



CD RECORDER / PLAYER

OWNER'S MANUAL

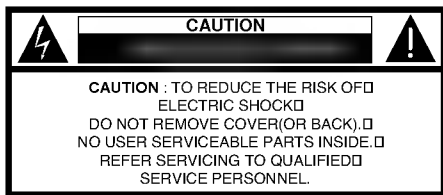
MODEL : ADR-620

Please read this manual carefully before operating your set.
Retain it for future reference.

Designs and specifications are subject to change without notice
for improvement.

P/NO : 3828R-D007L

IMPORTANT SAFETY INSTRUCTIONS



Explanation Graphical Symbols :



The Lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user 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 the user to the presence of important operating and maintenance of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING :

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION

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

(FOR THE CUSTOMERS IN EUROPE)

If this product is marked with the CE-symbol, it means which is conformed to EMC regulation 89/336/EEC.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

WARNING : OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD STRÅLEN ÄR FARLIG.

ATTENTION : Quand l'appareil est ouvert, ne pas s'exposer aux radiations invisibles du faisceau laser.

This label is located on the interior.

CLASS1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT
CLASSE 1	PRODUIT LASER

This compact Disc player is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the exterior.

(FOR CUSTOMERS IN CANADA)

CAUTION : TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS(POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE, OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

This class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

WARNING :

SHOCK HAZARD-DO NOT OPEN

MISE EN GARDE :

Pour éviter les chocs électriques, n'utilisez pas cette fiche (polarisée) avec une rallonge, un réceptacle ou une autre prise si vous ne pouvez pas y insérer les broches à fond.

MISE EN GARDE

Cet appareil numérique de la classe B respecte toutes les exigences de Règlement sur le matériel brouilleur de Canada.

AVERTISSEMENT

RISQUE DE CHOC ELECTRIQUE-NE-PAS OUVRIE (FOR CUSTOMERS IN THE UNITED STATES OF AMERICA)

Note to CATV system installer :

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTE :

The interference potential to the device.

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 subparts 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 of more of the following measures :

- Reorients or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

(FOR CUSTOMERS IN THE UNITED KINGDOM)

WARNING INSTRUCTIONS

This appliance is supplied with a BS1363 approved 3 amp fused mains plug. When replacing the fuse always use a 3 amp BS1362 approved type. Never use this plug with the fuse cover omitted. To obtain a replacement fuse cover contact your supplying dealer or "LG Electronics U.K.Ltd."

If the mains sockets in your home differ, or are not suitable for the type of plug supplied, then the plug should be removed and a suitable type fitted. Please refer to the wiring instructions below :

Warning :

The mains plug severed from the mains lead of this appliance must be destroyed. A mains plug with bared wires is hazardous if engaged in a mains output line socket.

IMPORTANT

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


Blue	:	Neutral
Brown	:	Live

As the colour of the wires in the mains lead of this appliance may not correspond with the 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.

If a 13 amp BS1363 plug or any other type of plug is used, 3 amp BS1362 approved fuse must be fitted either in the plug or at the distribution board.

Warning :

Do not connect either wire to the earth pin, marked with the letter E or with the earth symbol  or coloured green and yellow.

A note about your operating voltage :

Before connecting the unit to an AC outlet, check that the operating voltage of the unit is identical with the voltage of your local power supply. And if your unit is equipped with the Voltage Selector on the back of the unit, set to it your required voltage.

IMPORTANT SAFETY INSTRUCTIONS ▲▲

FOR CUSTOMERS IN THE UNITED STATES

CAUTION :

- Read all of these instructions.
- Save these instructions for later use.
- Follow all warnings and instructions marked on the audio equipment.

- ▶ **Read Instructions** - All the safety and operating instructions should be read before the product is operated.
- ▶ **Retain instructions** - The safety and operating instructions should be retained for future reference.
- ▶ **Heed Warnings** - All warnings of the product and in the operating.
- ▶ **Follow instruction** - All operating and use instructions should be followed.
- ▶ **Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth the cleaning.
- ▶ **Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- ▶ **Water and Moisture** - Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- ▶ **A product and cart combination** should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



▶ **Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Any mounting of the product should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

▶ **Ventilation** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been followed.

▶ **Power Source** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

▶ **Grounding or Polarization** - This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature.

