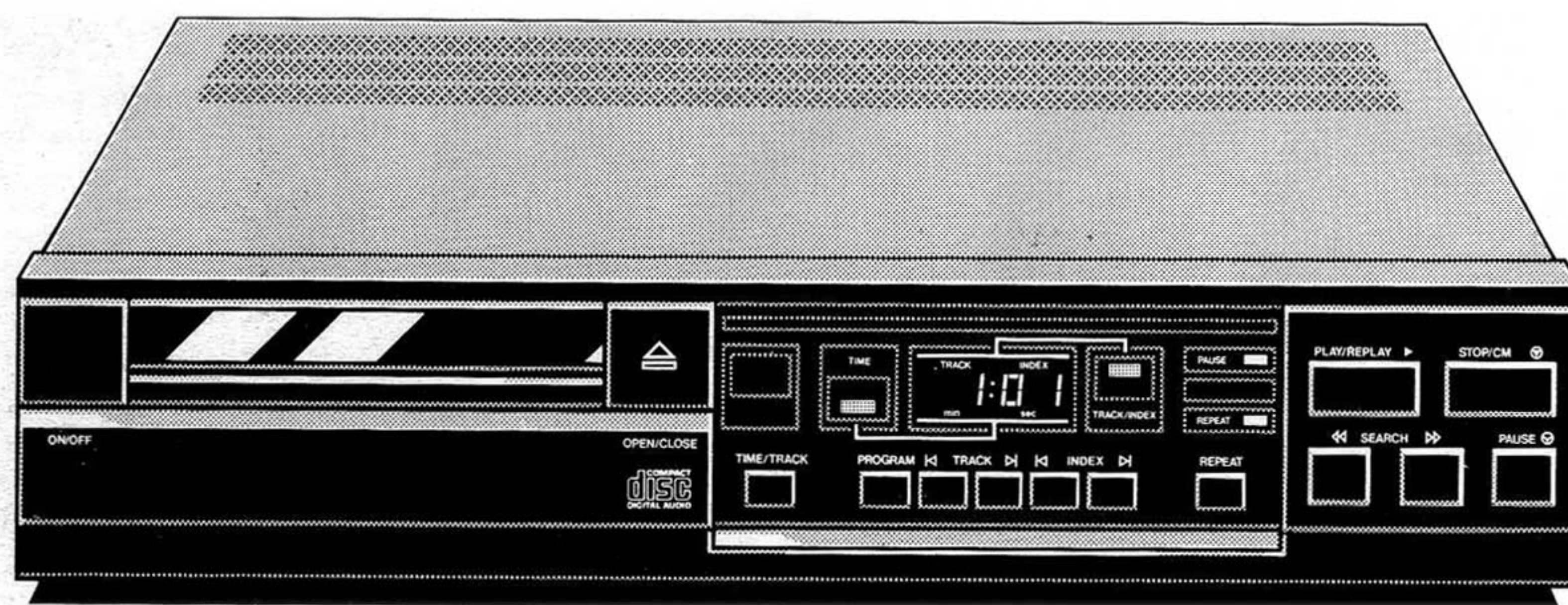




CONSUMER ELECTRONICS

**PHILIPS**



*CD 460*

Compact Disc Player



# Operating Instructions

## 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 gives you the user, also access to operating features which have never been seen before in audio equipment designed for the home, such as fast access to every track and index number on the disc and very simple programming. To make operation even easier, this Compact Disc player can be remotely controlled with a separate unit.

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 - the illustrations will be found on Page 8 - and you will quickly become familiar with all the facilities offered by this new way of listening to discs.

## INSTALLATION

### Checking the Power Supply

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.

### Fitting a Mains plug

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 adapter, or at the distribution board. If in doubt consult a qualified electrician.

### Taking Out the Transit Screws (Fig. 1)

On the bottom of the player you will see two screws, fitted in red collars and indicated by an arrow. These lock the player mechanism and the disc tray to protect them during transportation.

Remove these screws and collars and keep them in a safe place. If you want to transport the Compact Disc player, you should lock the mechanism and disc tray again to avoid damage.

### Siting the Player (Fig. 2-3)

This Compact Disc player can equally well be sited free-standing as in an audio rack, or 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 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 position.

*c. Stacked* - In composing your own system, you should preferably site the player 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 from right to left the connection sockets for the mains lead (a), the connection cable (b), digital equipment (c) and a receiver for the remote control handset EM 2000 or an interface when using the player in an interactive system (d).

*a. Connection of the Mains Lead* - Fit the female plug of the mains lead supplied into the connection socket.

*b. Connection to the (Pre-)Amplifier* - Insert a black plug of the supplied connection cable in the black socket (left channel) and a red plug into the red socket (right channel). Insert both other plugs into the corresponding CD/TV or AUX sockets on your (pre-)amplifier. If these sockets are already in use, you can plug in to the TUNER or TAPE IN sockets, but *never* the PHONO sockets! The PHONO sockets are not suitable for the connection of a Compact Disc player.

*c. Connection of Digital Equipment* - This socket makes the player suitable for future Compact Disc applications such as CD-ROM and digital sound processing.

*d. Connection of a Remote Control or an Interface* - Once the receiver of the remote control EM 2000 (available as an accessory) is connected, all functions of the player can be remotely controlled, with the exception of the on and off switching of the player and the opening of the disc tray. To use the player in an interactive system, an interface can be connected to this socket.

## OPERATION (Fig. 5)

Your Compact Disc player is now ready for use. Before attempting to operate it, you are recommended to familiarise yourself with the functions of the controls, the LEDs and the display as described briefly below. The names used here for the keys etc. will be used throughout the text.

**1 ON/OFF key:** for switching the player on and off.

**2 OPEN/CLOSE key:** for opening and closing the disc tray.

**3 TIME LED:** lights during display of playing time.

**4 Display:** functions as on/off, stand-by and error indicator; during play, indicates which track is being played or its elapsed time; can also show the total number of tracks or the total playing time of the disc; when programming, it is used to indicate the track numbers to be stored and to display the numbers already stored. See also 'The Display'.

**5 TRACK/INDEX LED:** lights during display of track numbers and - where applicable - index numbers.

**6 REPEAT LED:** lights when you press the REPEAT key.

**7 PAUSE LED:** lights when you press the PAUSE key.

**8 PLAY/REPLAY key:** for starting play (PLAY) and returning to the beginning of a track (REPLAY).

**9 STOP/CM key:** for stopping play during playback (STOP) and for erasing a programme (CM = Clear Memory).

**10 TIME/TRACK key:** for switching from track number to playing time indication and vice-versa.



**11 PROGRAM key:** for storing the track numbers of a programme and producing the display of the programme stored.

**12**  $\llcorner$  TRACK  $\triangleright$  keys: for indicating the track number you want to begin with, and selecting track numbers when compiling a programme ( $\llcorner$  from high to low and  $\triangleright$  from low to high); also for returning to a previous track number or moving on to a later one during play.

