

YAMAHA CDX-410U

Natural Sound Compact Disc Player

Programmable Random Access Playback System

Index Search

Full and Single Repeat Play

Random Tape Recording Program Based On Tape Length

Thank you for purchasing the YAMAHA Compact Disc Player CDX-410U.



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OWNER'S MANUAL



IMPORTANT!

Please record the serial number of your unit in the space below:

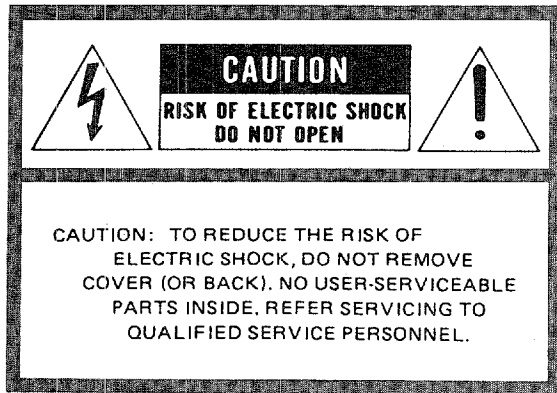
Model: **CDX-410U**

Serial No.:

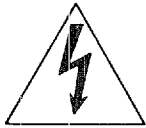
The serial number is located on the rear of the unit.

Retain this Owner's Manual in a safe place for future reference.

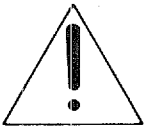
SAFETY INSTRUCTIONS



• Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to 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.



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

WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

1 Read Instructions — All the safety and operating instructions should be read before the appliance is operated.

2 Retain Instructions — The safety and operating instructions should be retained for future reference.

3 Heed Warnings — All warnings on the appliance and in the operating instructions should be adhered to.

4 Follow Instructions — All operating and other instructions should be followed.

5 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.

6 Carts and Stands — This appliance should be used only with a cart or stand that is recommended by the manufacturer.

7 Wall or Ceiling Mounting — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

8 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 cabinet that may impede the flow of air through the ventilation openings.

9 Heat — The appliance should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.

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

11 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.

12 Cleaning — The appliance should be cleaned only as recommended by the manufacturer.

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

14 Object and Liquid Entry — Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the appliance.

**CAUTION: READ THIS BEFORE
OPERATING YOUR UNIT**

15 Damage Requiring Service — The appliance should be serviced by qualified service personnel when:

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

16 Servicing — The user should not attempt to service the appliance beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.

17 Power Lines — an outdoor antenna should be located away from power lines.

18 Grounding or Polarization — The precautions that should be taken so that the grounding or polarization of an appliance is not defeated.

1 To ensure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.

2 Install your unit in a cool, dry, clean place — away from windows, heat sources, and too much vibration, dust, moisture or cold. Avoid sources of hum (transformers, motors). To prevent fire or electrical shock, do not expose to rain and water.

3 Do not operate the unit upside-down. It may overheat, possibly causing damage.

4 Never open the cabinet. If a foreign object drops into the set, contact your dealer.

5 Do not place records or other objects on top of the unit; this will block the ventilation holes, cause the internal temperature to rise and may result in a failure.

6 Do not use force on switches, knobs or cords. When moving the set, first turn the unit off. Then gently disconnect the power plug and the cords connecting to other equipment. Never pull the cord itself.

7 Do not attempt to clean the unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.

8 Be sure to read the "Troubleshooting" section on common operating errors before concluding that your unit is faulty.

9 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 CDX-410U with respect to the receiver

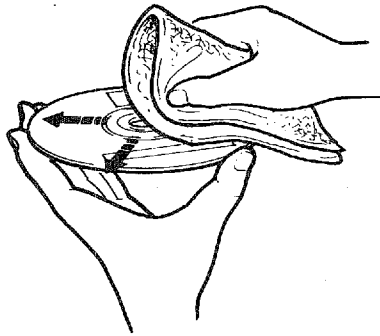
Move the CDX-410U away from the receiver

Plug the CDX-410U into a different outlet so that the CDX-410U and the receiver are on different branch circuits.

