

Operating Instructions

COMPACT DISC PLAYER P-D70

COMPACT
disc
DIGITAL AUDIO



Thank you for buying this Pioneer product. Please read through these operating instructions and then you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

These operating instructions are based on the model HE, and they can be used for the HB, HP, KU, KC, S, S/G models. The differences between the models are given below.

HE model:

For Europe ('HE' stamped on packing case): A 2-point 220 V /240 V) voltage selector switch is provided.

HB model:

For U.K. ('HB' stamped on packing case): A 2-point 220 V /240 V) voltage selector switch is provided.

HP model:

For Australia ('HP' stamped on packing case): A 2-point (220 V/240 V) voltage selector switch is provided.

KU and KC models:

For U.S.A. and Canada ('KU' or 'KC' stamped on packing case): Power line voltage is 120 V.

S and S/G models:

For destinations excluding above ('S' or 'S/G' stamped on packing case): A 4-point 110 V/120 V/220 V/240 V voltage selector switch is provided.

NOTE:

Depending upon the models, the design of the power plug and the power outlet differs.

The internal mechanisms of this player are held in place during shipping by a transit screw. Be sure to remove the transit screw before you attempt to use the player. (See "BEFORE OPERATION".)

The LINE VOLTAGE SELECTOR switch is located on the rear panel of the player. Please check that it is set properly before plugging the power cord into an outlet. If it is not set properly, change the setting according to the LINE VOLTAGE SELECTOR on page 4.

IMPORTANT NOTICE (For KU and KC models)

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

Caution: Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

 PIONEER®

SAFETY INSTRUCTIONS [FOR KU MODEL]

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NEPA No. 70-1981, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS

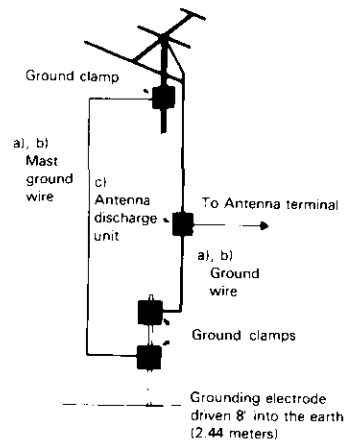


Fig. A

- a) Use No. 10 AWG (5.3 mm²) copper or No. 8 AWG (8.4 mm²) aluminum or No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger as ground wires for both mast and lead-in.
- b) Secure lead-in wire from antenna to antenna discharge unit and mast ground wire to house with stand-off insulators, spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
- c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

IMPORTANT [FOR KU MODEL]



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

To prevent electric shock, do not remove cover. No user serviceable parts inside, refer servicing to qualified service personnel. Always disconnect all the equipment from the mains supply when disconnecting the signal leads.

The power cord should be connected last, make sure that the power switch is off. Unplug the set from the wall socket when it is not to be used for an extended period of time.

FOR USE IN THE UNITED KINGDOM AND AUSTRALIA

CAUTION 240 V: Mains supply voltage is factory adjusted at 240 V.

FOR USE IN THE UNITED KINGDOM

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

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:

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

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

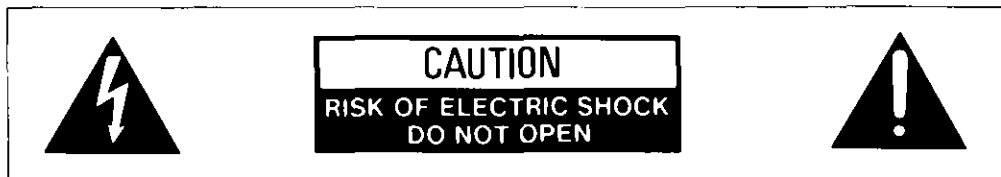
Equipment sold in the U.K. is not supplied with a power plug.

FOR KU MODEL

NOTICE

The following warning labels appear on your player.

The warnings contained on these labels should be strictly adhered to:



DANGER
INVISIBLE LASER RADIATION WHEN
OPEN AND INTERLOCK FAILED OR DEFEATED.
AVOID DIRECT EXPOSURE TO BEAM.
CAUTION
HAZARDOUS ELECTROMAGNETIC
RADIATION WHEN OPEN

Federal law requires the following warning: **CAUTION**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Information to User

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

- reorient the receiving antenna

- relocate the equipment with respect to the receiver
- move the equipment away from the receiver
- plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.

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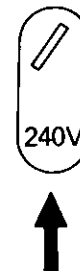
BEFORE OPERATION

LINE VOLTAGE SELECTOR (For model HE, HB, HP, S and S/G)

The line voltage selector switch is located on the rear panel of this player. Before your player is shipped from the factory, the switch is set to the power requirements of the player's destination. Check that it is set properly before plugging the power cord into the outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows:

1. Disconnect the power cord.
2. Provide yourself with a medium-sized (flat-blade) screwdriver. Insert the tip of the screwdriver into the groove of the selector switch and turn it so that the power voltage marking of your area points to the arrow.

VOLTAGE SELECTOR SELECTEUR DE TENSION

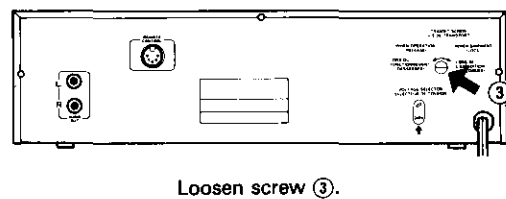
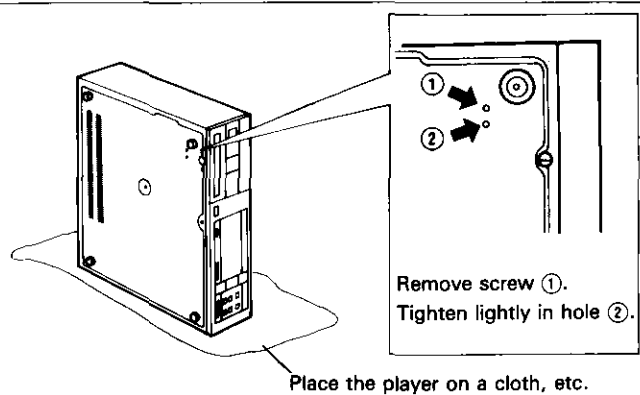


KU (for U.S.A.) and KC (for Canada) models are not provided with LINE VOLTAGE SELECTOR switch.

REMOVE THE TRANSIT SCREW

The internal mechanisms of this player are secured in 2 locations to prevent damage from vibration during shipping. Be sure to remove or loosen these screws as directed below before attempting to use the player.