**13**  $\llcorner$  INDEX  $\triangleright$  keys: for indicating the index number you want to begin with ( $\llcorner$  from index number 99 to index number 01 and  $\triangleright$  from index number 01 to index number 99); also for returning to a previous index number or moving on to a later one during play.

**14 REPEAT key:** for repeating a disc or a programme.

**15**  $\llcorner$  SEARCH  $\triangleright$  keys: for fast search to a particular passage ( $\llcorner$  backwards,  $\triangleright$  forwards).

**16 PAUSE key:** for holding play at the start of a track or passage, and for interrupting play.

### The Display (Fig. 6-13)

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

*On/Off Indication* - As soon as the player is switched on with the disc tray empty, the indication '- -' under TRACK begins to flash. Then the Err sign appears briefly, and the '- -' indication lights continuously. It goes off when the player is switched off.

*Stand-by Indication* - 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.

*Error Indication* - If, in operating or programming the player, you make a mistake the Err (Error) warning appears for a short time.

*Track Number Indication* - As play progresses, the numbers of the tracks will be shown as '1:01', '2:01' etc. under TRACK and INDEX.

*Index Number Indication* - The numbers under INDEX will only change if the different parts of a track have index numbers; this is indicated in the contents list in the disc-holder. They jump to ':02', ':03' etc. at the moment that the next index number is reached.

*Elapsed Playing Time Indication* - When you have pressed the TIME/TRACK key, the count-down of the pause before each track will be shown in seconds above min and sec, for example 'P:02' - 'P:01' - 'P:00'. Immediately thereafter the elapsed playing time of the track appears in minutes and seconds as '0:00' - '0:01' - '0:02' etc.

*Number of Tracks Indication* - When the disc tray is closed with the OPEN/CLOSE key, the highest track number of the disc appears under TRACK; for example '14' when the disc has 14 tracks.

*Total Playing Time Indication* - If you want to know the total playing time of a disc, you close the tray with the OPEN/CLOSE key and press the TIME/TRACK key. Above min and sec, the total playing time then appears in minutes and seconds, for example '59:17'.

### On and Off switching (ON/OFF)

*Switching on* - You switch the player on by pressing the ON/OFF key. The disc tray is illuminated, and the TRACK/INDEX LED and the on/off indication light.

*Switching off* - When you press the ON/OFF key again, the player is switched off. All lights are extinguished.

### Loading and Unloading a Disc (OPEN/CLOSE)

*Loading (Fig. 14-16)* - You open the disc tray by pressing the OPEN/CLOSE key. The tray slides out automatically after about 1 second. Take care that the tray is not obstructed, otherwise it will stop after about 4 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 PLAY/REPLAY if you want to play the complete disc, or by pressing OPEN/CLOSE again if you want to start play with a specific track or index number or to compile a programme from the disc. In either case, the tray slides in automatically. Take care again that the tray is not obstructed as it closes. Should this happen, the tray will slide out again after about 4 seconds.

If the Err sign appears after the tray is closed, it means that you have either 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 the OPEN/CLOSE key. When unloading, hold the disc in the same way as when loading to avoid fingerprints.

Use the OPEN/CLOSE key to close the tray when it is empty. The Err sign will appear in consequence, but in this case, of course, does not indicate an operating error.

To prevent the ingress of dust, do not leave the tray open.

Avoid opening the tray during play, unless you mean to stop the disc.

### Changing to Playing Time Indication (TIME/TRACK)

If you want the playing time indication instead of the track number indication - which you get automatically after switching on - you can at any time press the TIME/TRACK key. The TIME LED will then light.

To return to track number indication you have to press TIME/TRACK again; the TRACK/INDEX LED will again light. Selection of the playing time 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 and the laser pick-up has reached the beginning of the first track, the first track number appears under TRACK and INDEX and play starts.

If you have selected playing time indication, play starts at the moment that the elapsed playing time of the first track is displayed above min and sec.

As each track ends the track number jumps on or the pause between the tracks is counted down, followed by the display of the elapsed playing time of the new track.

As soon as all the tracks have been played, the disc stops and the display shows the total number of tracks on the disc or the total playing time.

### 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. The track then starts again from the beginning.

If you have selected playing time indication, the track number nevertheless appears briefly first. Then the display of the playing time is resumed.



### **Moving to Another Track (◀ TRACK ▶)**

Any time during play you can select another track. This can be either a later track or a previous one.

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 track.

*Selecting a Later Track* - Press the TRACK ▶ key until the desired track number appears under TRACK and INDEX.

If you press TRACK ▶ when playing the last track, the Err sign will appear, reminding you that there is no next track, and play continues with the last track.

You can also use the TRACK ▶ key to get a quick idea of the disc contents by listening to the beginning of each track.

*Selecting a Previous Track* - Press the ◀ TRACK key until the desired track number appears under TRACK and INDEX.

If you press ◀ TRACK during the first track, the Err sign will appear, reminding you that there is no previous track, and play continues with the first track.

### **Moving to Another Index Number (◀ INDEX ▶)**

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.

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 sign appears and play begins with the first index number of the track.

*Selecting within the Same Track Number* - Press the INDEX ▶ or the ◀ INDEX key until the desired index number appears under INDEX.

*Selecting within Another Track Number* - First select the desired track number using TRACK ▶ or ◀ TRACK. Then press the INDEX ▶ or the ◀ INDEX key until the desired index number appears under INDEX.

### **Beginning at any Specific Track Number (◀ TRACK ▶ 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. The highest selectable track number is then shown on the display and determined at the same time, so that errors in this respect are precluded.

Bring the number of the selected track to appear under TRACK and INDEX by pressing TRACK ▶ or ◀ TRACK, depending on which is quicker. Then start play by pressing PLAY/REPLAY.

### **Beginning at any Specific Index Number (◀ TRACK ▶, ◀ INDEX ▶ 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. By pressing TRACK ▶ or ◀ TRACK, bring the desired track number to appear under TRACK and INDEX. Then select the desired index number using the INDEX ▶ or the ◀ INDEX key.

Press PLAY/REPLAY as soon as the selection has been made. Play will begin with the index number as shown.

If you make a mistake by selecting no track number, the Err sign appears. If you select too high an index number, the Err sign appears too and play begins with the first index number of the track.

### **Finding a Particular Passage (◀◀ SEARCH ▶▶)**

During play, you can quickly locate a particular passage in a track by pressing 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 towards the end. By using ◀◀ SEARCH and SEARCH ▶▶ alternately, you can find any part of any passage. When you release the key, play restarts at once.

