ⏪ SEARCH, you take the laser pick-up beyond the run-in of the first track, the Err indication appears and the laser pick-up stops at the beginning of the track. The disc continues to spin, however, so that play resumes as soon as you release the key.
If, by pressing SEARCH ⏩, you take the laser pick-up beyond the run-out of the last track, the Err indication appears, and the laser pick-up jumps back over the disc to about 10 seconds of playing time, and remains at that point until you release the key. This is to prevent the disc stopping when not intended during search.

Holding Play at the Start of a Track or a Passage/Interrupting Play (PAUSE)

In all the foregoing modes you can stop the laser pick-up exactly at the start of a track or a passage by pressing the PAUSE key before giving the actual command.
To show that you have pressed PAUSE, the PAUSE indication will light.
When you want to start play, press PAUSE again. The PAUSE indication will go out.
For short play interruptions, you can also press PAUSE. The disc continues to spin, but the sound stops; the PAUSE indication also lights.
If you press PAUSE again, the sound re-starts at the exact point where it was interrupted. The PAUSE indication will go out.

Repeating the Disc (REPEAT)

If you want to hear the whole disc again, you must press the REPEAT key before play ends; the REPEAT indication will light.
The numbers on the track number matrix do not now go off as play of each track finishes and the disc will play continuously until you either press REPEAT again, or press STOP/CM or OPEN/CLOSE.
In the first case the disc will play on to the end before stopping, in the other two cases play will stop at once. The REPEAT indication will go out.

Stopping Play (STOP/CM or OPEN/CLOSE)

To stop play before the end of the disc, you press the STOP/CM key.
If you also want to take out the disc you stop play by pressing the OPEN/CLOSE key.

PROGRAMMING

Instead of playing a complete disc, you can choose a number of tracks, and play only these. You can even decide on the playing sequence.
To do this, it is necessary to store your choice in the form of a programme in the memory of the player. This consists of a short-term section and a long-term (FTS) section.
A programme is stored in the short-term memory and is automatically erased when the disc tray is opened. If, however, you wish to retain the programme, you can transfer it to the FTS memory. See 'Programming the FTS Memory' for this.

Programming the Short-term Memory

The short-term memory will accept a maximum of 20 entries, which means that at most, 20 tracks can be stored. You can, however, only store each track once. If you exceed the maximum of 20 tracks, the Err sign appears to warn you that the memory is full and cannot accept any more commands.
Programming is only possible before the disc has started playing. In principle, you could therefore already store the desired programme before loading the disc in the player, but then you run the risk of erroneously programming one or more higher track numbers than actually exist on the disc. Such numbers are certainly erased from the memory when the programme starts to play - the Err indication appears at this stage - but the programme then contains fewer tracks than you expected.
We advise you, therefore, to load the disc in the tray and close it using OPEN/CLOSE or by hand. The highest track number that you can select is then stored in the player memory and cannot be exceeded. Now, once again, the total playing time is shown on the display until you start selecting.
To store the track numbers that you want to include in a programme (these can be selected from the contents list in the disc holder) you press PROGRAM after bringing up the tracks on the display with TRACK ⏭ NEXT, starting from the first track number or with PREV. ⏮ TRACK, starting from the highest track number.
Do not allow more than *7 seconds* to elapse between the appearance of a number and the storing of it, otherwise the microprocessor in the player will assume that you have changed

your mind and the dash after the track number will stop flashing. The track number can then no longer be stored, and the 'Err' indication will appear as a result - or the previously stored track numbers will be displayed - if you still press 'PROGRAM'. However, you can re-activate a missed track number by bringing up either the previous or the following track number and then returning immediately to the one desired.
Index numbers cannot be programmed. They still remain accessible, however, during programmed play.

