YAMAHACDX-510U

Natural Sound Compact Disc Player

Hi-bit 4-Fold Oversampling Digital Filter

Programmable Random Access Playback System

Numeric Key Direct Search

Full and Single Repeat Play

Random Tape Recording Program Based On Tape Length

Remote Control Operation

Thank you for purchasing the YAMAHA Compact Disc Player CDX-510U.

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IMPORTANT!

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

Model: CDX-510U

Serial No.: m77479910
The serial number is located on the rear of the

The serial number is located on the rear of the

unit.

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



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

• 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.

SAFETY INSTRUCTIONS

- **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 The appliance should be used only with a cart or stand is recommended by the manufacturer.
- **6A** An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



7 Wall or Ceilling Mounting — The appliance should be mounted to a wall or ceilling 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 placed in a built-in installation, such as a bookcase 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, or other appliances that produce heat.
- 10 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.
- 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 not spilled into the inside of the appliance.

- 15 Damage Requiring Service The appliance should be serviced by qualified service personnel when:
- 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 perfromance; 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 means of an appliance is not defeated.

CAUTION: READ THIS BEFORE OPERATING YOUR UNIT

- 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.

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-510U with respect to the receiver

Move the CDX-510U away from the receiver Plug the CDX-510U into a different outlet so that the CDX-510U and receiver are on different branch circuits.

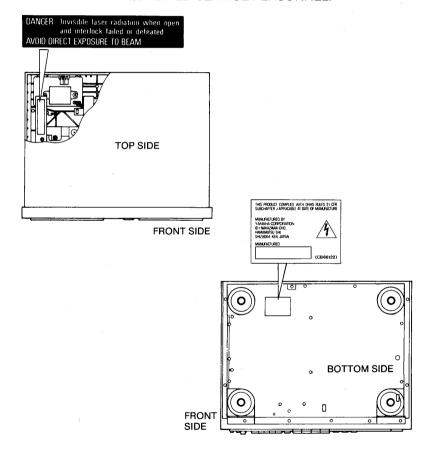
If necessary, the user, should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems".

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

CAUTION LABELS

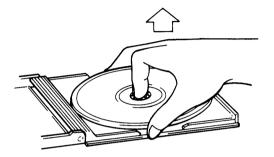
CAUTION — USE OF CONTROLS, ADJUSTMENTS, OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN, MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

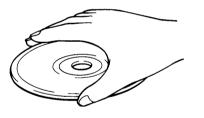
THE UNIT SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT PROPERLY QUALIFIED SERVICE PERSONNEL.



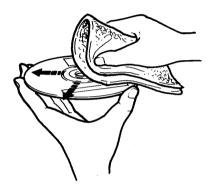
NOTES CONTRACTORING CONTRACTOR

- Your unit has been specifically designed for the reproduction of compact discs bearing the "mark. No other discs should be loaded into the player.
- To remove a disc from its storage case, press down on the center of the opened case and lift the disc out carefully, holding it by the edges.





- Although compact discs are impervious to wear during play, damage to the surface of a disc through improper handling will result in play irregularities.
- 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.

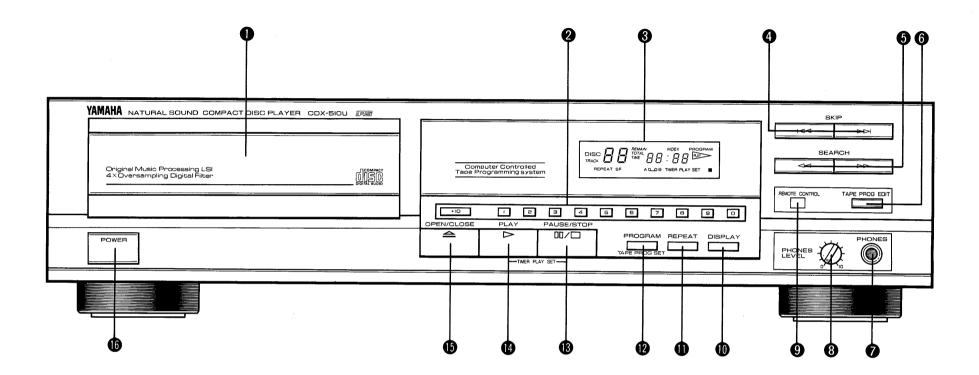


- Never use record cleaner, record spray, antistatic sprays or liquids, or any chemical-based liquid to clean the surface of a disc as these may irreparably damage the disc's plastic case.
- Avoid exposing discs to direct sunlight, high temperature, or high humidity for extended periods of time. Long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

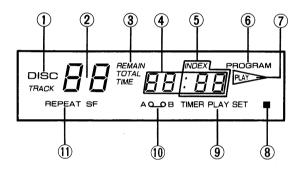
Disc tray

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

2 Numeric buttons (+10, 1 - 0)

These buttons are used to designate the track number for selecting the tunes or program play.