During search, the laser pick-up moves at three successive speeds: for the first seconds relatively slowly, thereafter faster, and at maximum speed 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 index numbers or the playing time indication; in that case there is no reason to avoid the use of 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 sign appears and the laser pick-up stops at the beginning of the track. The disc continues to spin, however, so that play resumes when you release the key.

If, by pressing SEARCH ▶▶, you take the laser pick-up beyond the run-out of the last track, the Err sign 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 unexpectedly 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 LED will light. When you want to start play, press PAUSE again. The PAUSE LED will go out.

For short play interruptions, you can also press PAUSE. The disc continues to spin, but the sound stops; the PAUSE LED also lights.

If you press PAUSE again, the sound re-starts at the exact point where it was interrupted. The PAUSE LED 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 LED will light, and the disc will play continuously until you either press the REPEAT key again, or press the STOP/CM key or the OPEN/CLOSE key.

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 LED 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. The display then shows the total number of tracks on the disc or, if you have selected playing time indication, the total disc playing time.

If you also want to take out the disc you stop play by pressing the OPEN/CLOSE key. The indication '- -' then appears again on the display.



## 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. It is also possible to play all the tracks in a different sequence to that on the disc.

To do this, it is necessary to store your choice in the form of a programme in the memory of the player. The 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. Tracks with too high numbers are certainly erased from the memory when the programme starts to play - the Err sign 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 the OPEN/CLOSE key, so that after the contents list has been read, the number of tracks on the disc appears under TRACK. The highest track number that can be stored is now determined and mistakes in this respect are therefore excluded. Index numbers cannot be programmed. They still remain accessible, however, during programmed play.

To store the track numbers that you want to include in a programme (these can be found in the contents list in the disc holder), bring up each track number in turn under TRACK and INDEX using the TRACK ▷ or ◀ TRACK key, depending on which is quicker, then store it by pressing the PROGRAM key.

Do not allow more than 5 seconds to elapse between releasing the TRACK ▷ or ◀ TRACK key and pressing the PROGRAM key, otherwise the microprocessor in the player will assume that you have changed your mind and the flashing ':' after the track number will light continuously; the track can then no longer be stored. However, you can re-activate a missed track number again by bringing up either the previous or the following track number and then returning immediately to the one desired.

**Example** - From a disc containing 14 tracks, you want to listen to tracks 7, 3, 9, 5, 12 and 10 in that order.

Load the disc in the tray and close it using the OPEN/CLOSE key. When the contents list has been read, the figure '14' will appear under TRACK.

Now press the TRACK ▷ key until '7:00' appears and then press the PROGRAM key. The ':00' after the figure will now disappear and will be replaced by 'P' (for Programme) as a sign that this track has been stored; you now read '7 P'.

Continue by going back to '3:00' using the ◀ TRACK key and then pressing the PROGRAM key again; you now read '3 P'.

You display the remaining tracks in turn by pressing TRACK ▷ or ◀ TRACK, and then store them successively by pressing PROGRAM. As soon as you have stored the last track number you will see '10 P'. This remains until play is started.

If you make a mistake and store a wrong track number, you can rectify this by going to the previous or following number, returning to the wrong one and then pressing the PROGRAM key again. To show that the wrong track number has been erased, the 'P' behind it is replaced by a 'C' (for Clear).

Using our example: you have stored '4' instead of '5'. You go back to '3' using the ◀ TRACK key, return to '4' using the TRACK ▷ key and then press the PROGRAM key. You will then read '4 C'. Now proceed by storing '5'.

During programming or when you have finished programming, you can check the contents of the programme by pressing the PROGRAM key. All the track numbers then appear in the programmed sequence, 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 sign 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 the TRACK ▷ or ◀ TRACK key and then pressing PROGRAM.

To erase the whole programme, press the STOP/CM key.

During programmed play, all player functions remain operative, except beginning at any specific track or index number.

You start play by pressing PLAY/REPLAY; the first track number of the programme then appears under TRACK and INDEX. The progress of play can be followed by the changing of the numbers under TRACK and INDEX. You can see the number of tracks still to be played at any time when you press PROGRAM: first the number of the track which is playing appears, then all the remaining track numbers are shown consecutively. During programme repeat the numbers of the tracks already played are also shown.

You can go back to the beginning of a track by pressing PLAY/REPLAY.

If you want to go on to a following track number in the programme, press TRACK ▷; should you do this during the last track, the Err sign appears and play continues with the last track.

To go back to a previous track number in the programme, you press ◀ TRACK; should you do this during the first track, the Err sign appears and play continues with the first track.

To go to another index number within the same track you press INDEX ▷ or ◀ INDEX. If you want to go to an index number within another programmed track, you press TRACK ▷ or ◀ TRACK and INDEX ▷ or ◀ 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 arrival in another track, either programmed or not programmed, which would upset the programme. Arrival at either limit is indicated by the appearance of the Err sign, 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.

When all tracks of the programme have been played the disc stops. However, the programme is retained in the memory until you open the tray; only then will it be erased.

The programme is also erased if you press the STOP/CM key during play.



## ADDITIONAL INFORMATION

### Disc Maintenance

Although the music tracks in the disc are covered with a protective layer, it is still advisable to treat the disc 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.

You can breathe 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:  $\pm 0.02$  dB (20-20,000 Hz)
- Phase Linearity:  $\pm 0.5^\circ$  (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: 0.0025% (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:  $2 V_{\text{rms}}$

### 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: 240 VAC
- Mains Frequencies: 50 and 60 Hz
- Power Consumption: 20 W approx.
- Safety Requirements: IEC

### Cabinet, general

- Material/finish: metal and polystyrene with decorative trim
- Dimensions (w × h × d): 420 × 86 × 300 mm
- Weight: 3.5 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  $\mu\text{m}$
- 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.*



## FAULTS AND THEIR LIKELY CAUSES

Although the greatest care has been taken in the manufacture of this Compact Disc player, the possibility remains that a fault could appear or that for some reason 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 mains connection, 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 the ON/OFF key, the on/off indication '- -' does not light.

- The key 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 on/off indication '- -' 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 on/off indication '- -' 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 burns continuously after a few seconds.

- 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, e.g. a piece of paper or a remnant of packaging.

### 5. The disc is being played because the track number or the elapsed time indication moves on 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. 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 re-starting clears the fault.
- 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 socket.

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

- The player is not connected to the CD/TV, 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 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 (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.