1. As shown in the illustration, set the player on its side. Using a Phillips screwdriver, turn the screw (green) shown by arrow ① in a counterclockwise direction, and remove it. To avoid losing the screw, insert it into the screw hole shown by arrow ②, and tighten it lightly.
 2. Return the player to its normal position. Using a medium size (flat-blade) screwdriver, rotate the screw shown by arrow ③ on the rear panel in a counterclockwise direction until no more resistance is felt. This screw cannot be removed even when fully loosened.
- When transporting the player, return all of these transit screws to their tightened condition. To tighten the screws, perform the above-listed procedures in reverse.



INSTALLATION

When installing the player, pick a flat, stable location. Avoid the following types of places:

- Locations struck by direct sunlight.
- Locations with high humidity or large amounts of dust.
- Locations which are extremely warm or cold.
- Near heat-generating appliances.

- Shaky locations, or those with vibration.
 - Cramped locations that prevent air flow through air vents.
 - On top of rug, beds, or sofas.
 - In kitchens or other places where the player may be struck by oil smoke, steam, or heat.
- Heavy items should not be rested on top of the player.

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CONNECTIONS

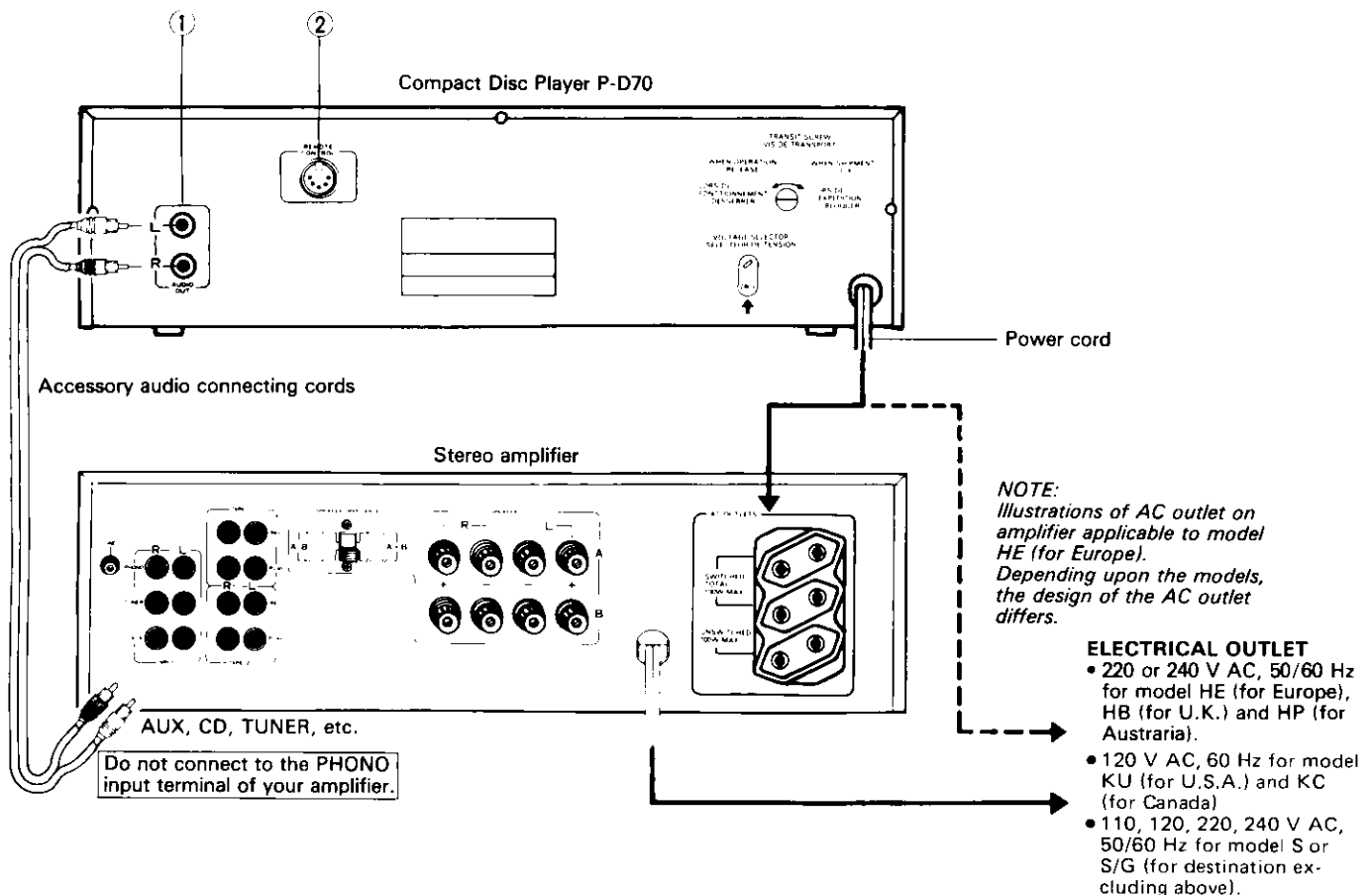
Before Connecting

- Read the operating instructions for the stereo amplifier to which you intend to connect the player.
- Turn the power switch OFF to the stereo amplifier. Do not turn on the power until all connections are completed.

- The accessory audio cords have a white plug for L (left) and a red plug for R (right) channel use.
- Insert all plugs firmly. Loose connections may cause noise.
- Do not connect the P-D70's audio output terminals to the PHONO input terminals of your amplifier.

CONNECTION PROCEDURES

1. Using the accessory audio cords, connect the audio output terminals on the rear panel of the P-D70 to the AUX, or TUNER input terminals on the stereo amplifier.
2. Insert the plug on the P-D70's power cord into an extra AC outlet on the stereo amplifier, or into another household electrical outlet.