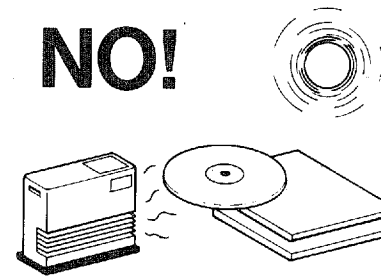
If necessary, the user, should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

- Although minute dust particles and finger prints should have no effect on play, you should keep the recorded side surface of your discs clean by wiping them with a clean, dry cloth. Wipe in a straight motion from the inside to the outside. Do not wipe in a circular motion.

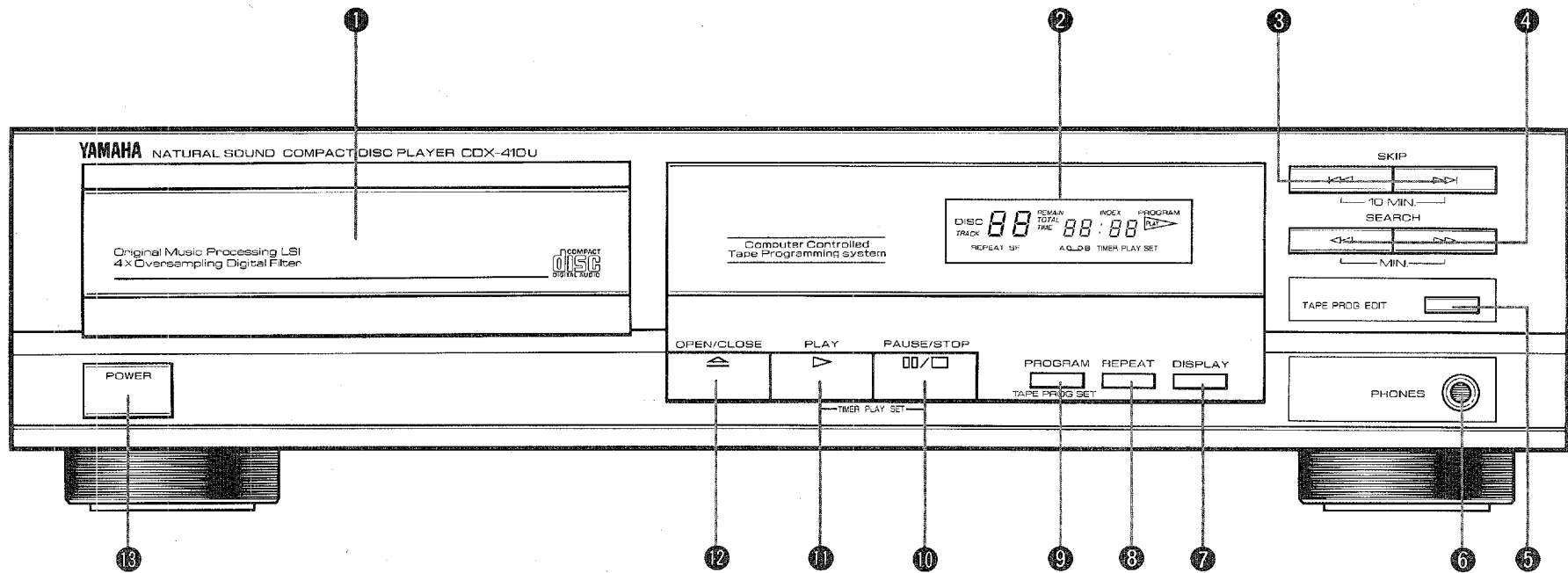


- Never use record cleaner, record spray, antistatic sprays or liquids, or any chemical-based liquid to clean the surface of a disc as these may irreparably damage the disc's plastic case.
- Avoid exposing discs to direct sunlight, high temperature, or high humidity for extended periods of time. Long exposure to high temperatures may warp a disc.