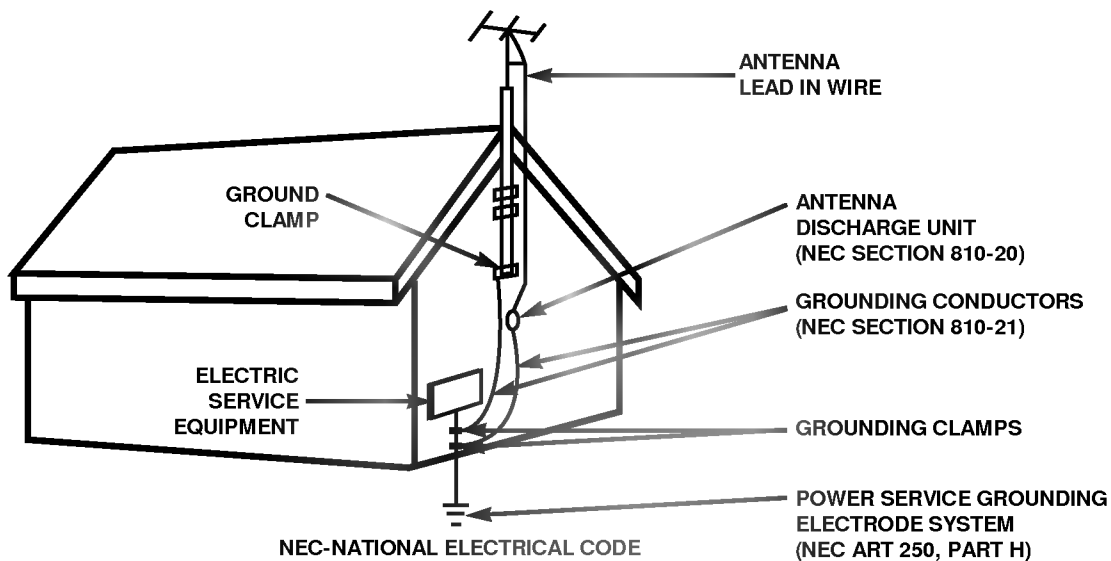
◊ If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

▶ **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 product.

▶ **Protective Attachment Plug** - The product is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting or protective device. If replacement of the plug is require, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.

▶ **Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

IMPORTANT SAFETY INSTRUCTIONS



► **Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles, as this can result in a risk of fire or electric shock.

► **Object and Liquid Entry** - Never push objects of any kind into product through opening as they may touch dangerous voltage points or short-out parts that could result in fire or electric shock. Never spill liquid of any kind on the product.

► **Servicing** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

► **Damage Requiring Service** - Unplug this product from the wall outlet and refer serving to qualified service personnel under the following conditions :

- a) When the power-supply cord or plug is damaged.
- b) If liquid has been spilled, or objects have fallen into the product.

c) If the product has been exposed to rain or water.

d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

e) If the product has been dropped or damaged in any way.

f) When the product exhibits a distinct change in performance, this indicates a need for service.

► **Replacement Parts** - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts.

◌ Unauthorized substitutions may result in fire, electric shock, or other hazards.

► **Safety Check** - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

► **Wall or Ceiling Mounting** - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

► **Heat** - The product should be situated away from heat source such as radiators, heat registers, stoves, or other products(including amplifiers) that produce heat.

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INTRODUCTION

Special Features

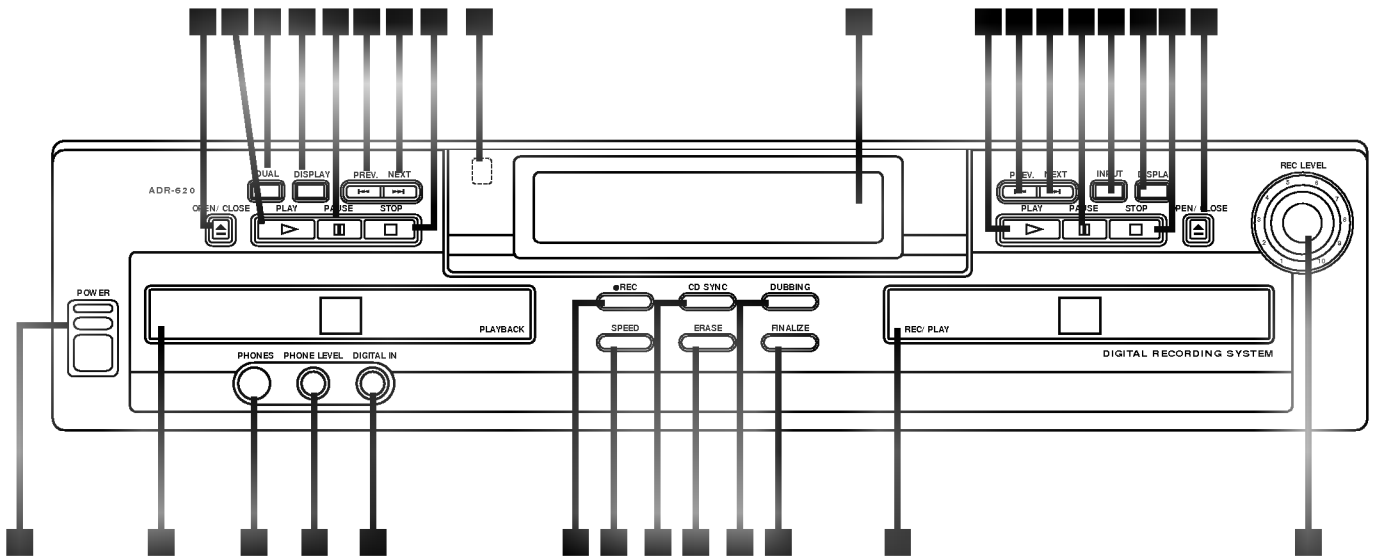
- **Dual-Deck CD Player and CD-R/CD-RW Recorder**
- **4X Dub Speed for Both CD-R and Erasable CD-RW Discs**
- **Audiophile-Grade AKM Digital-to-Analog Converters for Highest Audio Quality**
- **Dual-Play Capability**
- **Extensive Playback Programming Capabilities**
- **Optical and Coaxial Digital Inputs and Outputs**
- **Front-Panel Coaxial Digital Input for Use with Portable Devices**
- **Sample-Rate Convertor Allows Use of DAT Players as Digital Source**
- **Copyright Warning Notice.**
This product is equipped with the Serial Copy Management System(SCMS) to protect the rights of copyright owners. As a part of this system, it is possible to make a copy of most CDs for your own personal use. However, it is not possible to make a digital copy from another digital copy. It is possible to make an analog copy of a digital copy. RECORDINGS MAY BE MADE FOR PERSONAL USE ONLY, AND ANY UNAUTHORIZED COPYING IS SUBJECT TO THE APPLICABLE LAW.