O Display window



1 DISC indicator

Lights when a disc is loaded.

When no or an impropely 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 numeric 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) Remote control indicator

The square dot lights when a signal from the remote control transmitter is received.

9 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.

10 Tape indicator

When the TAPE PROG EDIT button is pressed, a indicator lights. "ap" 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.

(I) REPEAT indicators

These show repeat play modes.

REPEAT S: Single repeat play **REPEAT F:** Full repeat play

② SKIP 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.

⑤ SEARCH (◀◀, ▶▶) 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.

6 TAPE PROG EDIT button

When this button is pressed, the tape length can be memorized with numeric buttons for tape program recording.

7 PHONES jack

Connect the headphones plug into this jack for private listening.

③ PHONES LEVEL control

Use this control to adjust the level at PHONES jack.

REMOTE CONTROL sensor

Receives the signal from the remote control transmitter.

1 DISPLAY button

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

● REPEAT button

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

PROGRAM/TAPE PROG SET button

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

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.

PLAY button

Press to begin play. The play indicator will light.

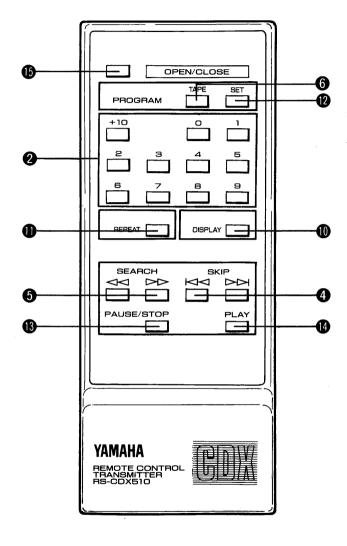
19 OPEN/CLOSE button

Press this button to open or close the disc tray.

16 POWER switch

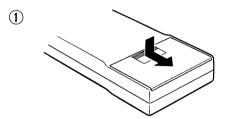
Press this switch to turn the power on. Press the switch again to turn the power off.

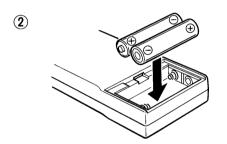
REMOTE CONTROLLERANSMIRER

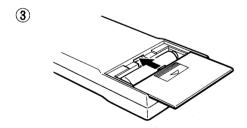


■ BATTERY INSTALLATION

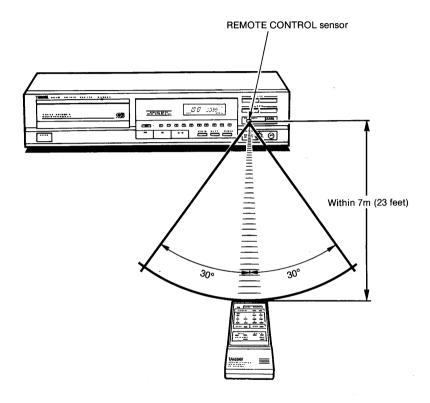
- ① Slide out the battery compartment lid in the direction of the arrow and remove it.
- ② Install the batteries (size "AA", R06) with correct polarities.③ Replace the battery compartment lid and slide it until it clicks.







■ REMOTE CONTROL OPERATION RANGE



■ BATTERY REPLACEMENT

When the remote controllable distance becomes short, the batteries are very weak. Replace the two batteries with new ones.

Battery cautions

Incorrect use of a battery may cause leakage or an explosion. Be careful of the following items:

When replacing:

- Place the batteries in correct (+) and (-) polarities as indicated in the battery compartment.
- Do not use an old battery with a new one.
- Do not use different kinds of batteries at the same time, even though of the same shape.

Use with the remote control transmitter:

- When the remote control transmitter is not in use for an extended period of time, remove the batteries from it.
- Replace weak batteries early.