- Carefully handle the compact disc so that its surface is not scratched.

CONTROLS AND FUNCTIONS

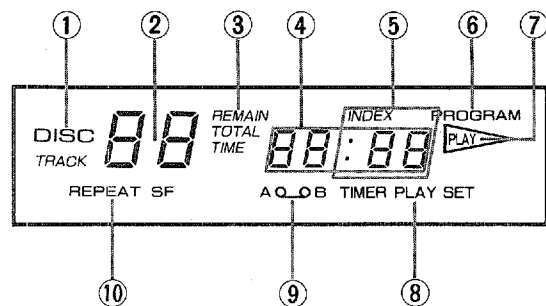


FRONT PANEL

① Disc tray

Place a disc on the tray with its label surface upwards.

② Display window



① DISC indicator

Lights when a disc is loaded.

When no or an improperly placed disc has been loaded into the tray, the indicator flashes.

② TRACK display

Shows the track number of a selection.

③ Time display

REMAIN TIME: Shows the remaining play time of the disc or programmed selections.

TOTAL TIME: Shows the total play time of the disc or programmed selections.

TIME: Shows the elapsed time of the selection being played.

④ Program number/tape length display

When programming is completed, this display shows the program schedule.

When inputting the tape length for tape program recording, first press the TAPE PROG EDIT button. "C-" indicator lights and the tape length can be input with 10 MIN. (◀◀, ▶▶) and MIN. (◀, ▶) buttons.

⑤ INDEX display

During play, this display shows the index number of the selection being played.

⑥ PROGRAM indicator

This indicator shows that the program memory is active.

⑦ PLAY indicator

Lights up during play.

This indicator blinks when the unit is set to pause mode.

⑧ TIMER PLAY SET indicator

Indicates that the unit is in timer play mode. While the PAUSE/STOP button is kept pressed, pressing the PLAY button lights this indicator.

⑨ Tape indicator

When the TAPE PROG EDIT button is pressed, $\underline{00}$ indicator lights. " $\underline{00}$ " shows that the player is in tape program mode.

"A" or "B" indicates the side of a tape to be recorded during tape program recording.

⑩ REPEAT indicators

These show repeat play mode.

REPEAT S: Single repeat play

REPEAT F: Full repeat play

③ SKIP/10 MIN. (⏮, ⏭) buttons

Press these buttons to select a desired track number on the disc in stop mode. During play, press these buttons to skip to a desired selection. These buttons are also used to input a 10's digit of recording time for tape program recording.

④ SEARCH/MIN. (⏪, ⏩) buttons

Press these buttons to play the disc forward or reverse at high speed. When a button is kept pressed for more than about 5 seconds, the speed increases even more.

These buttons are also used to input a 1's digit of recording time for tape program recording.

⑤ TAPE PROG EDIT button

When this button is pressed, the tape length can be memorized with 10 MIN. (⏮, ⏭) and MIN. (⏪, ⏩) buttons for tape program recording.

⑥ PHONES jack

Connect the headphones plug into this jack for private listening.

⑦ DISPLAY button

Press this button to change the time display mode (TIME (elapsed time), TOTAL TIME, and REMAIN TIME).

⑧ REPEAT button

Used to set and cancel single, full, or program repeat play mode.

⑨ PROGRAM/TAPE PROG SET button

Used to input a program for program play or tape program recording.

⑩ PAUSE/STOP button

When this button is pressed during play, the play indicator blinks and disc play is temporarily stopped. Press the PLAY button to resume play at the point where it was paused (pause mode).

In pause mode, pressing this button stops the unit back to the beginning of the disc during normal play, or the beginning of the first programmed selection during program play.

⑪ PLAY button

Press to begin play. The play indicator will light.

⑫ OPEN/CLOSE button

Press this button to open or close the disc tray.