Important Information About CD Recording

In order to get the most enjoyment from your new CD-R recorder, please pay special attention to the following sections of the manual that provide information about the special features and capabilities of CD Recorders.

- The unit plays all standard CD audio discs but for recording, the unit uses special CD-R and CD-RW discs designed only for audio use. CD-R discs designed for computer use will not work in the unit.
- The last step in making a CD-R recording is the finalization process. Unless this step is properly done, the disc will not work in other players.
- Once finalized, CD-R discs will play in any CD player, but CD-RW discs will only play in the unit and certain other machines.
- § Check the specifications of your CD player if you have questions about compatibility with CD-RW discs.
- As with all CD players, except those designed specifically for portable use, you should never move a CD player while there is a disc inside one of the decks. **NEVER** move the unit until discs have been removed from both decks.

FRONT-PANEL CONTROLS



- Power Switch
- Play Deck
- Headphone Jack
- Headphone Level Control
- Digital Input
- Record Button
- Speed
- CD Sync.
- Erase
- Dubbing
- Finalize
- Record Deck
- Analog-Record Level Control
- Record-Deck Open
- Record-Deck Stop
- Input Select
- Record-Deck Display Select
- Record-Deck Pause
- Record-Deck Next
- Record-Deck Previous
- Record-Deck Play/Select
- Information Display
- Remote Sensor
- Play-Deck Stop
- Play-Deck Next
- Play-Deck Previous
- Play-Deck Pause
- Play-Deck Display Select
- Dual-Play Selector
- Play-Deck Play
- Play-Deck Open

■ **Power Switch** : Press this switch to apply power to the unit.

■ **Play Deck** : This disc deck is used to play back conventional CD discs and CD-R or CD-RW discs that have been finalized.

■ **Headphone Jack** : Connect standard headphones to this jack for private listening.

■ **Headphone Level Control** : Turn this control to adjust the volume level to the headphones. Note that the use of this control will not change the analog output levels at the rear-panel audio outputs play(CDP)-Deck analog output and Record(CDR)-Deck-Analog output.

■ **Digital Input** : This coaxial digital input may be used to connect a portable digital audio player to the unit for digital recording. When an active digital signal is connected to both the front-and rear-panel coaxial inputs, the source connected to the front-panel input will be selected for recording.

■ **Record Button** : Press this button to begin the recording process.

■ **Speed** : Press this button to select the recording speed for internal dubs.

■ **CD Sync** : Press this button once to begin an automated recording of a single track from an external CD player when a digital connection is used. Press it twice to begin automated recording of an entire disc.

■ **Erase** : Press this button to erase one or more tracks or the entire contents of an unfinalized CD-RW disc. When a CD-RW disc has already been finalized you may erase the entire disc or you may "unfinalize" the disc by erasing the TOC data.

FRONT-PANEL CONTROLS

■ **Dubbing** : Press this button to begin the process of marking a complete copy of the disc in the Play Deck to a CD-R or CD-RW disc in the Record Deck.

■ **Finalize** : Press this button when a recording is complete to initiate the finalization process. The **Play/Select Button** on the Record Deck or Remote Control must be pressed within three seconds to activate finalization. Until this button is pressed and the finalization process is complete, CD-R discs may not be played on conventional CD machines.