Storing a Programme - From a disc containing 14 tracks, you want for example to listen to tracks 7, 3, 9, 5, 12 and 10 in that order. Load the disc in the tray and close it using OPEN/CLOSE or by hand. When the contents list has been read, the total playing time of the disc appears on the display and numbers '1-14' of the track number matrix light up.
Now press the TRACK ⏭ NEXT key until '7 -' appears on the display and then press the PROGRAM key. The flashing dash is now replaced by 'P' (for Programme) as a sign that this track has been stored; you now read '7 P'. On the track number matrix, '7' begins to flash and the other numbers go off.
Continue by going back to '3 -' using the PREV. ⏮ TRACK key and then pressing the PROGRAM key again; you now read '3 P'. On the track number matrix, '3' begins to flash and '7' lights continuously.
You display the remaining tracks in turn by pressing TRACK ⏭ NEXT or PREV. ⏮ TRACK, and then store them successively by pressing PROGRAM. Each time you pass an already stored number, the P after it flashes as a reminder. As soon as the last track number is stored you will see '10 P'; this remains until play is started. On the track number matrix, '10' remains flashing; the other stored numbers are lit continuously.
If you make a mistake and store a wrong track number, you can rectify this by bringing up the previous or following number, returning to the wrong one and then pressing PROGRAM again. To show that the wrong track number has been erased, the 'P' after it is replaced by a 'C' (for Clear). On the track number matrix, the erased number keeps flashing until you have stored another number, then it goes off.
Using our example: you have stored '4' instead of '5'. You go back to '3' using PREV. ⏮ TRACK, return to '4' using TRACK ⏭ NEXT and then press PROGRAM. You will then read '4 C'. Now proceed by storing '5'.
During programming or after you have finished, you can read off the *contents* of the programme from the track number matrix. You check the programme *sequence* by pressing PROGRAM: all the track numbers then appear in succession, after which the last stored number is once again displayed. In our example: '- 7-' - '- 3-' - '- 9-' - '- 5-' - '-12-' - '-10-' - '10 P'.
When, after pressing PROGRAM the Err indication appears, this means that no track is stored.
If you decide that the programme contains a track number you do not want, you can still erase it by displaying it using TRACK ⏭ NEXT or PREV. ⏮ TRACK and then pressing PROGRAM. On the track number matrix, the erased number keeps flashing until play is started, then it goes off.
To erase the whole programme, press STOP/CM.

Playing a Programme - During programmed play, all player functions remain operative, except beginning at a specific track or index number.
You start play by pressing PLAY/REPLAY; the last stored number disappears from the display and the elapsed playing time indication returns; on the track number matrix, the first number of the programme begins to flash. The progress of play can be followed by the successive flashing and going off of the programmed numbers. During programme repeat the numbers of the tracks already played remain lit.
To go back to the beginning of a track you press PLAY/REPLAY.
If you want to go on to a following track number in the programme, press TRACK ⏭ NEXT; should you do this during the last track, the Err indication appears and play continues with the last track.
To go back to a previous track number in the programme, you press PREV. ⏮ TRACK; should you do this during the first track, the Err indication appears and play continues with the first track.
To go to another index number within the same track you press INDEX ⏭ NEXT or PREV. ⏮ INDEX. If you want to go to an index number within another programmed track, you press TRACK ⏭ NEXT or PREV. ⏮ TRACK and INDEX ⏭ NEXT or PREV. ⏮ INDEX.
Searching for a particular passage using ⏪ SEARCH and SEARCH ⏩ is limited to the space between the beginning and end of the track being played; you cannot move the laser pick-up outside these limits to prevent movement into another track, either programmed or not programmed, which would upset the programme. Arrival at either limit is indicated by the appearance of the Err indication, upon which the laser pick-up stops until you release the key.
To hold play at the beginning of a track or a passage, or to interrupt the programme, press PAUSE.
If you want to repeat the programme, press REPEAT.
If you press 'STOP/CM' or when all tracks of the programme have been played, the disc stops. However, the programme is retained in the memory: the track number matrix again shows all the programmed numbers.
You only erase the programme when you open the tray. The programme is also erased if you press STOP/CM *twice in succession* during play. All the numbers of the track number matrix then light up again.