REAR PANEL FACILITIES

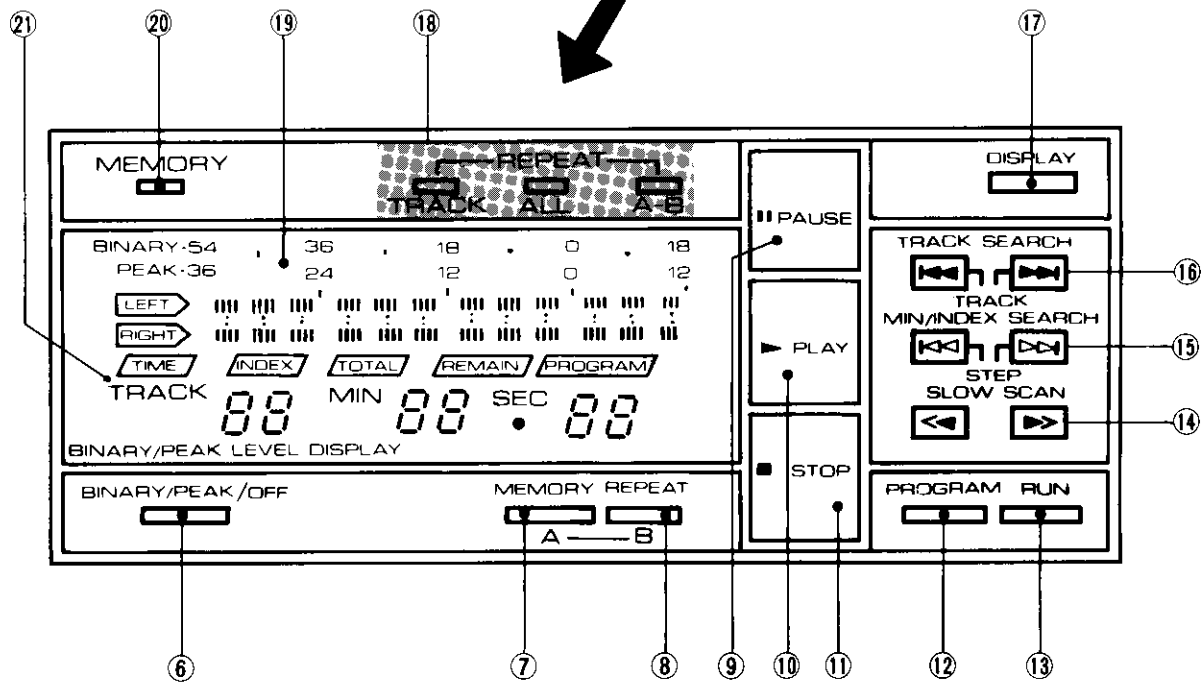
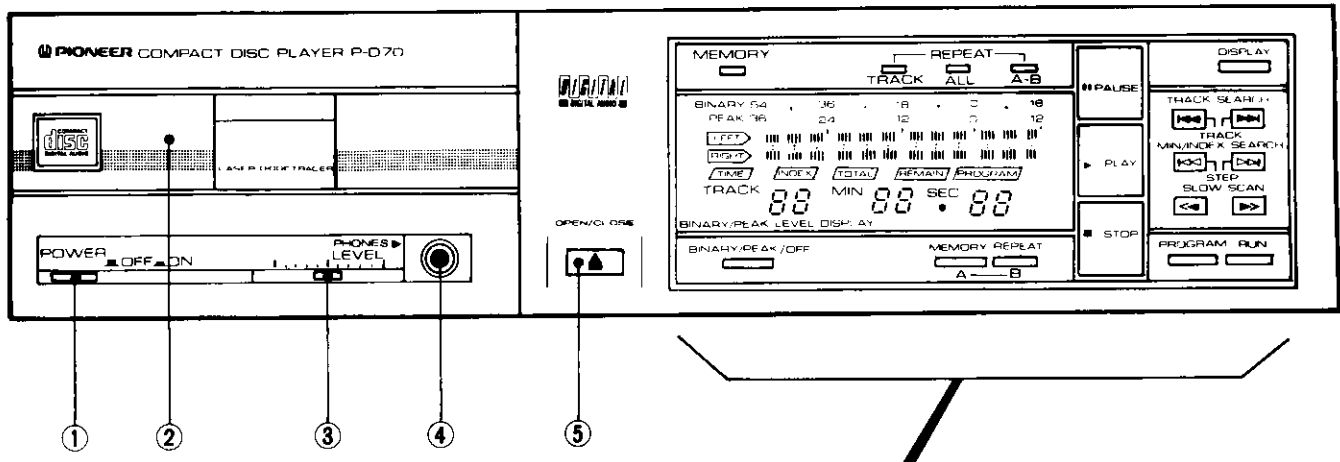
① AUDIO OUT

The playback signal is sent to the stereo amplifier from here. This is connected to the amplifier's AUX, CD, TUNER or other input terminals.

② REMOTE CONTROL

This terminal is for connecting the separately purchased wired remote control for remote operation.

PANEL FACILITIES



① POWER

When this button is pressed, power is supplied to the player, and the TRACK, MIN, and SEC numeric displays light. To turn the power off, press the button once again.

② DISC TABLE

When the OPEN/CLOSE button is pressed, this table opens toward the front. Compact discs are mounted on top of this table.

③ PHONES LEVEL

This control is used to adjust the volume level of headphones. Volume increases as the control is moved toward the right.

④ PHONES JACK

Stereo headphones may be connected here.

⑤ OPEN/CLOSE

When this button is pressed, the disc table opens toward the front. When the button is pressed again, the table recedes.

⑥ BINARY/PEAK/OFF

This button is for selecting the display mode of the level meter.

⑦ MEMORY: A

If this button is pressed during playback, the track number, minutes, and seconds at that instant will be memorized within the player. Later, by using the search button, you may quickly recall that point again. This button is also used for repeat playback between two points.

⑧ REPEAT: B

This button is used when you wish to perform repeat play of a single track, or all tracks on a disc. It is also used for repeat play between two points on a disc.

⑨ PAUSE

This is used when you wish to temporarily halt the playback. When pressed again, the pause mode is released.

⑩ PLAY

This button is pressed to begin playback, or to release the pause mode.

⑪ STOP

When this button is pressed, all operations are stopped, and the pickup returns to the standby position.

⑫ PROGRAM*

This button is used for programming the memory for programmed play, and during programmed playback, for checking the programmed steps.

⑬ RUN

This button is used for beginning programmed playback.

⑭ SLOW SCAN (<<, >>)

These are fast forward and fast back buttons. The pickup is sent quickly forward or back during the time the buttons are held depressed.

⑮ MIN/INDEX SEARCH, STEP (<<<, >>>)**

When the numeric display is in the time mode, these buttons may be used for performing search in units of minutes. When in the index mode, search may be performed by index number.

These buttons are also used for program step buttons for programmed play.

⑯ TRACK SEARCH, TRACK (<<<, >>>)

These buttons are used when you wish to search for the beginning of a particular track. Search may be performed in both the forward and reverse directions. These buttons are also used for designating the track number for programmed play.

⑰ DISPLAY

This button is used for selecting the indicating mode of the numeric display.

⑱ REPEAT INDICATORS

One of these indicators lights during repeat playback.

⑲ BINARY/PEAK METER

This meter shows the playback output level. The binary display mode, peak meter mode, and off mode can be selected with button ⑥.

⑳ MEMORY INDICATOR

This indicator lights when the MEMORY button is pressed, showing that the various information at that point (track number, minutes, seconds) has been memorized.