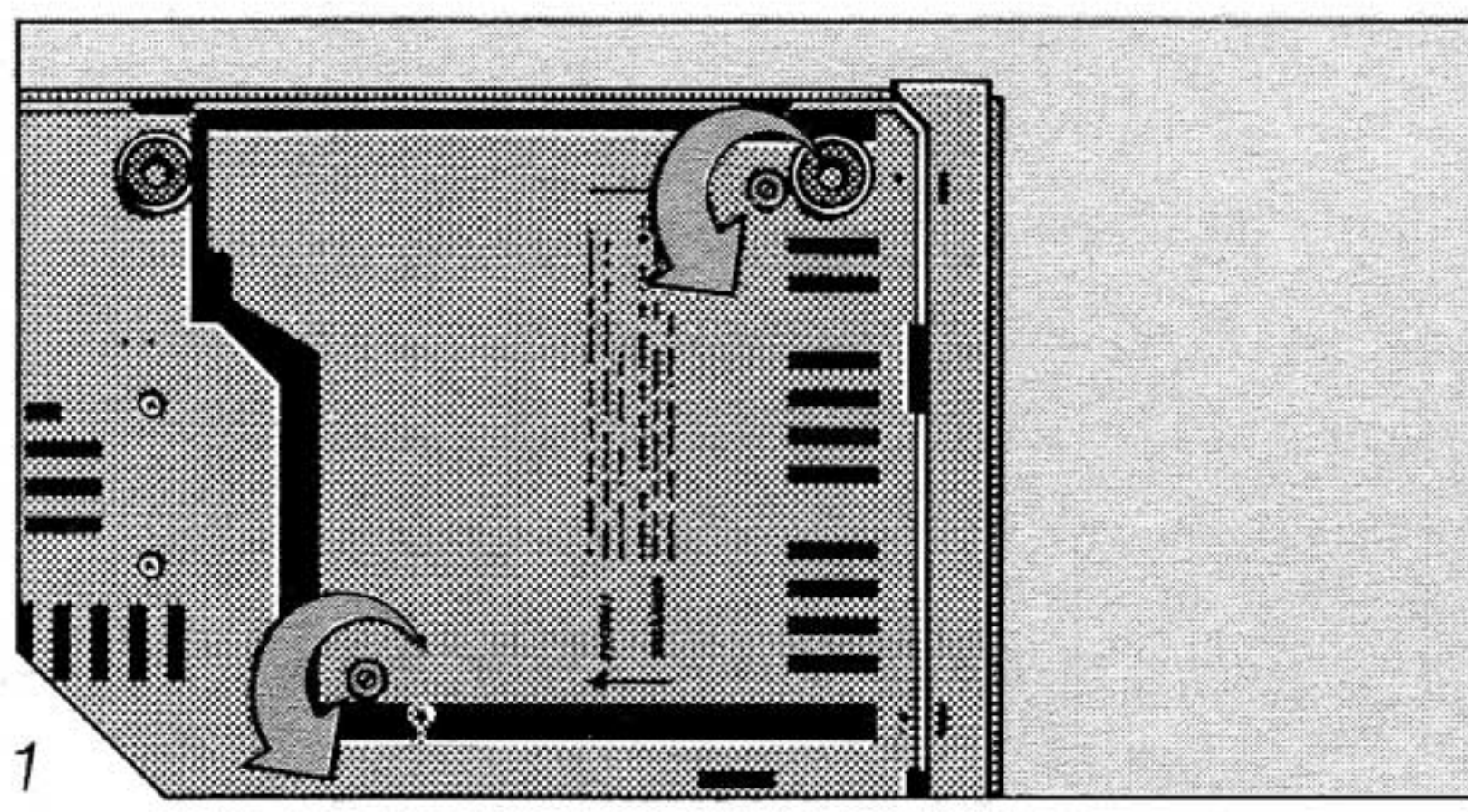
- The disc is dirty or badly scratched. See if cleaning the disc helps or try programming a scratch-free disc.
- The microprocessor has not processed the commands properly. Erase the programme by pressing STOP/CM and store it again; re-start play and check if the fault has cleared.
- All 20 memory places are already occupied and you have missed the Err sign that indicates this. Check this by pressing PROGRAM and counting the number of tracks displayed.

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

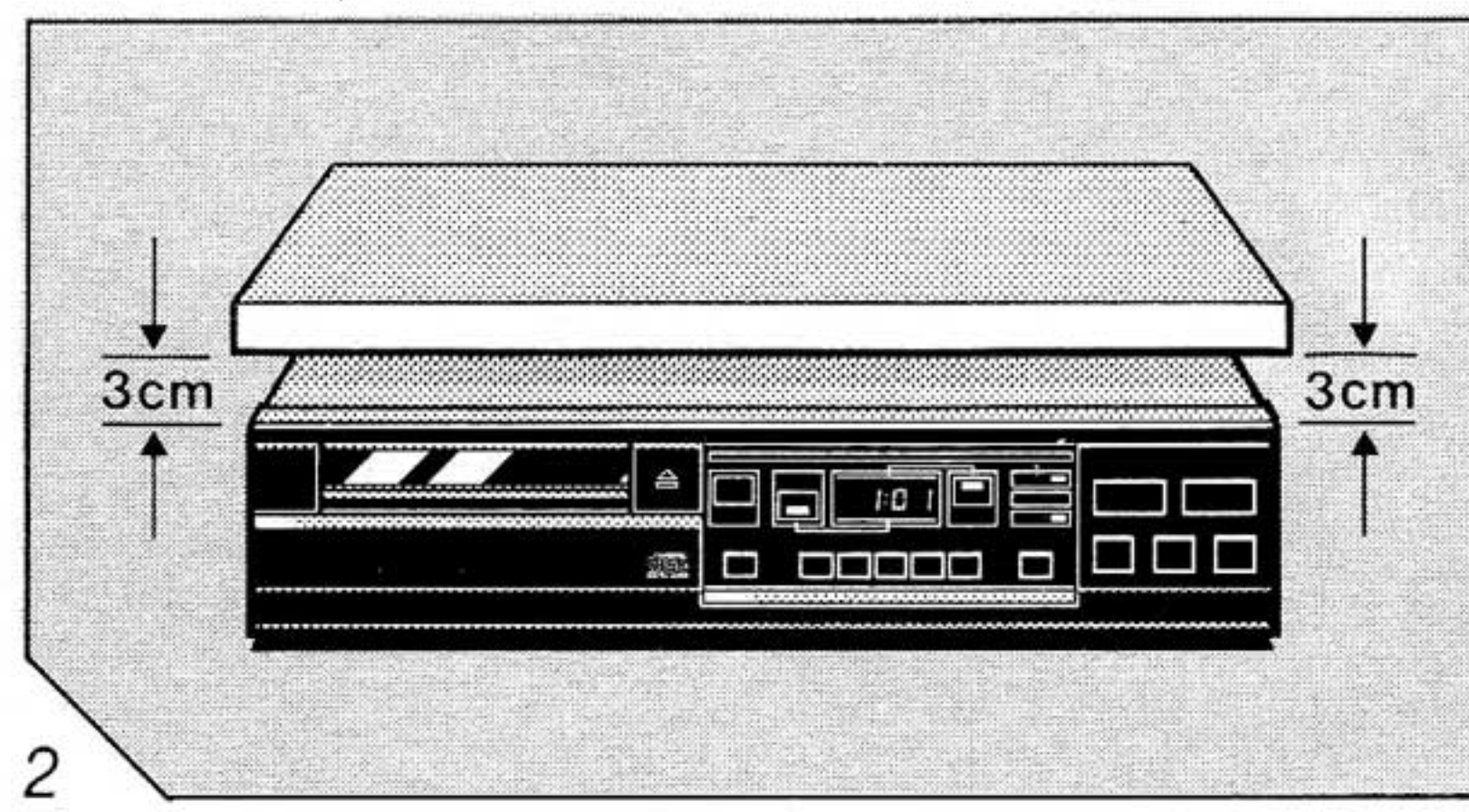
**Playback does not begin with the first track number on the disc or of the programme, but with another.**  
**Playback stops before the end of the disc or the programme.**