Programming the FTS Memory (FTS = Favourite Track Selection)

If a programme contains your favourite selection from a disc, which you always want to play, you can keep it by transferring it to the FTS memory. Such a selection can then be called up again at any desired time.
The FTS memory will accept 2045 entries. 8 of these are used for the identification of each disc that you store in the FTS memory. In addition, 1 entry is used for each track in the programme.
The number of discs that you can store is thus dependent on the number of tracks per disc that you programme. If, for example, you programme an average of 5 tracks per disc, there is enough room for 157 discs - 2045:(8 + 5).
Each disc stored in the FTS memory is allocated a 3-digit 'ranking' number, which is indicated on the display as '001', '002' etc. 254 ranking numbers are available. A sheet with 254 self-adhesive numbered stickers is supplied so that you can easily distinguish the discs with an FTS programme. The sheet also contains a quantity of un-numbered stickers so that you can correct possible mistakes.
A disc always retains the originally allocated ranking number, even when you erase the original selection by storing a new one. A ranking number only lapses if you erase the disc completely from the FTS memory. However, the number is not re-allocated to another disc, and for this reason there are more ranking numbers than the total number of discs it is possible to store. Only when the entire FTS memory is erased, do all the ranking numbers become available again.
By erasing selections, space is made free in the memory. This also happens if you make a new selection for an already stored disc; this new selection is in fact stored in a different location from the old selection.
This unused space is, however, only called upon when the memory is filled during the storage of a new selection. At that moment, the memory is re-organised, which is to say that the free space becomes available.
This re-organisation is indicated by accelerated flashing of the FTS indication, and can take up to I minute. The player should *definitely* not be switched off during this accelerated flashing, otherwise the entire FTS memory will be erased when switching on again!
Storing a disc in the FTS memory does not mean that you can only play the selected tracks. You can just as easily play the complete

disc, or compile another, short-term programme. The brief flashing of the FTS indication after the disc is loaded reminds you, however, that it has an FTS programme. If you still want to play that programme, press FTS and straight away PLAY/REPLAY.
The FTS facility is activated by pressing the FTS key. The FTS indication then flashes for approximately *5 seconds*. During this time, you must give the next command, otherwise the microprocessor will assume that you have changed your mind, and extinguish the indication again. If this happens, you can reactivate the FTS facility by pressing FTS again.

Storing a Favourite Selection in the FTS Memory - First compile the programme as described in 'Programming the Short-term Memory'.
Then press the FTS key - the FTS indication begins to flash - and straight away press the PROGRAM key. The FTS indication goes out and the the ranking number allocated to the disc appears on the display for about 2 seconds, as an indication that the programme is stored in the FTS memory.
Fix the sticker with the allocated ranking number on the spine of the disc holder.
If the Err indication appears when PROGRAM is pressed, it can be for one of the following reasons:
- The FTS memory is full, but the ranking number is still less than 254. You need to erase one or more old selections to make room for the new programme. (See 'Erasing a Favourite Selection'.)
- All 254 ranking numbers have been used. You must now erase the entire FTS memory if you still wish to store the new selection. (See 'Erasing all Favourite Selections.)
- You did not store a short-term programme first.

Playing a Favourite Selection - Press the FTS key - the FTS indication flashes - and straight away press the PLAY/REPLAY key. The FTS indication now lights continuously. When the contents list of the disc has been read, the FTS indication flashes briefly again and the ranking number of the disc appears briefly on the display. Immediately afterwards, play of the stored selection begins, and the FTS indication lights continuously.
During the play of a favourite selection, the same player functions remain operative as for playing a programme, with the exception of the procedure for erasure.

Erasing a Favourite Selection - The selection for a particular disc can be erased without the disc being loaded in the tray. It can even take place while another disc is being played. It is only necessary that, at the time of erasure, the ranking number of the disc is shown on the display.
Press and hold the FTS key - the FTS indication keeps flashing - and meanwhile press as often as necessary on TRACK ⏭ NEXT or PREV. ⏮ TRACK to bring up the ranking number to be erased on the display. Still holding FTS pressed, press the STOP/CM key. '000' then appears briefly on the display to indicate that the selection is erased.

Erasing all Favourite Selections - Press the FTS key. While the FTS indication is flashing, press and hold the REPEAT key and press the STOP/CM key. The FTS indication keeps flashing until the erasure is completed. At that moment it goes out and '000' appears briefly on the display. Only then may the player be switched off, if desired!