㉑ NUMERIC DISPLAY

By using the DISPLAY button, the following 4 display modes can be selected.

TIME display mode... Track number and time of presently playing track

INDEX display mode... Presently playing track and index numbers

TOTAL display mode... Total number of tracks and total playing time of disc

REMAIN display mode... Presently playing track number, and remaining time to end of disc

NOTE:

*The word "PROGRAM" in these operating instructions is used to refer to disc play of the tracks on a disc in any order regardless of the order in which they are located on the disc. It is not a signal included on the disc itself.

**INDEX refers to signals which are previously recorded on a disc and which indicate sub-divisions within a single track.

BASIC OPERATIONS

NOTE: Before beginning playback.

The P-D70 plays back audio signals which are pulse code modulated (PCM). One characteristic of PCM signals is that they have an extremely wide dynamic range. As a result, you should be very careful when adjusting sound volumes of the amplifier since an excessive input may damage your speakers.

TO START PLAYBACK

(1) Turn on the power to your stereo amplifier.

Set the amplifier's function selector switch at the function to which the P-D70 is connected.

(2) Turn on the power to the P-D70, and press the OPEN/CLOSE button.

The disc table will open to the front.

(3) Load a disc.

Mount the disc on the table with the label surface upwards.

NOTE:

- Always be sure to mount discs with the label side up.
- Only one Compact Disc can be inserted at the same time.

Before mounting the disc, use a soft cloth to remove any dirt (fingerprints, dust, etc.) from the surface of the disc.

(4) Press the PLAY button.

The disc table will retract within the player, and playback will begin.

NOTE:

- If a disc is damaged (scratched, deformed, etc.) or if it is mounted upside down, playback will not begin, and the disc table will open.
- After mounting a disc on the table, if the OPEN/CLOSE button is pressed, the disc table will retract, and the player will read the TOC (Table of Contents) of the disc, then entering the stop mode. Since the PLAY button cannot be operated while the player is reading the table of contents of the disc, if you wish playback to begin immediately after mounting a disc, press the PLAY button without pressing the OPEN/CLOSE button.

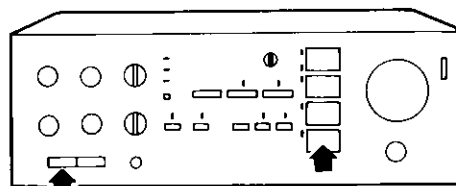
When the disc table is in the open position, do not press down heavily on it, and do not rest objects other than discs (especially heavy objects) on the table. Doing so may damage the table mechanism.

NOTE: Have you loosened the transit screw?

If you attempt to play back a disc without releasing the transit screws which fix the internal mechanism of the player, the player will not operate. Even if the power is turned on and the OPEN/CLOSE button is pressed, the disc table will not open, and an abnormal noise will be heard from within the player.

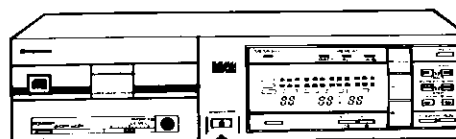
In this event, immediately turn off the power, and release the transit screws as shown on page 4.

- If the power to the player is turned on while you are receiving FM or AM radio broadcasts, noise may be heard in the radio broadcast. As a result, when not using the player, be sure the power switch is in the OFF position.
- Also, if you experience noise during radio broadcasts when using an indoor antenna, try readjusting the antenna's position or direction.



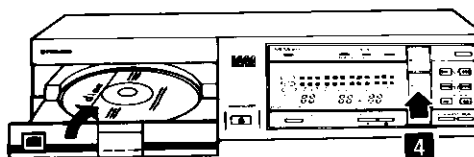
1 Turn on power.

Set function selector to the appropriate setting.



2 Turn on power.

2 Press after turning on power.



3 Mount disc on table with label side up.

4 Press PLAY button.

The disc table of the player is designed to move forward and back, in and out of the player. Take care not to place other components or objects where they will block this movement.

During OPEN operation ... If the disc table's OPEN operation is impeded by an interfering object, an abnormal sound will come from the player. When the obstacle is removed, the player will return to normal operation. If the OPEN/CLOSE button is pressed, the disc table will recede again into the player.

During CLOSE operation ... If the disc table's CLOSE operation is impeded by an interfering object, the operation of the disc table will stop midway. When the obstacle is removed, the disc table will presently return to the OPEN condition. The disc table will also return to the OPEN condition if the OPEN/CLOSE button is pressed.

NOTICE:

Be careful not to get your finger caught during the disc table's OPEN/CLOSE operation. If your finger becomes caught, immediately press the OPEN/CLOSE button.

TO STOP PLAYBACK

When the play mode is allowed to continue to the end of the disc, playback will automatically stop. When you wish to stop playback before the end of a disc, follow the procedures listed below.

When you do not wish to remove the disc:

Press the STOP button.

All operations will stop, and the pickup will return to the standby position.

When you wish to remove the disc:

(1) Press the OPEN/CLOSE button.

After the player enters the stop mode, the disc table will open.

(2) Remove the disc

Return the disc to its case, and store it vertically in a place away from high heat and humidity.

If you wish to play another disc, return to step (3) of the section "TO START PLAYBACK." If you do not plan to play any more discs, go on to the next step:

(3) Press the OPEN/CLOSE button

The disc table will retract into the player.

NOTE:

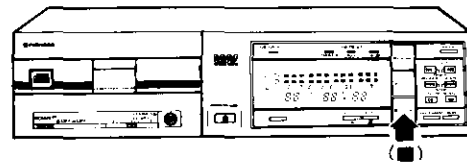
With the exception of such abnormal circumstances as a power failure, you should always use the OPEN/CLOSE button to close the disc table. If you attempt to push the table back in forcibly, damage to the player may result.

(4) Turn off the power.

NOTE:

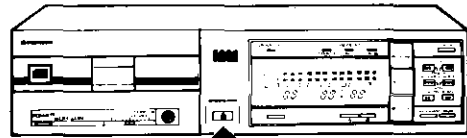
To prevent dust and dirt from catching on the objective lens inside the player, always return the disc table to the closed position when not using the player.

(When not removing the disc)

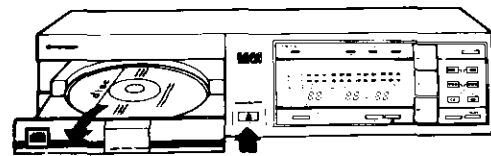


Press the STOP button.

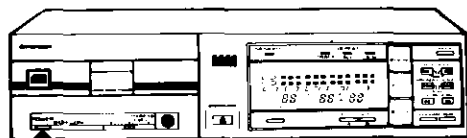
(When removing the disc)



1 (▲)
Press the OPEN/CLOSE button.