- 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, 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, e.g. a piece of paper or a remnant of packaging.

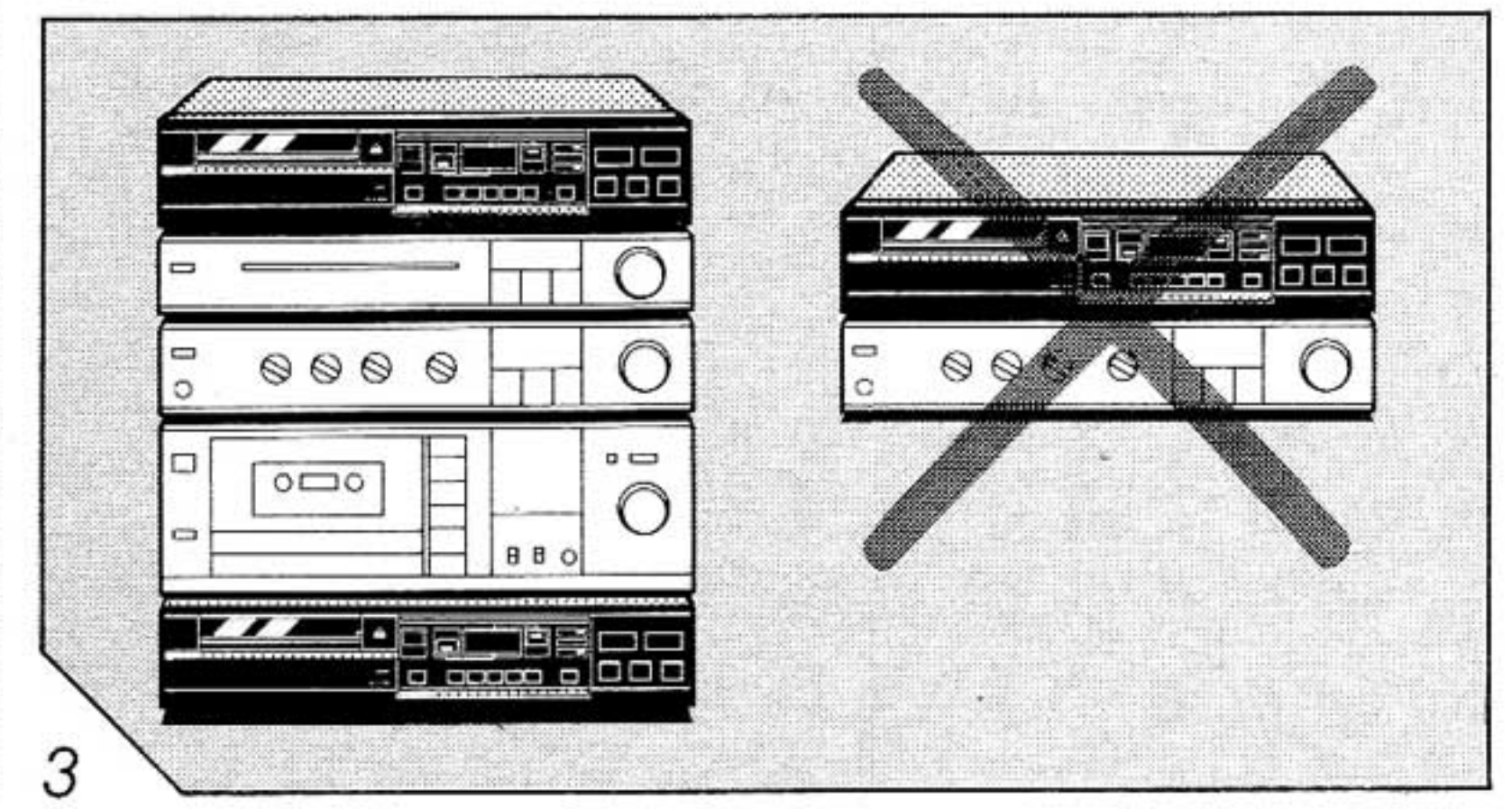




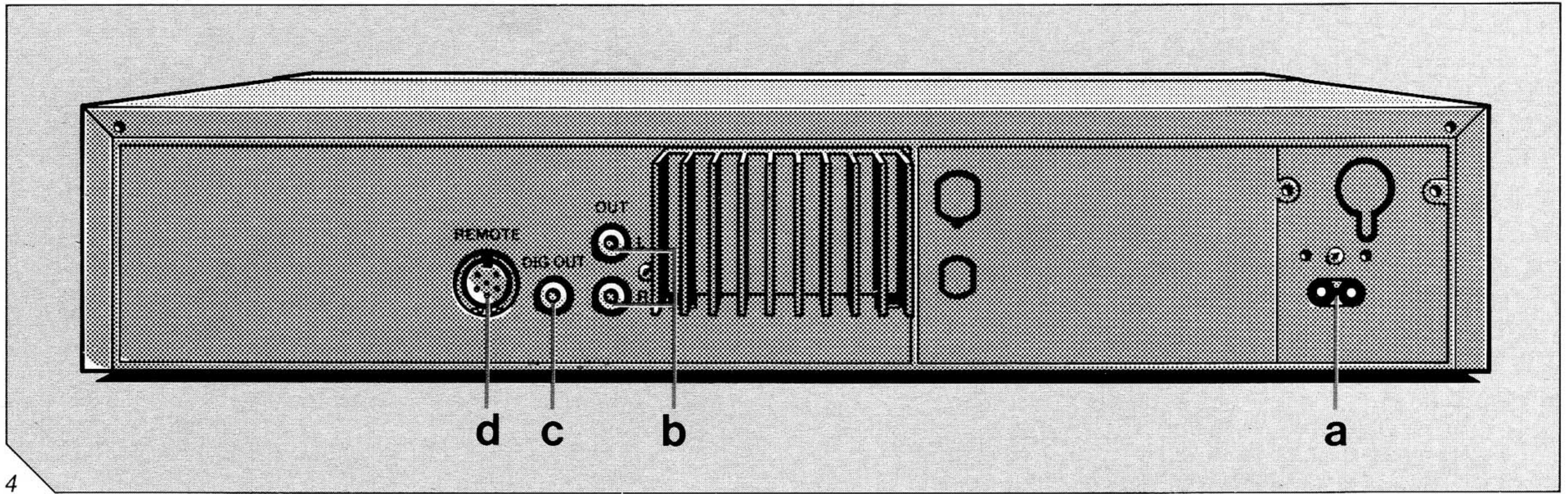
1



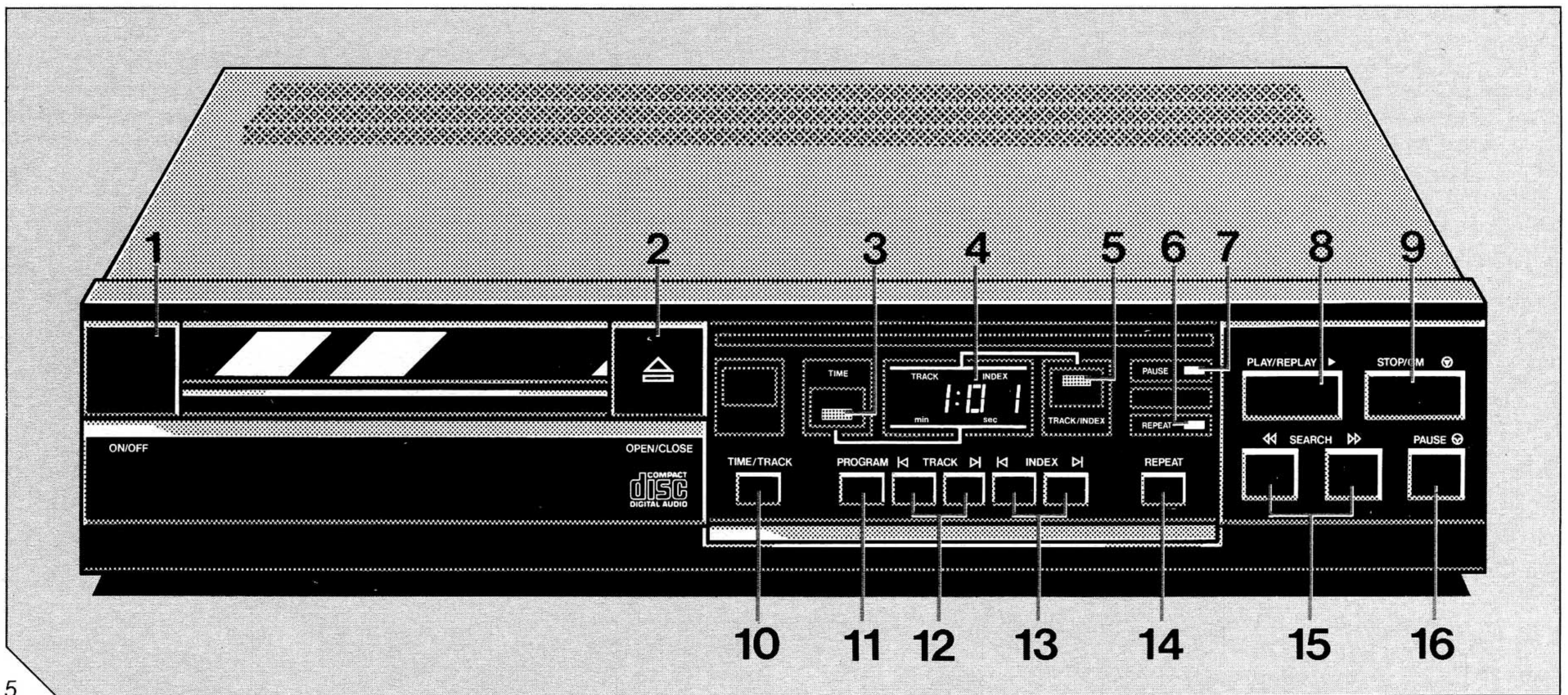