■ **Record Deck** : This Disc Deck is used to play back CD, CD-R and CD-RW discs ; it is also used for recording CDs.

■ **Analog-Record Level Control** : The control is used to adjust the input level when making recordings from analog sources such as cassettes, or when CDs are recorded in an analog mode.

■ **Record-Deck Open** : Press this button to open the Record Deck.

■ **Record-Deck Stop** : Press this button to stop the CD in the Record Deck.

■ **Input Select** : Press this button to select the input source (analog, digital coax or digital optical) for recording.

■ **Record-Deck Display Select** : Press this button to cycle through the time display options for Record Deck.

■ **Record-Deck Pause** : When the Record Deck is the Play mode, pressing this button will pause the disc. If the disc has previously been paused, pressing this button will restart the playback.

■ **Record-Deck Next** : This button has two functions. When a disc is playing in the Record Deck, press and hold this button to play the disc in-a fast-forward mode to quickly locate a desired passage. At any time, tapping the button and quickly releasing it will move to the next track on a disc in play, or enter the track for programming or play when the disc is stopped. Once a track is entered, it may be played by simply pressing the **Play** button on the Record Deck or Remote Control.

■ **Record Deck Previous** : This button has two functions. When a disc is playing in the Record Deck, press and hold this button to play the disc in a fast reverse mode to quickly locate a desired passage. At any time, tapping the button and quickly releasing it will move to the beginning of the current track, and the next press will move to the previous track. When a disc is stopped, each press will move back one for programming or play when the disc is stopped. Once a track is entered, it may be played by simply pressing the **Play** button on the Record Deck or remote control.

■ **Record-Deck Play / Select** : This button has two functions. It may be pressed when a standard CD is in the Record Deck to put the machine in play, or it may be used to enter a selection or start certain record functions.

■ **Information Display** : The indicators in the information Display provide status reports on the operation of the unit.

■ **Remote Sensor** : The Remote sensor that receives the commands from the remote control is behind this area. Do not cover or obscure this part of the front panel to avoid any malfunction with the remote.

■ **Play-Deck Stop** : Press this button to stop the CD in the Play Deck.

■ **Play-Deck Next** : This button has two functions. When a disc is playing in the Play Deck press and hold this button to play the disc in a fast-forward mode to quickly locate a desired passage. At any time, tapping the button and quickly releasing it will move to the next track on a disc in play, or enter the track for programming or play when the disc is stopped. Once a track is entered, it may be played by simply pressing the **Play** button on the play Deck or remote control.

■ **Play-Deck Previous** : This button has two functions. When a disc playing in the Play Deck press and hold this button to play the disc in a fast-reverse mode to quickly locate a desired passage. At any time, tapping the button and quickly releasing it will move to the beginning of the current track, and the next press will move to the previous track. When a disc is stopped, each press will move back one for programming or play when the disc is

stopped. Once a track is entered, it may be played by simply pressing the **Play** button on the Play Deck or remote control.

■ **Play-Deck Pause** : When the Play Deck is running, pressing this button will pause the disc. If the disc has previously been paused, pressing this button will restart the playback.

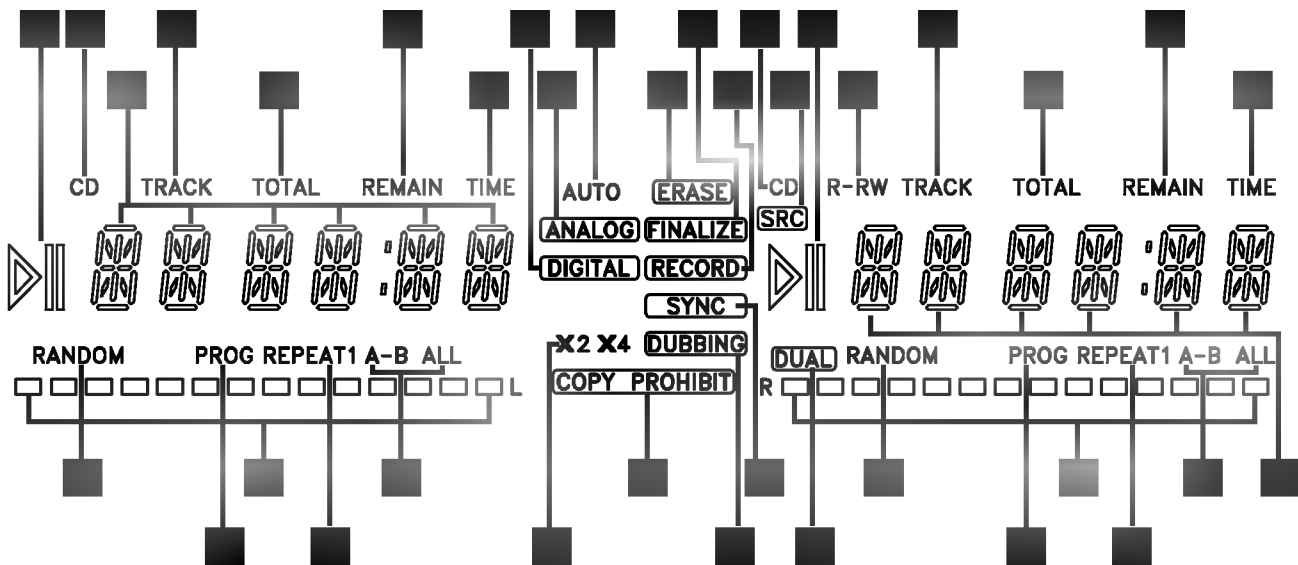
■ **Play-Deck Display Select** : Press this button to cycle through the time display options for the Play Deck.