2 Remove the disc. 3 Press after removing the disc. (▲)



4 Turn off the power.

BINARY/PEAK METER DISPLAY

By using the BINARY/PEAK/OFF button, one of the following three Displays can be selected as they appear in order:

① BINARY MODE

This is a pure digital signal display, unthinkable with previous analog components. Of the 16 bit PCM signals which are read from the disc, the upper-order 12 bits function as the digital signals which light up and go out on this display.

One bit carries a value of 6 dB; a 72 dB signal level (from +18 dB to -54 dB) can be displayed.

② PEAK MODE

In this mode, the meter shows peak levels. Since the display is by purely digital operation, the values displayed are extremely accurate. The display range is from +12 dB to -36 dB.

③ OFF MODE

In this mode, all bits go out, and no display is performed.

BASIC OPERATIONS

NUMERIC DISPLAY SELECTION

When power to the player is turned on, the numeric display is in the TIME mode (showing track number and time). By using the DISPLAY button, the following modes will appear successively:

- ① **TIME** ... Displays presently playing track number and the elapsed playing time of that track (this mode always appears when the power is turned on).
- ② **INDEX** ... Displays presently playing track and index numbers of that track.
- ③ **TOTAL** ... Displays total number of tracks on disc and total playing time (During programmed play, shows total number of programmed tracks, and total programmed playing time).
- ④ **REMAIN** ... Displays presently playing track number, and remaining time until end of disc. (During programmed play, shows remaining programmed time).

NOTE:

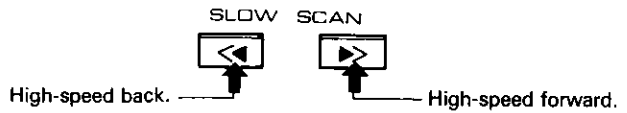
If the total number of tracks on a disc exceeds 20, program TOTAL and program REMAIN cannot be displayed.

SLOW SCAN (<<, >>)

After beginning disc playback, these buttons can be pressed to move the pickup forward or back at high speed. This function operates only during the time each button is held depressed, and the playback sound is simultaneously diminished. When the button is released, the player returns to the normal playback mode. If one of the buttons is pressed when the player is in the pause mode, the pickup can be moved quickly forward or back without sound being produced, and when the button is released, the player will return to the pause mode.

NOTE:

If slow scan is performed to the end of a disc, the player will enter the pause mode. If slow scan is performed in the reverse direction all the way to the beginning of a disc, the player will stop at the beginning of the first track, and enter the pause mode.



SPECIAL OPERATIONS

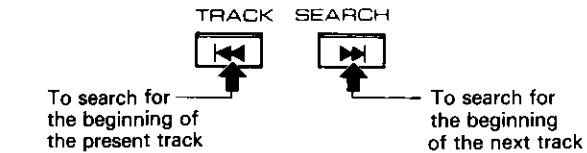
SEARCH

TRACK SEARCH (<<<, >>>)

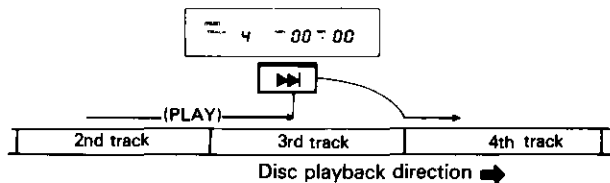
During normal playback, if the >>> button is pressed, the pickup will search for the beginning of the next track on the disc, and if the <<< button is pressed, the pickup will return to the beginning of the presently playing track. If search is performed from the pause mode, the player will return to the pause mode after performing the search. The numeric display will indicate the track number of the track being searched. If the button is pressed continuously, you can skip over any number of tracks to find a particular track. Operate the appropriate button until the desired track number appears in the display.

NOTE:

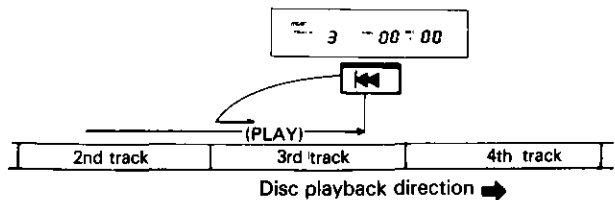
- When performing search in the reverse direction, be sure to note the number of times the button must be pressed. When the <<< button is pressed once, the pickup will return to the start of the presently playing track; when pressed a second time, the pickup will return to the beginning of the previous track.
- If the search operation is performed past the last track on the disc, the pickup will return to the first track on the disc.
- If track search is performed when the numeric display is in the TOTAL or REMAIN mode, the numeric display will show the TIME mode only during the actual search process. When the search is completed, the display returns to its former mode.



(To search for the beginning of the next track)



(To search for the beginning of the presently playing track)



MIN/INDEX SEARCH (\lll , \ggg)

This function is for performing search in units of "minutes" or "index" numbers.

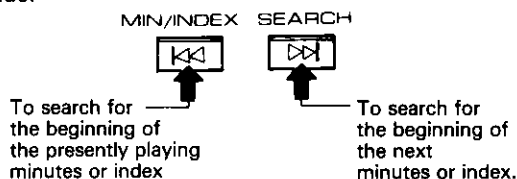
When numeric display is in TIME mode:

When the \ggg button is pressed, The pickup will search for the beginning of the next "minutes". When the \lll button is pressed, the pickup will search for the beginning of the presently playing "minutes."

When numeric display is in the INDEX mode:

When the \ggg button is pressed, the pickup will search for the beginning of the next index number. When the \lll button is pressed, the pickup will search for the beginning of the presently playing index number.

If the buttons are pressed continuously, the search operation will continue.



(If MIN/INDEX SEARCH button is pressed continuously)

Forward Direction ... If the \ggg button is held depressed even after the player has finished searching for the last "minutes" or "index" of the presently playing track, the pickup will pass the border of the track, and continue the MIN/INDEX search operation for the next track.

Reverse Direction ... If the \lll button is held depressed even after the player has completed searching for the first "minutes" or "index" of the presently playing track, the pickup will stop its search operation at the beginning of the presently playing track.

NOTE:

- If the \ggg button is pressed when the numeric display shows the last "minutes" ("index") of the last track recorded on the disc, the player will enter the pause mode.
- If minute/index search is performed when the numeric display is in the TOTAL or REMAIN mode, the numeric display will show the TIME mode, only during the actual search process. When the search is completed, the display will return to its former mode.