⑬ POWER switch

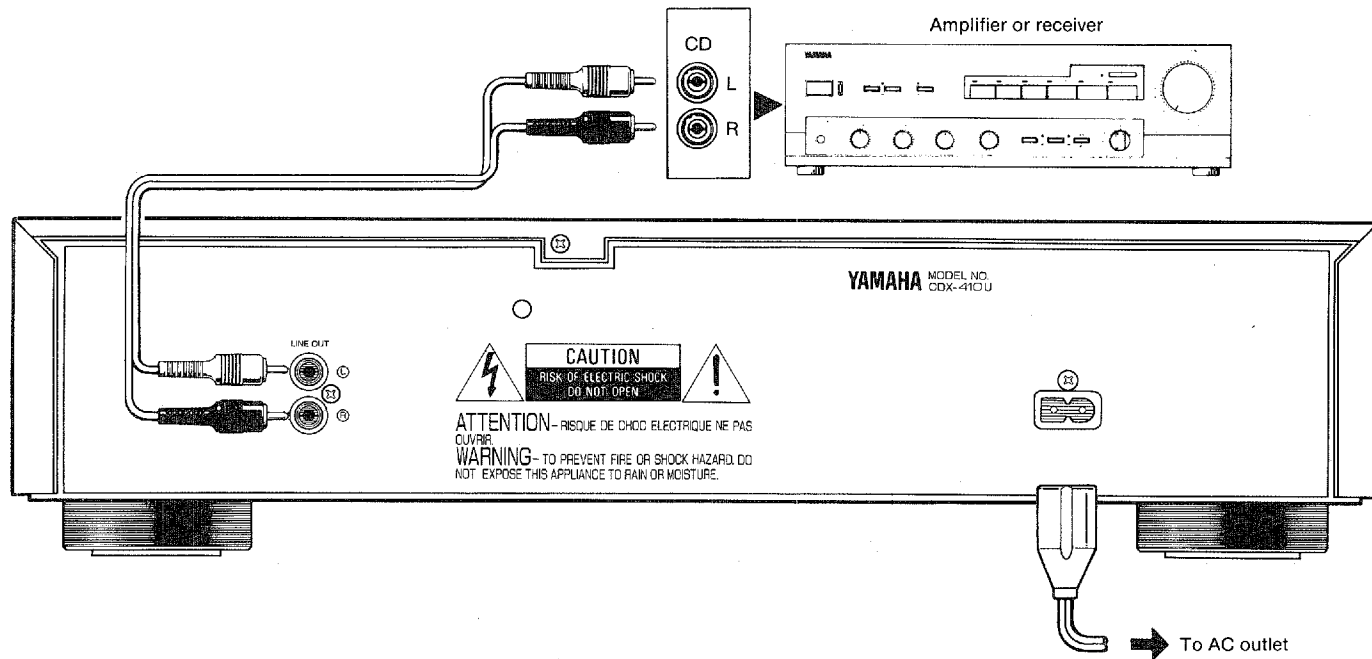
Press this switch to turn the power on. Press the switch again to turn the power off.

CONNECTIONS

- Switch OFF the power to all equipment before making any connection, and be sure to connect the cables with the correct Right and Left channel relations.
- The names given to the jacks may vary depending on the equipment. When making connections, also refer to the instruction manuals of the individual equipment.
- If this unit interferes with other equipment such as a tuner (causing noise), install this unit further away from the equipment.

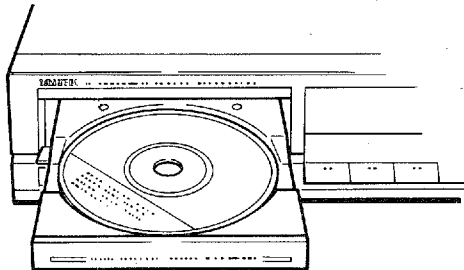
To connect an amplifier or receiver

Connect the LINE OUT jacks to the CD(or AUX) jacks on the rear panel of your amplifier or receiver. If your amplifier is not equipped with these terminals, connect to the TAPE PB jacks. For details, refer to the Owner's Manual supplied with the amplifier.