■ **Dual-Play Selector** : Press this button to enable both CD Decks to playback at the same time and function as separate, independent CD units. In this mode it is also possible to record from an external source while the Play Deck functioning as standard CD player.

■ **Play-Deck Play** : Press this button to begin playback of a CD in the Play Deck or the dubbing process.

■ **Play-Deck Open** : Press this button to open the Play Deck.

FRONT-PANEL INFORMATION DISPLAY



- | | | |
|----------------------------|-----------------------------|----------------------|
| ■ Random Indicators | ■ Dual-Play Indicator | ■ CD Indicators |
| ■ Program Indicators | ■ Information Displays | ■ Record Indicator |
| ■ Level Indicators | ■ Time Indicators | ■ Finalize Indicator |
| ■ Repeat Indicators | ■ Remaining-Time Indicators | ■ Erase Indicator |
| ■ Repeat-Status Indicators | ■ Total-Time Indicators | ■ Auto Indicator |
| ■ Speed Indicators | ■ Track-Time Indicators | ■ Analog Indicator |
| ■ Copy-Prohibit Indicator | ■ R/RW Indicator | ■ Digital Indicator |
| ■ Dubbing Indicator | ■ Play/Pause Indicators | |
| ■ Sync Indicator | ■ Sample-Rate Converter | |

Important Note : Since the unit is a dual-deck player/recorder, there are two separate sets of indicators for the Random, Program, Repeat, Repeat Status, Time, Total Time and Track Time. In addition, there is a separate Information Display, Play/Pause Indicator and CD Indicator for each deck. As the function of these indicators is identical for both decks, they are described in this manual with a common letter. When the unit is playing or recording a disc, any indicators that light on the left side of the display describe to the status of the Play Deck, while those that light on the right side of the display describe the status of the Record Deck. Depending on the activity of the unit and the settings you select, different indicators may light on the two sides at the same time.

■ **Random Indicator :** These indicators light when random playback has been programmed for one of the CD decks.

■ **Program Indicators :** These indicators light when one of the CD deck is being programmed for playback options.

■ **Level Indicators :** These LEDs display the input level during an analog recording, and the output level during playback.

■ **Repeat Indicator :** This indicator lights when a repeat function is being used.

■ **Repeat-Status Indicators :** These indicators display the type of repeat function being used.

■ **Speed Indicators :** These indicators show which record speed has been selected for dub recordings.

■ **Copy-Prohibit Indicator :** This indicator lights when a recording is not possible due to the intervention of the Serial Copy Management System (SCMS).

■ **Dubbing Indicator :** This indicator lights when a dub is in progress between the two CD Decks.

■ **Sync Indicator :** This indicator lights when the unit has been programmed for a CD Sync recording.

■ **Dual Play Indicator :** The indicator lights when the unit is playing in the Dual mode, which allows both CD Decks to act as playback decks at the same time.

■ **Information Display :** This display serves two functions, showing the time displays for discs playing, as well as displaying messages about discs or recordings.

FRONT-PANEL INFORMATION DISPLAY



■ **Time Indicator** : This indicator lights in conjunction with one of the time indicators to show which of the time status modes is active.

■ **Remaining-Time Indicator** : This indicator lights when the Information Display shows the time remaining on a disc.

■ **Total Time** : This indicator lights when the Information Display shows the total time of all tracks on a disc.

■ **Track Time** : This indicator lights when the Information Display shows the running time of the individual track being played.

■ **R/RW Indicator** : This indicator shows which type of recordable disc is present in the Record Deck. When a CD-R disc is present, only the R is lit. The RW lights when an erasable CD-RW disc is in use.

■ **Play/ Pause Indicator** : These indicators show the status of the individual CD Decks. The  light when the CD is playing, and the  lights when the unit is in a Pause mode.