MEMORY STOP

With this function, you can memorize a point (track number, minutes, seconds) anywhere on a disc, and afterwards, no matter what part of the disc is being played back, you can automatically search for that memorized point merely by pressing the search button.

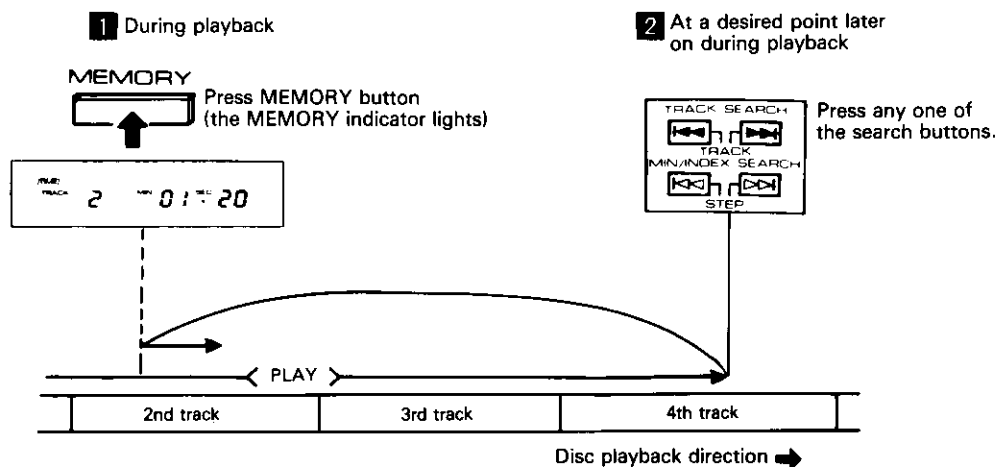
(Procedure)

- (1) During playback, press the MEMORY button at the desired point. The MEMORY indicator will light, and the track number, minutes and seconds at that instant will be memorized.
- (2) Later during the replay of the disc, if you wish to return to the memorized point, press either of the TRACK SEARCH (\lll , \ggg), or MIN/INDEX SEARCH (\lll , \ggg) buttons; the player will search for the point memorized in step (1), and playback will begin from that point.

(To clear the memory stop point)
 The memory stop point will be cleared by pressing the MEMORY button once again, or by pressing the STOP, or the OPEN/CLOSE buttons to stop playback.

NOTE:

- If the memory stop point is searched in the pause mode, the player will return to the pause mode after the search.
- When a memory stop point is memorized (the MEMORY indicator lights), normal TRACK SEARCH, and MIN/INDEX SEARCH functions cannot be performed.



REPEAT

Repeat playback can be performed of a single track, all tracks on a disc, or between two points on a disc.

MEMORY REPEAT (A-B REPEAT)

This function allows you to perform repeat playback between two points on the disc. The MEMORY (A) button is used in this operation as well, so before beginning you should check whether the MEMORY indicator is lighted or not.

(Procedure)

- **When MEMORY indicator is not lighted:**

When the MEMORY (A) button and the REPEAT (B) button are pressed in order, the space between points A and B will be played back repeatedly. In this case, the A-B REPEAT indicator will light.

- **When MEMORY indicator is lighted:**

If the MEMORY indicator is already lighted, it means that the MEMORY button has already been pressed once for Memory stop operation. In this case, the memory stop point will become point A for A-B repeat playback. In the event you wish to set a different point for memory point A, press the MEMORY (A) button to cause the MEMORY indicator to go out; Then press the MEMORY (A) and REPEAT (B) buttons in the locations of your choice.

(To clear memory repeat mode)

If either the MEMORY (A) or REPEAT (B) buttons are pressed, the memory repeat will be cleared.

TRACK REPEAT

With both the MEMORY and the REPEAT indicators off, if the REPEAT button is pressed, the player will enter the TRACK REPEAT mode. The TRACK REPEAT indicator will light, and the track being played back at the time the button is pressed will be played back repeatedly.

NOTE:

- If the MEMORY indicator is lighted, press the MEMORY button to make the indicator go out before pressing the REPEAT button.
- If the A-B REPEAT indicator is lighted, press either the MEMORY button or the REPEAT button to make the indicator go out before pressing the REPEAT button.

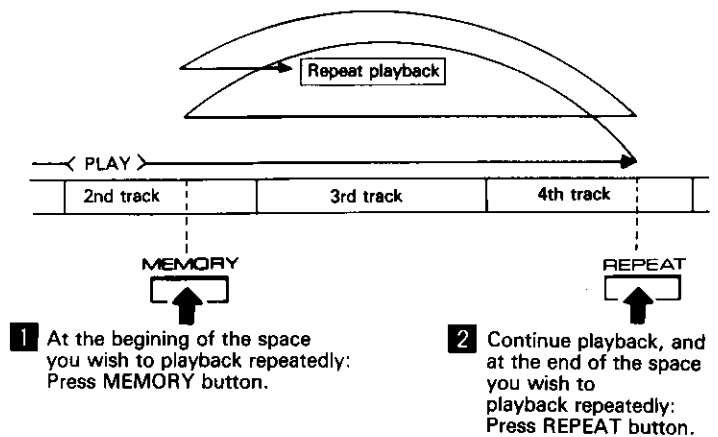
If such buttons as TRACK SEARCH (◀▶), MIN/INDEX SEARCH (◀◀ ▶▶), or SLOW SCAN (◀▶) are pushed during repeat playback, the repeat mode will be released and the playback will be started following the above respective operation.

- If the REPEAT (B) button is pressed at a point on the disc earlier than that at which the MEMORY (A) button is pressed (point B is before point A), point B will become the beginning point of repeat playback, and point A will be the end point.

NOTE:

When performing repeat playback between two points, always be sure to press the MEMORY (A) button first. If the REPEAT (B) button is pressed first, the player will enter the track repeat mode described below.

(Memory repeat procedure)



(To clear track repeat mode)

Press the REPEAT button twice. The first time the button is pressed the player will enter the all repeat mode, and the second time the button is pressed the repeat playback mode will be cleared, and the player will return to the normal playback mode.

NOTICE

A malfunction may occur under such conditions as when pushing the REPEAT button during the numeric display does not light or if it flashes when you will start playback, because track to be repeated is not indicated. Wait till the numeric display lights up, then push the REPEAT button.

ALL REPEAT

While the player is in the single track repeat mode (the TRACK REPEAT indicator is lighted), if the REPEAT button is pressed again, the player will enter the ALL REPEAT mode. The ALL REPEAT indicator will light, and all tracks on the disc will be played back repeatedly.

NOTE:

If programmed playback is begun while the player is in the all repeat mode, the player will enter the program repeat mode, and the memorized program will be played back repeatedly.