DISC LOADING

1. Press the POWER switch to turn the unit ON.
 2. Press the OPEN/CLOSE button to open the disc tray.
 3. Place a compact disc on the disc tray with the label side up. Check that the disc is resting at the center of the disc tray.
 4. When the OPEN/CLOSE button is pressed again, the disc tray closes.
 5. The unit operates for several seconds to read the disc's contents, the TRACK display displays the total number of tracks, and the time display displays the total playing time for a few seconds. Then the unit stops at the beginning of the disc.
- * When the PLAY button or the front of the disc tray is pressed to close the disc tray, the total number of tracks and the total play time are not displayed. The unit will enter play mode at the beginning of the disc.
 - Do not place objects into the disc tray. This could result in a malfunction.
 - Do not forcibly open or close the disc tray.
 - When not using the player, keep the disc tray closed.
 - Do not press down on the disc tray.



DISC PLAY

1. Press the POWER switch to turn the unit to ON. Press the OPEN/CLOSE button to open the disc tray and load a disc.
2. Press the OPEN/CLOSE button to close the disc tray.
3. Press the PLAY button to start play.
When the disc tray is closed by pressing the PLAY button or the front of the disc tray, it is not necessary to press the PLAY button.
4. Press the PAUSE/STOP button to temporarily stop disc play.
To resume play press the PLAY button.
5. Press the PAUSE/STOP button twice to completely stop play.

DIRECT SEARCH

To begin disc play from a desired track, select the desired starting track number using the SKIP ◀◀ or ▶▶ button in stop or pause mode. Press the PLAY button and play will begin at that track.

SKIP SEARCH

When the player is already in play mode and you wish to move to a different track, select the new track number using the SKIP ◀◀ or ▶▶ button. The selected track number will be displayed and play will begin at that track.

- To listen to the track following the one presently being played:
Press the SKIP ▶▶ button once.
- To listen to the presently playing track once again:
Press the SKIP ◀◀ button once.
- To listen to the track previous to the one presently playing.
Press the SKIP ◀◀ button twice in succession.

MANUAL SEARCH

■ FAST FORWARD MANUAL SEARCH

During play, when the SEARCH ►► button is pressed, play will be advanced rapidly while this button is kept pressed.

■ FAST REVERSE MANUAL SEARCH

During play, when the SEARCH ◀◀ button is pressed, play will be fast reversed while this button is kept pressed.

- During a manual search operation, when you have found the desired part of a selection, release the SEARCH ◀◀ or ►► button and normal play will begin from that point.
- If a manual search operation is begun from pause mode, you can search for the desired location by observing the time display alone without any sound.

INDEX SEARCH

When a disc having index numbers is loaded, play can be started from a desired index number by designating it with the SEARCH ◀◀ or ►► button.

1. Select the desired tune with a SKIP (◀◀ or ►►) button while in stop mode.
2. Press the SEARCH ◀◀ or ►► button to specify the index number. The INDEX indicator lights and the display shows the index number.
3. Press the PLAY button. Play will start from the selected index point.

Index

- Indexing means that a single track has been divided into even smaller divisions, and each division has been assigned an "index number". Before playing, consult the instructions of your particular disc.
- When a number exceeding the highest index number on the disc is designated, play will start from the last index number on the disc.
- To cancel the index search function, press the PAUSE/STOP button.
- In the index search operation (on some discs), play may start slightly before the designated point.
- If no index numbers are encoded on a disc, play will start from the beginning of the selected tune.
- On some discs, the index search operation may require a slightly longer time.

PROGRAM OPERATION

PROGRAM PLAY

1. Press the PAUSE/STOP button twice to set the player into stop mode.
2. Press the PROGRAM/TAPE PROG SET button. The PROGRAM indicator lights and "P-01" appears on the display.
3. Select the desired tune to be played first with the SKIP \lll or \ggg button and press the PROGRAM/TAPE PROG SET button. "P-02" appears on the display.
4. Select the desired tune to be played next with SKIP \lll or \ggg button and press the PROGRAM/TAPE PROG SET button. "P-03" appears on the display. In this same way, up to 24 tunes can be programmed in any desired order.
5. Press the PLAY button to start program play.
 - Programming is possible only when the unit is when in stop mode.
 - To check, correct or cancel the program, refer to "CHECKING, CORRECTING AND CANCELING THE PROGRAM".