■ **Sample-Rate Converter** : This indicator lights when the Sample-Rate Converter is in use to change the digital sample rate when the incoming signal is not the standard 44.1kHz used by standard CDs. This is an automatic function and does not require any user intervention.

■ **CD Indicator** : This indicator lights when a standard CD is playing in the Record Deck.

■ **Record Indicator** : This indicator lights when the unit is making a recording and flashes during the preparations for recording.

■ **Finalize Indicator** : This indicator lights when the unit is in the Finalization process, which is required before a CD-R disc may be played on a standard CD machine.

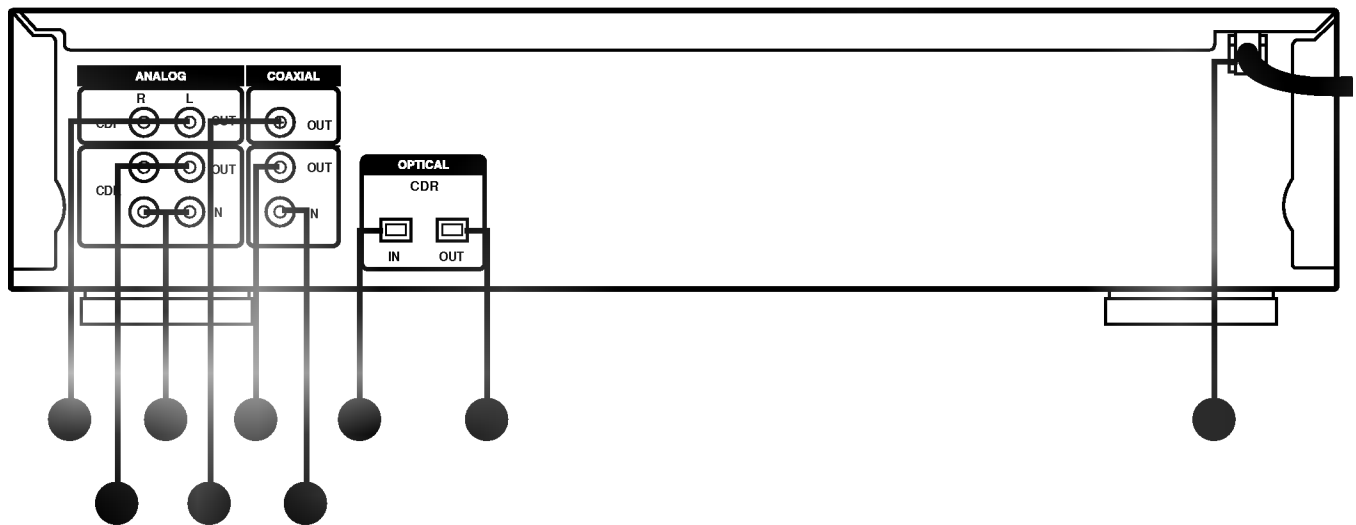
■ **Erase Indicator** : This indicator lights when a CD-RW disc is being erased. Note that only CD-RW disc may be erased; it is not possible to erase a CD-R disc.

■ **Auto Indicator** : This indicator lights when the automatic method of incrementing tracks is selected for a recording session.

■ **Analog Indicator** : This indicator light when an analog source is being recorded.

■ **Digital Indicator** : This indicator lights when a digital source is being recorded.

REAR-PANEL CONNECTIONS



- Play (CDP)-Deck Analog Output
- Record (CDR)-Deck Analog Output
- Record (CDR)-Deck Analog Input

- Play (CDR)-Deck Coaxial-Digital Output
- Record (CDR)-Deck Coaxial-Digital Output
- Record (CDR)-Deck Coaxial-Digital Input

- Record (CDR)-Deck Optical-Digital Input
- Record (CDR)-Deck Optical-Digital Output
- AC Power Cord

● **Play (CDP)-Deck Analog Output** : These jacks carry the analog audio output signal from the **Play Deck**. Connect them to the CD input jacks on a receiver, preamp or processor.

● **Record (CDR)-Deck Analog Output** : These jacks carry the output signal from the **Record Deck**. Connect them to the **Tape Play/In** input jacks on a receiver, preamp or processor.

● **Record (CDR)-Deck Analog Input** : These jacks accept the analog signals that are used for CD recordings. Connect them to the Tape Rec/Play outputs on a receiver, preamp or processor.

● **Play(CDP)-Deck Coaxial-Digital Output** : This jack carries the digital-audio output signal from the **Play Deck**. Also, if it is the single mode, it will output from the **Record Deck**. Connect it to a coaxial-digital input on a receiver, processor or digital decoder.

● **Record(CDR)-Deck Coaxial-Digital Output** : This jack carries the digital audio output signal from the **Record Deck**. Connect it to a coaxial digital input on a receiver, processor or digital decoder. Also, if it is the single mode, it will output from the **Play Deck**.