USE OF THE REMOTE CONTROL HANDSET

Inserting the Batteries in the Remote Control Handset *(Fig. 17)*

The remote control handset runs on three R03, UM4 or AAA 1.5 Volt batteries.
Slide open the cover at the rear of the remote control handset and insert the batteries according to the diagram in the battery compartment. Then slide the cover closed again.
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 a long time, to prevent damage to the remote control handset by possible battery leakage.

The Facilities of the Remote Control Handset

- With the exception of on and off switching, opening the disc tray and programming the FTS memory, all player functions can also be operated from the remote control handset, with the qualification that searching for a particular passage can not be done at the highest speed.
- The following remote control keys have a different label from the equivalent keys on the player; their functions are nevertheless the same:

STOP; = STOP/CM
⏪ = ⏪ SEARCH
⏩; = SEARCH ⏩
PROGR; = PROGRAM
REP; = REPEAT

- As extra keys, the remote control handset also has:

– VOLUME +, for adapting the sound level;
0-9, which can be used instead of the ⏮ TRACK ⏭ keys.

Adapting the Sound Level (– VOLUME +)

With the – VOLUME + keys, you can affect the sound level for disc playback remotely, even if your amplifier has no remote control. This happens as follows: If you press – VOLUME, the volume as set at the amplifier decreases in steps to a set level. If you press VOLUME +, the volume increases in the same steps to, at the maximum, the originally set level.
The setting chosen with the remote control handset is canncelled when you switch the player off.
It is not recommended to use – VOLUME + when making recordings, because the operation reduces the signal strength from the player.

Using Keys 0-9

These keys can be used, instead of the ⏮ TRACK ⏭ keys, to key in the desired track number directly when moving to another track, beginning at a specific track number or programming the short-term memory. You must however, bear certain factors in mind. They are given below for each case.

Moving to Another Track - Key in the desired track number and then press PLAY/REPLAY within *7 seconds*. If you exceed this time, the laser pick-up does not move and the elapsed playing time of the track that was being played reappears on the display. Play then continues with that track.

Beginning at a Specific Track Number - Key in the desired track number and then press PLAY/REPLAY within *7 seconds*. If you exceed this time, the highest track number of the disc appears on the display and play begins with the first track.

Programming the Short-term Memory - Key in the desired track numbers and store each number within *7 seconds* by pressing PROGR. Exceeding this time is now indicated, however, not by the dash after the track number ceasing to flash, but by the appearance of the highest track number of the disc on the display.

Range of the Remote Control Handset

Although the player can receive the signal beam also via reflection, you are recommended to aim the remote control handset directly at the REMOTE CONTROL eye.
The reception of a command is confirmed by the lighting up of the indication ◉.

Connection of a Separate Receiver for the Remote Control Handset

If, because of the siting of the player, it is difficult for the signals 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 too great, you can connect a separate receiver to the RC5 IN/OUT socket. This is available as an accessory under type number EM 2200.

ADDITIONAL INFORMATION

Listening with a Headphone (PHONES)

With a headphone connected to the PHONES socket, you can listen to discs without having to use an amplifier.
The headphone must have a 6.3 mm jack plug and an impedance between 8 and 1000 ohms.
You adjust the sound level with the PHONES VOL control.

Disc Maintenance

Although the music tracks in the disc are covered with a protective layer, it is still advisable to treat discs 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. Always wipe the disc in a straight line from centre to edge.
You can breathe lightly on the disc first if necessary, but detergent or abrasive cleaning agents must never be used, nor must be cleaning agents for conventional records!
Never write on the disc label: this can cause irreparable damage to the music tracks.

Player Maintenance

The player mechanism is fitted with self-lubricating bearings, and must not be oiled or greased.
You can clean the cabinet, when necessary, with a chamois leather slightly moistened with water. Do not use cleaning agents containing alcohol, spirits, ammonia or abrasives.
The disc tray should be kept free of dust.