2



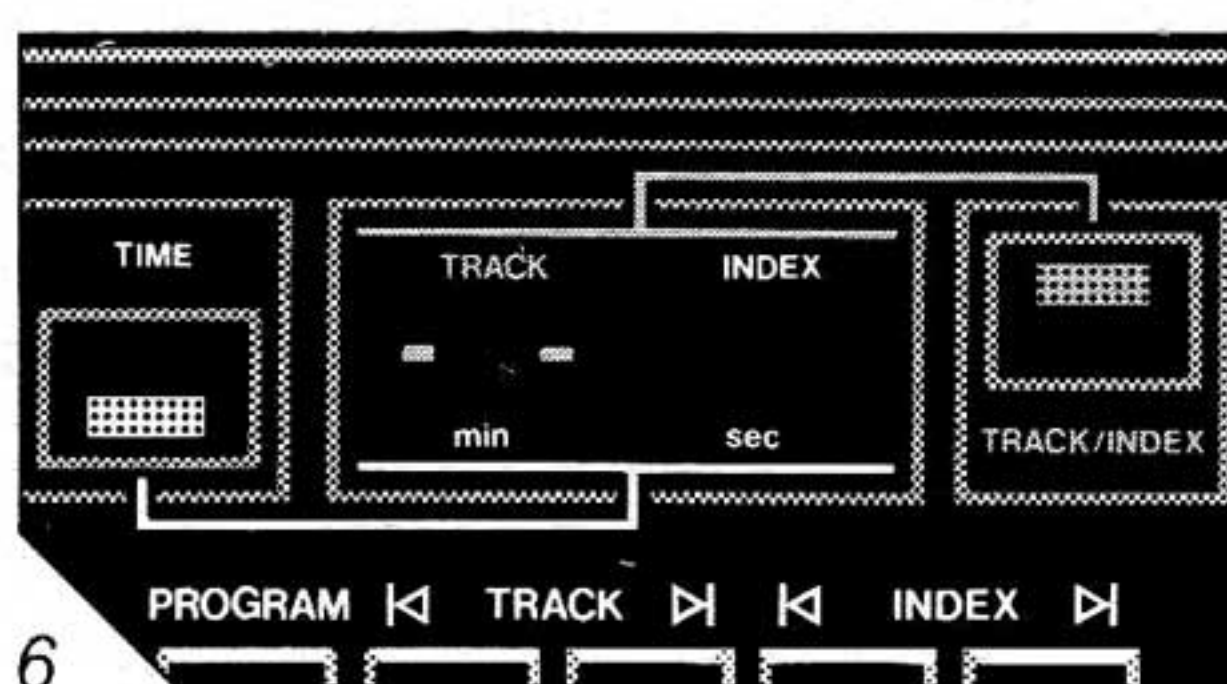
3



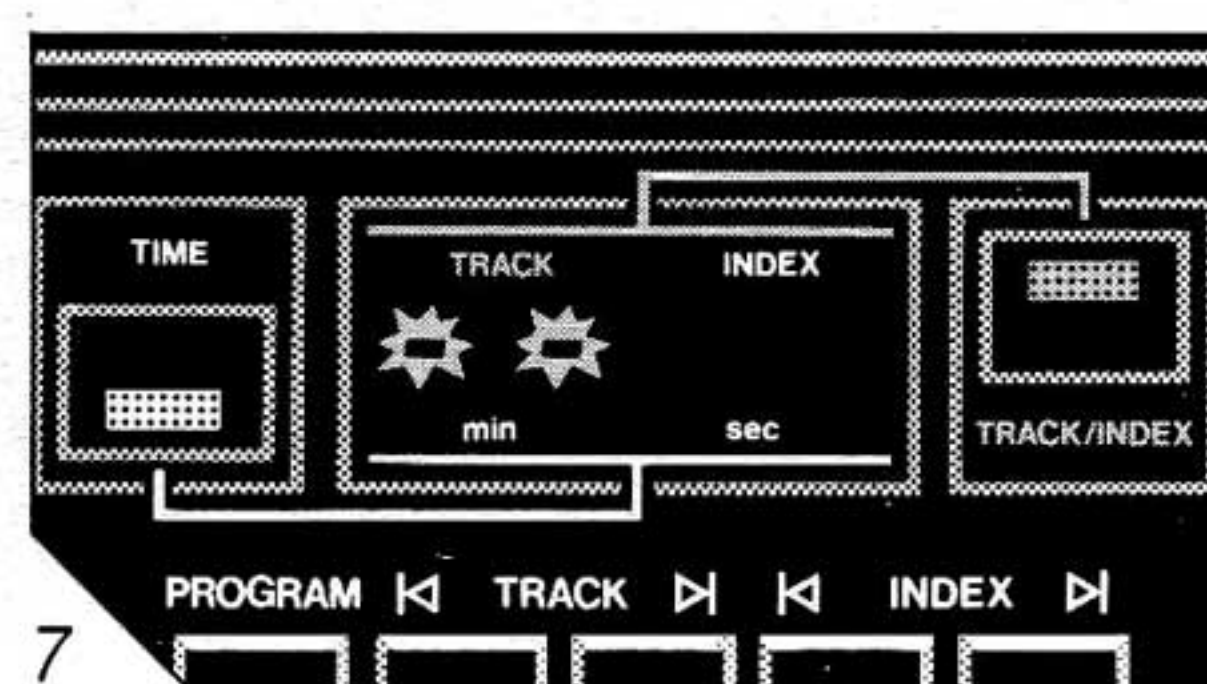
4



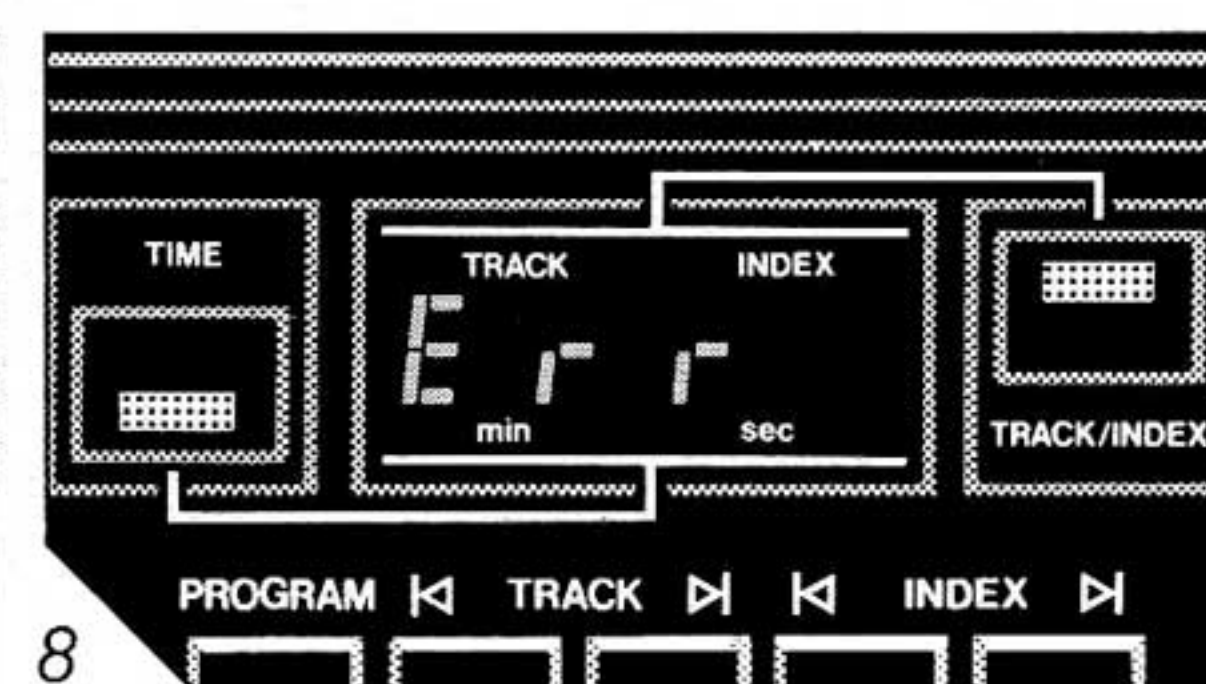