(To clear all repeat mode)

When the REPEAT button is pressed, the all repeat mode will be cleared, and the player will return to the normal playback mode.

PROGRAMMED PLAYBACK

This function allows the player to memorize up to 10 tracks, playing them back in any desired order, no matter what their order on the disc. For this function, use the button indicated in blue.

[ENTERING A PROGRAM]

A maximum of 10 tracks can be programmed. Use the TRACK button (◀◀, ▶▶) to designate track numbers, and use the STEP buttons (◀◀, ▶▶) to designate program steps. When the player is in the programming mode, the PROGRAM and STEP indicators will light.

(Example) To program tracks 3, 6, and 1 in that order.

(When program memory is cleared)

1 Press [PROGRAM].

Enters step 1 programming mode.

2 Press [▶▶] 3 times.

Track number 3 is entered in step 1.

3 Press [▶▶].

Enters step 2.

4 Press [▶▶] 6 times

Track number 6 entered in step 2.

5 Press [▶▶].

Enters step 3.

6 Press [▶▶] 1 time.

Track number 1 entered in step 3.

7 Press [PROGRAM] or [RUN].

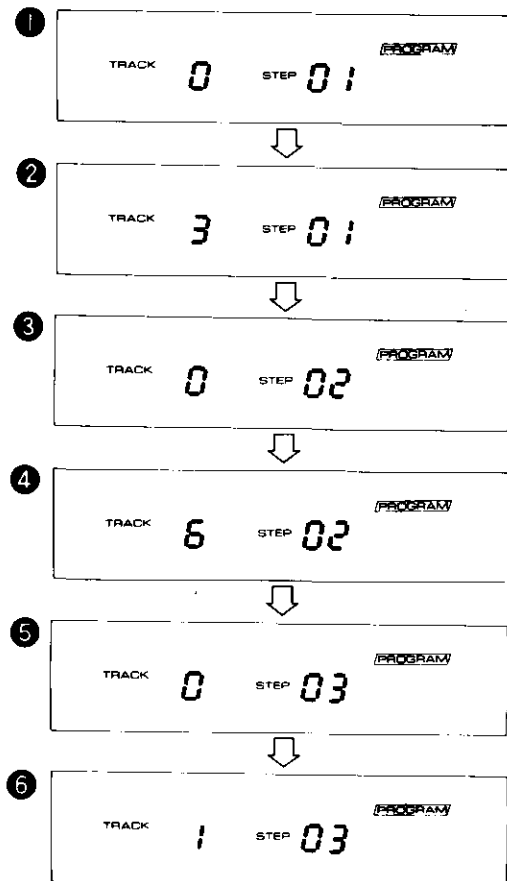
When the PROGRAM button is pressed, the programming is completed. (PROGRAM and STEP indicators go out)

When RUN button is pressed, playback of tracks begins in the order in which they were programmed (track 3 → track 6 → track 1). (STEP indicator goes out).

The programmed selections will be held in the memory until power is cut off, or the program is cleared by button manipulation.

NOTE

- When the player is in the programming mode, the TRACK SEARCH buttons (◀◀, ▶▶) are used as the TRACK number buttons, and the MIN/INDEX SEARCH buttons (◀◀, ▶▶) are used as the STEP buttons.
- Programming can be performed during repeat playback as well.



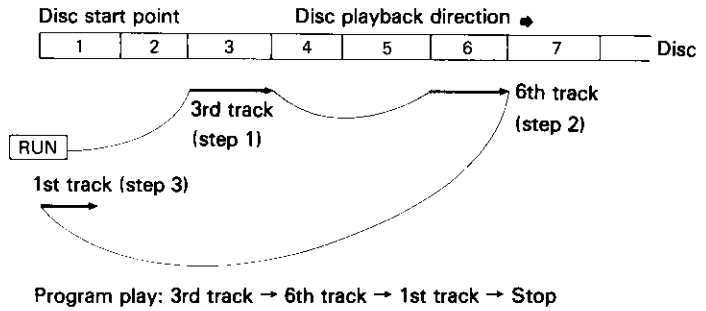
PROGRAMMED PLAYBACK

[STARTING AND STOPPING PROGRAMMED PLAYBACK]

To begin the playback of programmed selections, press the RUN button. The PROGRAM indicator will light, and tracks will be played back in the programmed order.

NOTE:

- When programmed playback is started from the pause mode, the player will enter the pause mode at the beginning of the track designated in step 1.
- If the total programmed time exceeds 99 minutes and 59 seconds, the TOTAL and REMAIN displays will show, the overflow display.



When programmed playback is completed, the player will enter the stop mode. During programmed playback, if buttons other than the PAUSE, DISPLAY or PROGRAM are pressed, the programmed playback mode will be cleared, and the player will be switched to the designated mode.

[TO CHECK CONTENTS DURING PROGRAMMED PLAYBACK]

After pressing the PROGRAM button, the STEP (◀◀, ▶▶) buttons can be used to check a particular step and confirm the track number programmed in that step. (The TRACK (◀◀, ▶▶) buttons will not respond. As a result, it is not possible to change programmed selections during programmed playback).

[PROGRAMMED REPEAT PLAYBACK]

During all repeat playback (the ALL REPEAT indicator lights), if programmed playback is begun, the player will enter the program repeat mode, and the programmed playback will be repeated continuously.

[TO REPROGRAM SELECTIONS]

By operating the same buttons as during the initial programming, it is possible to add to or change part of a program. Press the PROGRAM button, and when the player is in the programming mode, press the STEP (◀◀, ▶▶) button to recall the step you wish to change, and then use the TRACK (◀◀, ▶▶) buttons to redesignate a new track.

(Example) In a program containing tracks 3, 6, and 1 in that order, to change step 2 to track number 5.

- 1 Press **PROGRAM**.
Step 1 will be displayed.
- 2 Press **▶▶**.
Step 2 will be displayed.
- 3 Press **◀◀**.
The track number of step 2 will change from 6 to 5.
- 4 Press either **PROGRAM** or **RUN**.
The program will change to tracks 3, 5, and 1. If the RUN button is pressed, programmed playback will begin immediately.

[To clear the programmed memory]

When track number 0 is designated, all of the program from that step on will be cleared.

(Example) To clear the entire programmed contents:

- 1 Press **PROGRAM**.
• Step 1 will be displayed.
- 2 Press **◀◀**, to designate track 0.



- 3 Press **PROGRAM**.



DISC HANDLING PRECAUTIONS

- Discs which bear the mark shown below may be used with this player.