● **Record (CDR)-Deck Coaxial-Digital Input** : This jack accepts the digital-audio input signal from a compatible digital audio product and should be connected directly to a digital player or to a coaxial-digital output on a CD or DVD player or an A/V receiver or processor.

IMPORTANT NOTE : The coaxial digital inputs should only be connected to **digital** input or output jacks. Even though they use the same RCA type connector as standard analog audio connections, **DO NOT** connect them to conventional analog input or output jacks.

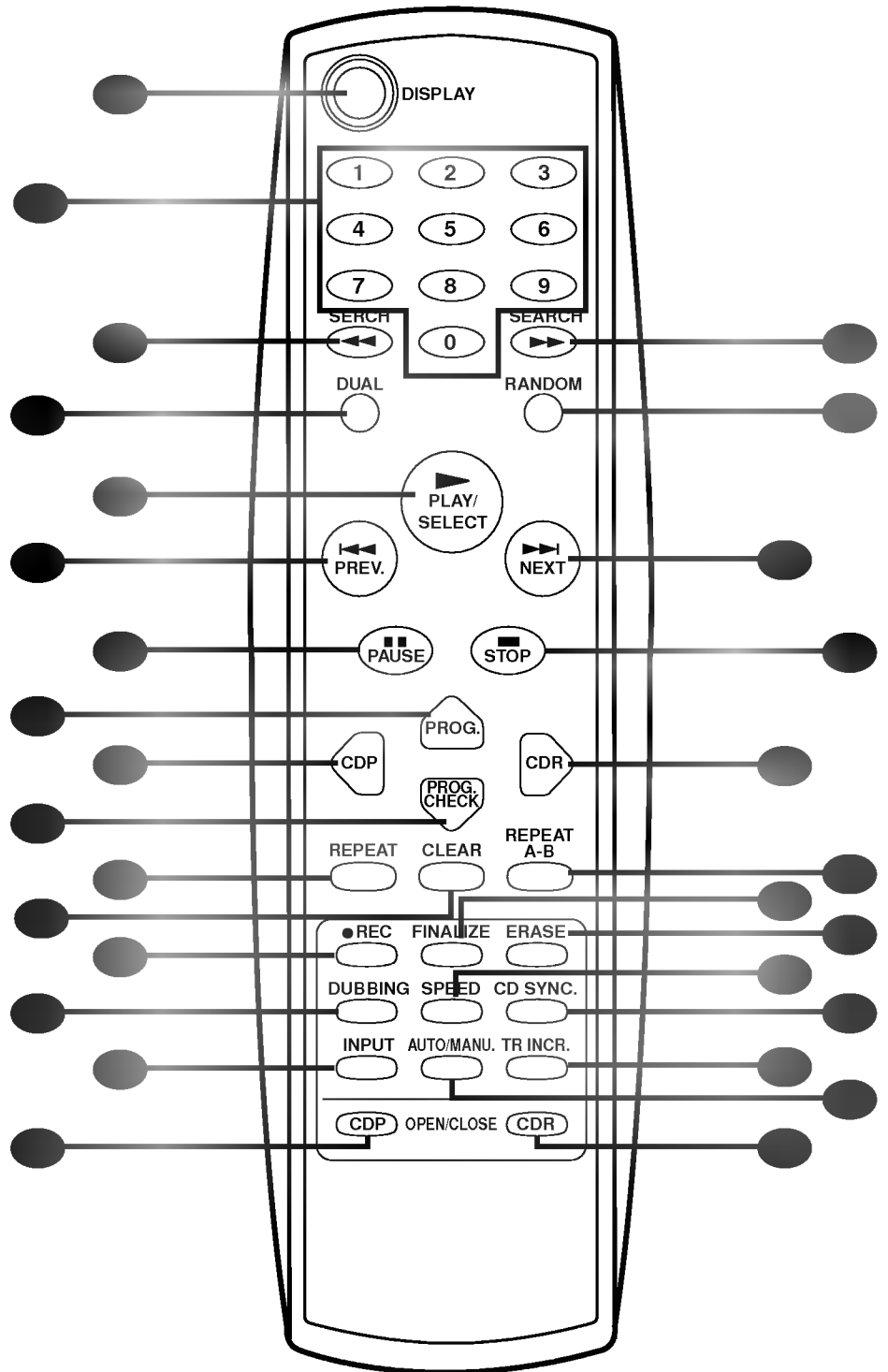
● **Record (CDR)-Deck Optical-Digital Input** : This jack accepts the digital-audio input signal from a compatible digital audio product, and should be connected directly to the optical-digital output on a CD or DVD player or an A/V receiver or processor.

● **Record (CDR)-Deck Optical-Digital Output** : This jack carries the digital audio output signal from the **Record Deck**. Connect it to an optical digital input on a receiver, processor or digital decoder. If it is the single mode, it will output also from the **Play Deck**.