5



6



7



8



9



10



11



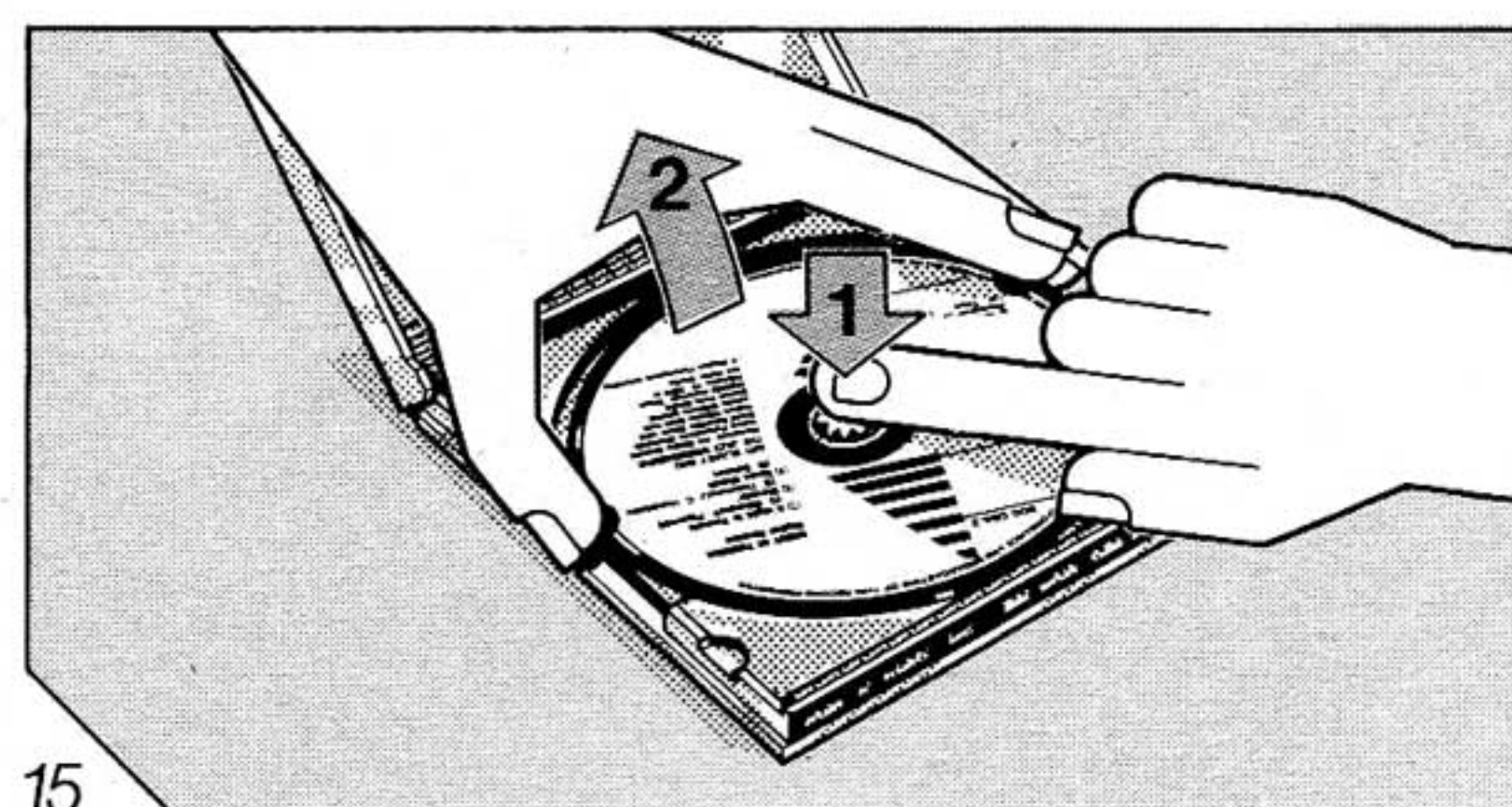
12



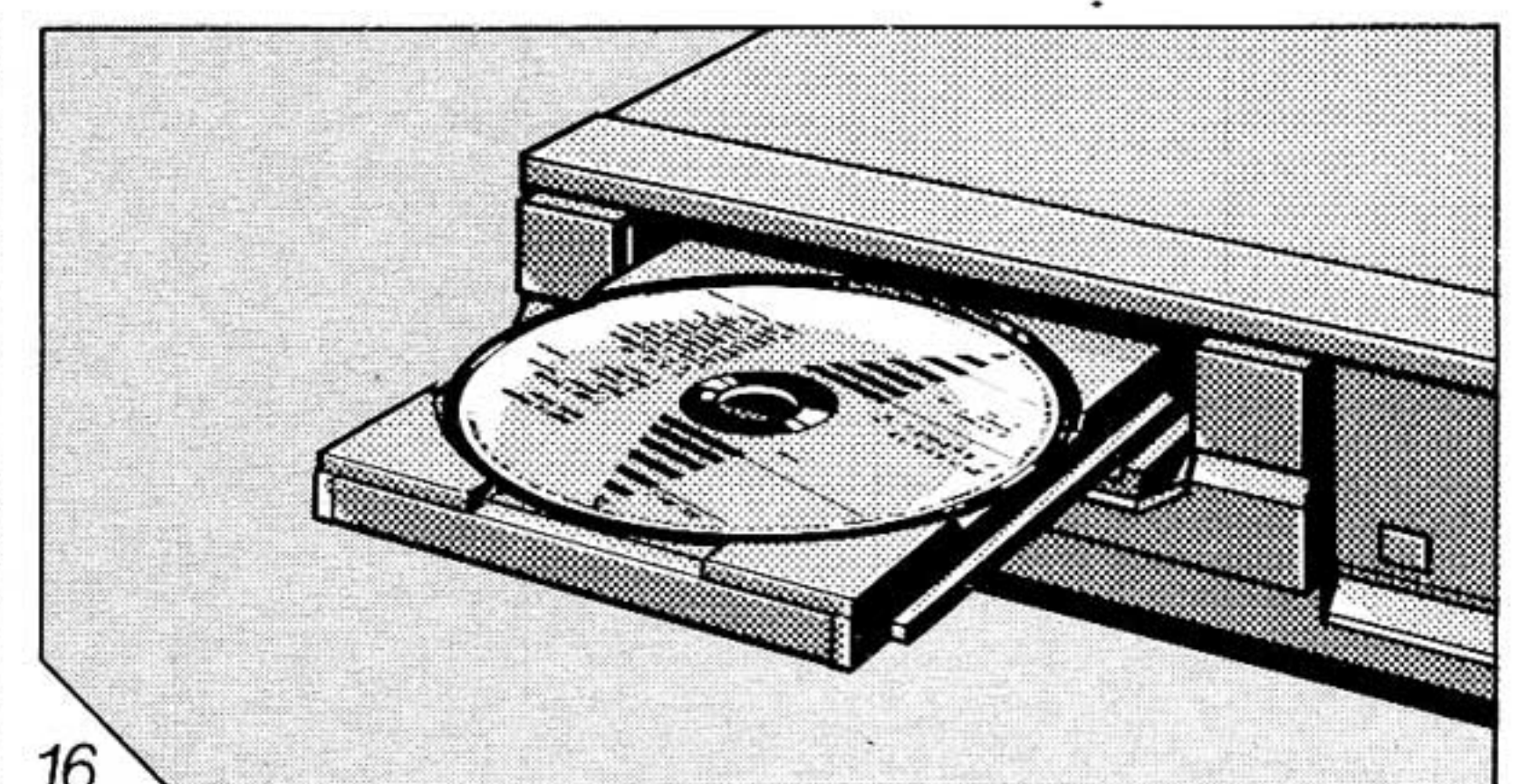
13



14



15



16