NOTES

- An index number cannot be programmed.
- This unit can only display a maximum of 99 minutes 59 seconds. If the total playback time exceeds this amount, the time, which is the real time minus 100 minutes, will be displayed as both the TOTAL TIME and REMAIN TIME.
- The SKIP \lll and \ggg buttons can be used within the range of the programmed contents.
To listen to the programmed selection following that presently being played, press the SKIP \ggg button. To listen to the presently playing selection once again, press the SKIP \lll button. To listen to the programmed selection previous to the one presently playing, press the SKIP \lll button twice in succession.
- If the SEARCH \lll or \ggg button is kept pressed past the range of the programmed contents, the unit plays the displayed selection, then returns to the next programmed selection.

TAPE PROGRAM RECORDING

By inputting the total recording time of a tape into the player, a built-in microcomputer calculates which randomly arranged selections of the loaded disc will evenly record onto both sides of the tape.

1. Press the STOP button.
2. Press the TAPE PROG EDIT button. The "C-" and "A-D" indicators light on the display. These show that the player is in tape program mode.
3. Input the recording time for both sides of the tape with the 10 MIN. (\lll , \ggg) and MIN. (\lll , \ggg) buttons.
 - The 10 MIN. \lll or \ggg button is used to input the 10's digit. The MIN. \lll or \ggg button is used to input the 1's digit. Each time the 10 MIN. \ggg or MIN. \ggg button is pressed, the corresponding digit is increased in the order [0], [1], [2], [3] [9], and back to [0] again. Each time the 10 MIN. \lll or MIN. \lll button is pressed, the corresponding digit is decreased in the order [0], [9], [8], [7] [1] and back to [0] again.
 - * When the 10's digit has been input, pressing MIN. \ggg button increases the 1's digit in the order [1], [2], [3],and back to [1] again, and pressing MIN. \lll button decreases the 1's digit in the order [9], [8], [7],..... and back to [9] again.
4. Pressing PROGRAM/TAPE PROG SET button displays the total recording (play) time and number of programmed tunes to be recorded on the A side of a tape.
 - * When recording will be made on the side A only, press the PLAY button to start play and set the tape deck to record mode.
5. Pressing PROGRAM/TAPE PROG SET button again displays the total recording time and number of programmed tunes to be recorded on the side B of a tape.

6. Press the PLAY button to start play and set the tape deck to record mode.

When all tunes to be recorded on side A of the tape are finished, the player enters pause mode. When the player enters pause mode, turn the tape over. To resume play, press the PLAY button and set the tape deck to record mode.

- To stop a recording in process, press the stop button of the tape deck and press the PAUSE/STOP button of the player.
- After all programmed tunes are recorded, the player enters stop mode.
- The total time calculated also accounts for the 4-second periods between tunes.
- To check or cancel the program, refer to "CHECKING, CORRECTING AND CANCELING THE PROGRAM". The contents of tape program recording cannot be corrected.

■ CHECKING, CORRECTING AND CANCELING THE PROGRAM

To check the program

1. Set the unit into stop mode.
2. Every time the PROGRAM/TAPE PROG SET button is pressed, the track number and program order of the programmed tracks can be checked in turn.

To correct the program (for program play only)

* The contents of tape program recording can not be corrected.

1. Set the unit into stop mode.
2. Press the PROGRAM/TAPE PROG SET button to display the tune number to be corrected. Select a new tune with the SKIP \lll or \ggg button and press the PROGRAM/TAPE PROG SET. The previously programmed tune will be cleared and the new tune will be programmed into memory.

To cancel the program

- Open the disc tray.
- Turning the power off cancels the tape program recording. The program play will not be canceled even when the power is turned off.
- When the display shows tape program mode ("C—" and tape length are displayed), pressing the PAUSE/STOP button cancels the program.