Technical Data

Typical Audio Performance
- Number of Channels: 2
- Frequency Range: 2-20,000 Hz
- Amplitude Linearity: ±0.1 dB (20-20,000 Hz)
- Phase Linearity: ±0.5° (20-20,000 Hz)
- Dynamic Range: >96 dB (20-20,000 Hz)
- Signal-to-Noise Ratio: >100 dB (20-20,000 Hz)
- Channel Separation: >96 dB (20-20,000 Hz)
- Total Harmonic Distortion: <0.003% (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_{rms}
- Impedance PHONES socket: 8-1000 ohms

Optical Readout System
- Laser: semi-conductor AlGaAs
- Wave length: 800 nm

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

Power Supply
- Mains Voltage and Frequency: see the type plate at the rear of the player
- Power Consumption: 25 W approx.
- Safety Requirements: IEC

Cabinet, general
- Material/finish: metal and polystyrene with decorative trim
- Dimensions (w×h×d): 420×81×280 mm
- Weight: 3.1 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 radio interference requirements as laid down in EEC regulations.

FAULTS AND THEIR LIKELY CAUSES

Although the greatest care has been taken in the manufacture of this Compact Disc player, the possibility remains that faults could appear during use or that the player fails to function to your complete satisfaction.
The cause, however, will certainly not always be found in the player itself. External factors, and the fact that it takes time to become accustomed to the whole concept of the new product and the new discs, can also play a role.
To save you unnecessary calls on your dealer or our Service Organisation, we have compiled a list of possible faults and their causes. To even mention some of these causes, such as those to do with the mains supply, may perhaps seem excessive. Our experience shows, however, that they are easily overlooked as sources of trouble.
If, by using this list, you do not succeed in solving the problem, stop your investigation. Disconnect the mains plug and contact your dealer.
Under no circumstances should you open up the player; this will invalidate all rights under the guarantee!

1. After pressing ON/OFF, the display does not light.

- The key was 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 clamps 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 tray opens if you switch the player off and on again, and then press OPEN/CLOSE once more.
- The tray drive is not functioning. You cannot rectify this yourself.

3. After pressing OPEN/CLOSE or PLAY/REPLAY, 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 tray closes if you switch the player off and on again.
- The tray drive is not functioning. You cannot rectify this yourself. If a disc is in position, remove it, then push the tray in carefully to close it.

4. After closing the disc tray the stand-by indication '- -' stops flashing and lights continuously after a few seconds, and all the numbers on the track number matrix remain lit.

- The disc is not inserted with the label upwards or there is no disc in the 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 and see if that clears the fault.
- There is an unwanted object in the disc tray.

5. The disc is being played because the track number matrix and the elapsed time indication change regularly, but there is no sound.

- The (pre-)amplifier is not switched on.
- The position of the (pre-)amplifier source selector switch does not correspond with the input to which the player is connected.
- The (pre-)amplifier or the (active) loudspeakers connected to it are not working. Switch to another sound source to see if this is the case.
- The headphone jack is not plugged in, or the VOLUME control is set to the extreme left.
- The connection between the player and the (pre-)amplifier is broken.
- The input to which the player is connected is defective. Check this by connecting the player to another input.

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 (pre-)amplifier but to the PHONO input.
- One of the plugs of the connection cable is either not connected or not properly connected.
- The headphone jack is not properly plugged in.
- The disc is dirty or badly scratched. See if cleaning the disc or using another, clean or scratch-free or almost scratch-free disc improves the situation.
- There is an unwanted object in the disc tray.
- The (pre-)amplifier or the (active) 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 a scratch-free or almost scratch-free disc.
- The microprocessor has not processed the commands properly. Erase the programme by pressing STOP/CM and store it again; re-start play and check if the fault has cleared.
- All 20 memory places are already occupied and you have missed the Err sign that indicates this. Check by pressing PROGRAM and counting the number of tracks displayed.
- The FTS memory is full.

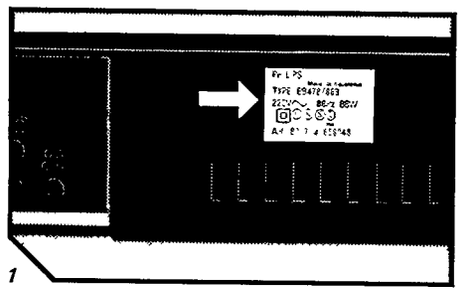
8. The following faults can be caused by the same circumstances:

Playback does not begin with the first track number on the disc or of the programme, but with another.
Playback stops before the end of the disc or the programme.