To prevent accidents:

- Never disassemble, heat a battery, or throw it into a fire. Dispose of batteries in specified places.
- Do not connect (short) the (+) and (-) terminals directly with a metal piece, etc.
- There are two kinds of batteries on the market; rechargeable and non-rechargeable. Refer to the caution labeles on the batteries carefully.

In case of leakage:

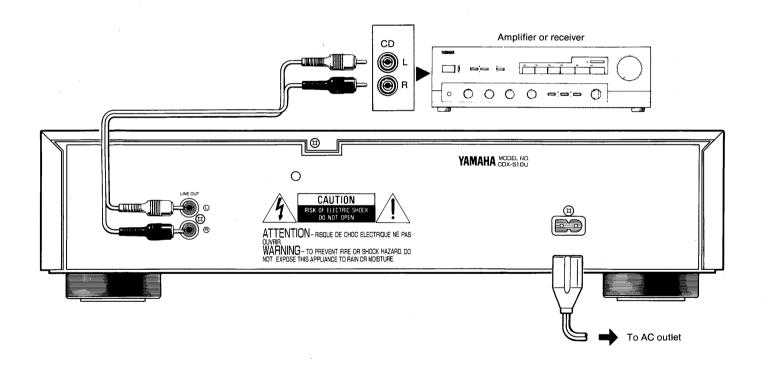
Wipe off the electrolyte in the battery compartment completely before replacing with new batteries.

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.

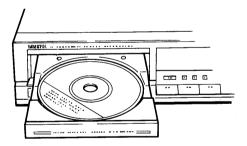
To connect an amplifier or receiver

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.
- * When a numeric button is pressed to close the disc tray, the corresponding track number is displayed and the unit will enter the play mode at the beginning of the selected track.
- 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.



- 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.

To begin disc play directly from a desired track, press the corresponding numeric button. Play will start automatically from the beginning of the selected track number.

■ NUMERIC KEY OPERATION

When selecting the 10th and later tunes, press the +10 button to set the 10's digit.

Example

To select the 25th tune:

- 1. Press the +10 button twice.
- 2. Press the 5 button.
- Play starts automatically from the beginning of the 25th tune.

 * A 10's digit that does not exist on the disc cannot be displayed even when the +10 button is pressed.

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.

SKUPSEARCH

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 ▶ button once.
- To listen to the presently playing track once again: Press the ◄ button once.
- To listen to the track previous to the one presently playing.
 Press the ◄ button twice in succession.

MANUALSEARCH

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 SEAROR

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.

- Select the desired tune with a SKIP (I 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 twice.
- 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 a numeric button. "P-02" appears on the display.
- 4. Select the desired tune to be played next with a numeric 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.
- In the program play, when the 24th or later tune is programmed, the REMAIN TIME and TOTAL TIME will not be displayed.
- Normally, the tape program recording feature can program tunes from track numbers 1 to 23. However, when and only when the disc contains 24 tracks, can track number 24 also be programmed.
- The SKIP |◄◄ and ▶►| 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 ▶► button. To listen to the presently playing selection once again, press the SKIP ◄◄ button. To listen to the programmed selection previous to the one presently playing, press the SKIP ◄◄ button twice in succession.

■ 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 oo 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 numeric buttons.
 - Example: To set a C-46 (46-minute) tape, input [+10], [+10], [+10], [+10] and [6].
- 4. Pressing PROGRAM/TPAE 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.
- 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 progrm, 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. Press the PAUSE/STOP button.
- 2. Every time the SKIP ▶▶ 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. Press the PAUSE/STOP button.
- 2. Press the SKIP ◄ or ► button to display the tune number to be corrected. Select a new tune with a numeric button. 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.

REDEATION

■ 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.

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 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 prpgram 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.

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
Dynamic Range More than 96 dB
Wow & Flutter Unmeasurable
Output Voltage
Output Impedance
Headphone Output
INTERNAL SYSTEM
Optical Pick-up
Error Correction System
D/A Conversion
Filter 4-fold oversampling digital filter and 3rd order active filter

GENERAL	
Power Requirements	120V, AC 60 Hz
Power Consumption	
Dimensions (W x H x D)	435 x 107 x 347 mm
	(17-1/8" x 4-3/16" x 13-11/16")
Weight	
Accessories	Pin plug cord
Re	mote control transmitter (RS-CDX510)
	Batteries (size "AA", R06

Note that all specifications are subject to change without notice.

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 falls 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 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.



YAMAHA CORPORATION VE53580-2 BWgg,W Printed in Japan €⊜