- When handling discs, be careful not to touch the signal surface. Hold discs by the edges, or by the center hole and one edge.
- Do not affix tape, paper, or gummed seals to the disc's label surface. Also be careful not to scratch the label surface.
- The disc revolves at high speed inside the player. As a result, do not attempt to use discs that are cracked or severely warped.
- Fingerprints or dirt on the disc surface do not directly affect the signals memorized on the disc, but the dirt may cause the light reflection on the signal surface to be altered, thus causing a reduction in sound quality. Be sure to dust off dirt carefully, using a soft cloth to remove any dust from the center of the disc outwards.
- In case the disc is severely dirty, dip a soft cloth in water, and after wringing it well, gently remove the dirt from the disc surface. After removing the dirt, dry the disc gently with a soft cloth.
- Record cleaners, anti-static sprays, etc., must not be used with discs. Also, benzene, thinners, or other volatile cleaners may cause the disc surface to melt.
- Discs are made of plastic. Take care not to allow discs to warp. Whenever finished playing, return discs to their cases and store them vertically, avoiding very hot, humid, or very cold places. Be careful when transporting discs, since, for example the seat of a car may become unbelievably hot when left in the sun.
- Always be sure to read the cautionary instructions accompanying each disc.

PLAYER HANDLING PRECAUTIONS

THE POWER CORD

- Do not route the power cord underneath the player or any other heavy object or in such a way that it could be damaged by being pinched between two objects. The power cord should not be twisted with other cords or cables or knotted in any way. If any of these precautions are not observed, a fire or electric shock could result.
- Always take hold of the plug to unplug it from the power outlet; do not unplug it by pulling on the cord. The cord may be damaged if you keep pulling on it.
- Do not handle the power cord with wet hands. This is extremely dangerous because you may get an electric shock.
- If the power cord or plug is damaged, do not try to repair it yourself with tape.
- Be sure to unplug the power cord when making connections and moving the player from one location to another. Always unplug the power cord when the player is not going to be used for a long period of time.

THE OBJECTIVE LENS

- A small lens assembly (the pickup) is located behind the disc table. This lens is the most important part in determining the performance of this player. Keep the disc table closed to protect the lens from dirt and dust.

THE COVER

- Since this player handles high voltages, the cover should never be removed for inspections and adjustments.

FOREIGN OBJECTS

- Hair pins, nails, coins and other objects can cause the player to malfunction if they dropped inside through the ventilation openings. Special caution should be exercised when small children are near the player.

LIQUIDS

- If water or any other liquid is spilled or splashed on the player, unplug the power cord immediately. A strong shock may be received if the player is used when wet.

CLEANING

- Use a soft, clean cloth to wipe off dust and dirt accumulated on the player. If necessary, moisten a soft cloth with diluted neutral detergent to remove heavy dirt.
- Never use paint-thinner, benzene or other solvents. They react with the surface and cause colour changes and melting.

TROUBLE SHOOTING

Before concluding that the player is out of order, please refer to this troubleshooting guide to make sure that there is not a simple remedy for the problem. Most performance problems are caused by set-up errors, bad connections to other components, or malfunctions of other components. Find the symptom from the chart below, and try the suggested remedies.

Symptom	Cause	Remedy
Disc table does not open when OPEN/CLOSE button is pressed.	<ul style="list-style-type: none"> • Power plug is disconnected from outlet. • Power switch is not turned on. • Transit screws have not been loosened. 	<ul style="list-style-type: none"> • Be sure components are plugged in properly. • Press the power switch to supply power to player. • Loosen transit screws and turn power on again. (Refer to BEFORE OPERATION)
When playback is attempted, player immediately stops, and disc table opens.	<ul style="list-style-type: none"> • Disc is inserted upside down. 	<ul style="list-style-type: none"> • Insert disc correctly with label side up.
No sound is produced.	<ul style="list-style-type: none"> • Connecting cords are not connected properly. • Amplifier is not operated properly. • Pin-plugs or amplifier input terminals are dirty. • Player is in pause mode. 	<ul style="list-style-type: none"> • Connect cords securely. • Check amplifier settings and volume control. • Clean plugs and/or terminals. • Press the PLAY button.
Sound is distorted.	<ul style="list-style-type: none"> • Connections are incorrect. • Pin plugs or amplifier input terminals are dirty. 	<ul style="list-style-type: none"> • Check that the player is connected to the amplifier's AUX or TUNER input terminals. Do not connect to the PHONO input terminals. • Clean plugs and/or terminals.
When playing a particular disc, loud noise is produced, or playback stops.	<ul style="list-style-type: none"> • Disc is severely scratched or warped. • Disc is extremely dirty. 	<ul style="list-style-type: none"> • Use a different disc. • Clean the disc.

SPECIFICATIONS

1. General

System Compact Disc digital audio system
 Disc Diameter: 120 mm
 Thickness: 1.2 mm
 Max. playing time: over 60 minutes (stereo)
 Linear speed: 1.2~1.4 m/sec
 Direction of rotation (signal encoded side): Counterclockwise
 Signal format Sampling frequency: 44.1 kHz
 Quantization bits: 16 bits, linear
 Transmission bit rate: 4.3218 Mbits/sec
 Modulation system: EFM
 Error correction system: CIRC
 Pre-emphasis: 50/15 μ sec
 Laser Semiconductor laser, wavelength 780 nm
 Power requirements
 HE, HB, HP, models 220, 240 V AC (switchable), 50/60 Hz
 S, S/G models 110, 120, 220, 240V AC (switchable)
 50/60 Hz
 KU, KC models 120 V AC, 60 Hz
 Power consumption 38 W
 Operating temperature +5°C~+35°C
 Weight 7.5 kg (16.6 lbs)
 Dimensions 420 (W) x 300 (D) x 98 (H) mm
 16-1/2 (W) x 11-7/8 (D) x 3-7/8 (H) in

2. Audio Characteristics

Frequency response 5 Hz to 20 kHz \pm 0.5 dB
 S/N(signal-to-noise ratio) More than 95 dB (1 kHz)
 Dynamic range More than 95 dB (1 kHz)
 Channel separation More than 90 dB (1 kHz)
 Wow and Flutter Quartz oscillator accuracy
 Total harmonic distortion Less than 0.004 % (1 kHz, 0 dB)
 Output voltage 200 mVrms (1 kHz, -20 dB)
 Headphones output 36 mW (32 Ω)
 Channels 2 channels (stereo)

3. Functions

- Play
- Pause
- Slow scan
- Track search
- Min/index search
- Memory stop
- Memory (A-B) repeat
- Track repeat
- All repeat
- Program disc play
- Program repeat play

4. Accessories

- Audio connecting cords with pin plugs 1
- Operating Instructions 1

NOTE:

Specifications and design subject to possible modification without notice, due to improvements.

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