- The microprocessor has not processed the command correctly. Check if switching the player off and on again, and then re-starting clears the fault.
- The disc is dirty or badly scratched. See if cleaning the disc or using another, clean or scratch-free or almost scratch-free disc clears the fault.
- The disc is defective. Try another disc and see if that clears the fault.
- There is an unwanted object in the disc tray.

9. The player does not react to commands from the remote control handset.

- The distance to the player was too great, or you did not aim accurately enough in the direction of the player.
- The batteries are weak or flat.



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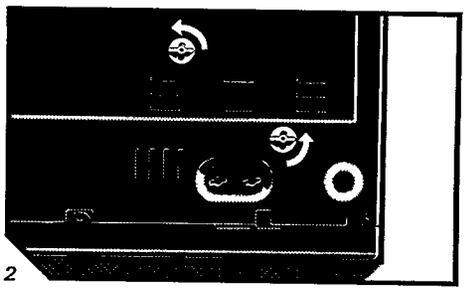

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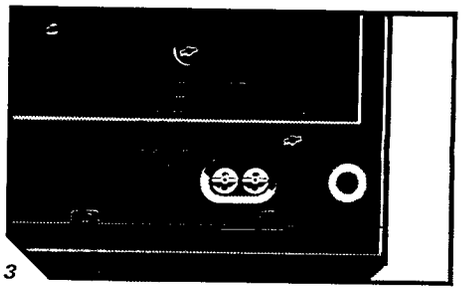

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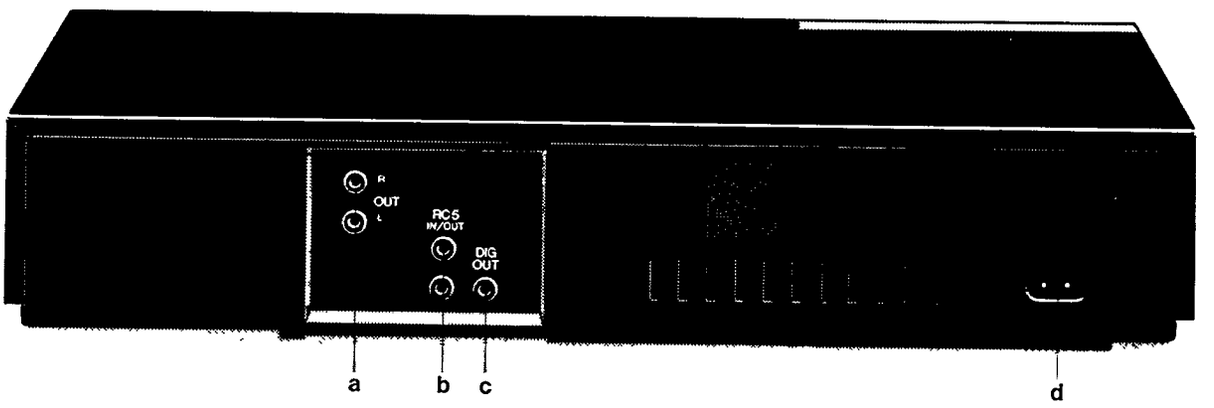