REPEAT PLAY

■ SINGLE REPEAT PLAY

Press the REPEAT button once. The REPEAT S indicator lights and the displayed selection is played repeatedly.

To release single repeat play, press the REPEAT button twice.

- If the SEARCH ◀◀ or ▶▶ button is kept pressed over the part of the selection to be repeated, the newly displayed selection is repeatedly played.

■ FULL REPEAT PLAY

Press the REPEAT button twice. The REPEAT F indicator lights and all the selections on the disc are played repeatedly.

When the full repeat mode is set during program play, all the programmed selections are repeatedly played.

To release full repeat mode, press the REPEAT button once.

TIMER PLAY

Timer play can be performed when the player is used with a commercially available audio timer.

1. Set the amplifier to play the compact disc player.
 2. Turn on the power and load a disc.
 3. Press the PLAY button while the PAUSE/STOP button is kept pressed.
 4. Set the timer to the time at which you wish play to begin.
 5. At the time set on the timer, play will begin from the first selection of the disc. Be sure to set the output volume of the amplifier to the desired level beforehand.
- * When tunes have been programmed, their program play will begin at the time set on the timer.
 - * To clear the timer play mode, press the PLAY button while the PAUSE/STOP button is kept pressed so that the TIMER PLAY SET indicator will go off.

TROUBLESHOOTING

If your unit fails to operate normally, check the following points to determine whether the fault can be corrected by the simple measures suggested. If it cannot, or if the fault is not listed in the SYMPTOM column, disconnect the player's power cord and contact your dealer or service center for help.

SYMPTOM	CAUSE	REMEDY
The player fails to turn on when the POWER switch is pressed.	The power cord is not plugged in or completely inserted.	Firmly plug in the power cord.
The disc tray does not close completely.	A foreign object is obstructing in the tray.	Carefully check the disc tray and remove the foreign object.
The DISC indicator does not light.	The disc has been inserted upside down.	Load the disc correctly.
	The disc is damaged.	Check the disc carefully and replace it if necessary.
	There is moisture on the laser pickup.	Wait 20 to 30 minutes after turning the unit on before trying to play a disc.
Play does not begin.	The disc is loaded upside down.	Reload the disc with the label side up.
	The disc is dirty.	Clean the disc.
Playback is delayed, or begins at the wrong place.	The disc may be scratched or damaged.	Check the disc carefully and replace it if necessary.
No sound.	Improper output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.
	Improper amplifier operation.	Set the amplifier controls to the correct input selection.
Sound "skips".	The player is subjected to vibrations or shock.	Relocate the player.
	The disc is dirty.	Clean the disc.
Sound "hums".	Improper cable connections.	Firmly connect the audio plugs. If the problem persists the cables may be defective.
Noise in the tuner.	The tuner is too close to the player.	Move the tuner away from the player.
Noise from within the disc tray.	The disc may be eccentric.	Replace the disc.

SPECIFICATIONS

AUDIO SECTION

Frequency Response	5 Hz — 20 kHz, ± 0.5 dB
De-Emphasis Equalization	± 0.5 dB
Harmonic Distortion + Noise	Less than 0.008% (1 kHz)
S/N Ratio	100 dB
Dynamic Range	More than 96 dB
Wow & Flutter	Unmeasurable
Output Voltage	2V
Output Impedance	2.2 k-ohms
Headphone Output	125mV/150 ohms

INTERNAL SYSTEM

Optical Pick-up	3-beam laser
Error Correction System	CIRC

GENERAL

Power Requirements	120V, AC 60 Hz
Power Consumption	20W
Dimensions (W x H x D)	435 x 107 x 344 mm (17-1/8" x 4-3/16" x 13-9/16")
Weight	4.8 kg (10 lbs. 9 oz.)
Accessories	Pin plug cord

Note that all specifications are subject to change without notice.

YAMAHA
HAMAMATSU, JAPAN

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YAMAHA CORPORATION
BWgV, BB  Printed in Japan