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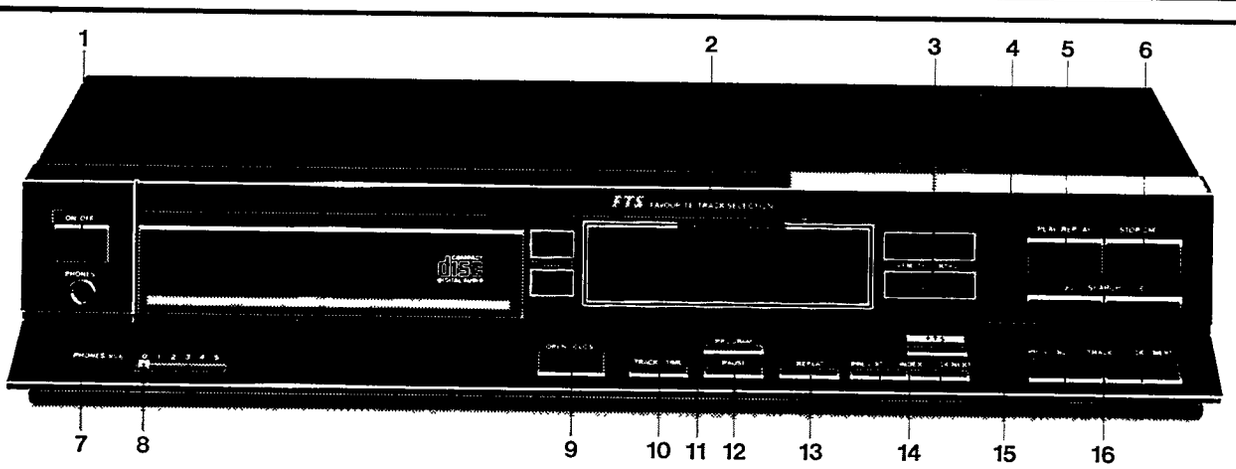

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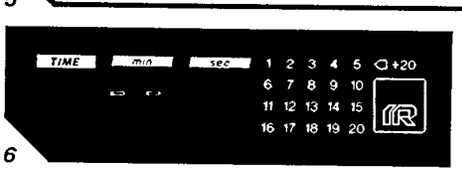

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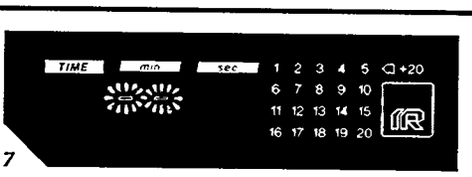

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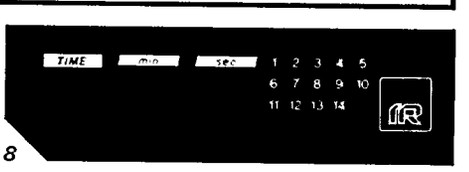

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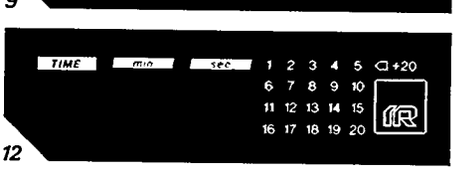

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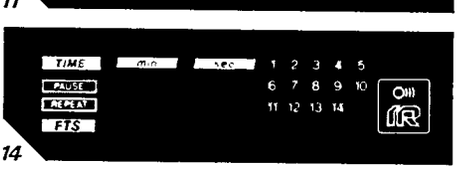

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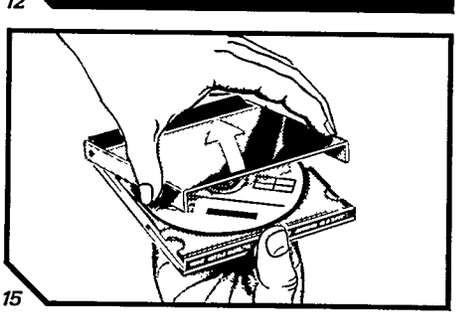

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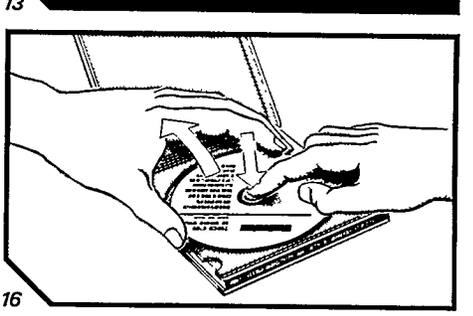

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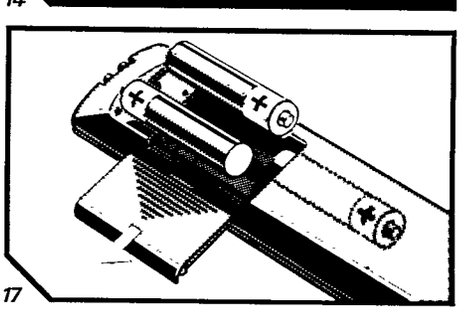

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