● **AC Power Cord** : Connect this plug to an AC outlet. If the outlet is switch controlled, make certain that it is in the **ON** position

REMOTE CONTROL FUNCTIONS

- Display Control
- Numeric Keys
- Reverse Search
- Dual Playback
- Play / Select
- Previous-Track Skip
- Pause
- Program
- Play (CDP)-Deck Select
- Program Check
- Repeat
- Clear
- Record Button
- Dubbing
- Input Select
- Play (CDP)-Deck Open / Close
- Record (CDR)-Deck Open / Close
- Automatic / Manual Track Increment Selector
- Track Increment
- CD Sync
- Speed Select
- Erase Button
- Finalize
- Repeat A-B
- Record (CDR)-Deck Select
- Stop
- Next Track
- Random Play
- Forward Search



IMPORTANT NOTE : Some of the remote's functions including Play, Pause, Stop, Search, Next and Previous Track, are shared between the two decks. Always remember to press the CDP Select button to use the remote to control the Play Deck, or press the CDR Select button to control the Record Deck.

REMOTE CONTROL FUNCTIONS

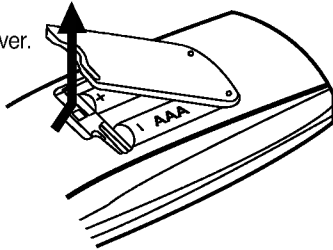
- **Display Control** : Press this button to cycle through the various time display options for the disc in the **Play Deck** and **Record Deck**.
- **Numeric Keys** : Press these buttons to access a specific track for playback or during the programming process.
- **Reverse Search** : Press this button to play the selected disc in reverse to locate a desired passage.
- **Dual Playback** : Press this button to enable both CD Decks to play back at the same time and function as separate, independent CD units. In this mode it is also possible to record from an external source while the **Play Deck** is functioning as a standard CD player.
- **Play / Select** : This button has two functions. It will most often be used as a standard play button, but when setting up certain record functions, it is also used as an Enter or Select button.
- **Previous-Track Skip** : Press this button to skip backwards to the beginning of the track currently being played. Press it a second time to move back to the beginning of each previous track.
- **Pause** : Press this button to momentarily pause playback. Press it again to resume playback.
- **Program** : Press this button to begin the programming sequence for one of the CD decks.
- **Play (CDP)-Deck Select** : Press this button to control or program the functions of the disc in the **Play Deck**.
- **Program Check** : Press this button to check or edit a programmed playback sequence.
- **Repeat** : Press this button once to repeat the current track. To repeat an entire disc, press the button twice, and then press the **Play / Select** button.
- **Clear** : Press this button to clear an item in a program sequence.
- **Record Button** : Press this button to begin a manual recording.
- **Dubbing** : Press this button to begin a dub.
- **Input Select** : Press this button to select the input source (analog, digital-coaxial or digital optical) for recording.
- **Play (CDP)-Deck Open** : Press this button to open the **Play Deck**.
- **Record (CDR)-Deck Open** : Press this button to open the **Record Deck**.
- **Automatic / Manual Track Increment Selector** : Press this button to select between automatic and manual track increments during a recording session.
- **Track Increment** : When the Manual mode for track increment is selected during recording, press this button to increase the track number. **NOTE** : This function does not operate during CD Sync or dub recording.
- **CD Sync** : Press this button once to begin an automated recording of a single track from an external CD player when a digital connection is used. Press it twice to begin automated recording of an entire disc.
- **Speed Select** : Press this button to select the recording speed for internal dubs.
- **Erase Button** : Press this button to initiate the erasure of a track or of an entire CD-RW disc or to Unfinalize a disc. Note that erasure is only possible on CD-RW discs.
- **Finalize** : Press this button when a recording is complete to initiate the finalization process. The **Play / Select** button on the **Record deck** or remote control must be pressed within three seconds to activate finalization. Until this button is pressed and the finalization process is complete, CD-R discs may not be played on conventional CD machines.
- **A-B Repeat** : Press this button to specify a segment of a disc for repeat play.
- **Record (CDR)-Deck Select** : Press this button to control or program the functions of the disc in the **Record Deck**.
- **Stop** : Press this button to stop playback or recording.
- **Next Track** : Press this button to skip forward to the next track on a disc.
- **Random Play** : When the CD Deck is stopped, press this button to begin random play of all tracks on a disc.
- **Forward Search** : Press this button to play a disc in a fast-forward mode.

INSTALLATION AND CONNECTIONS

To Install batteries :

Your REMOTE CONTROL HANDSET is powered by two AAA type batteries.

1. To insert them, push the tab backwards and lift off the cover of the handset.
2. Put the two batteries into the compartment making sure the + and - are correctly positioned.
3. Replace the cover.

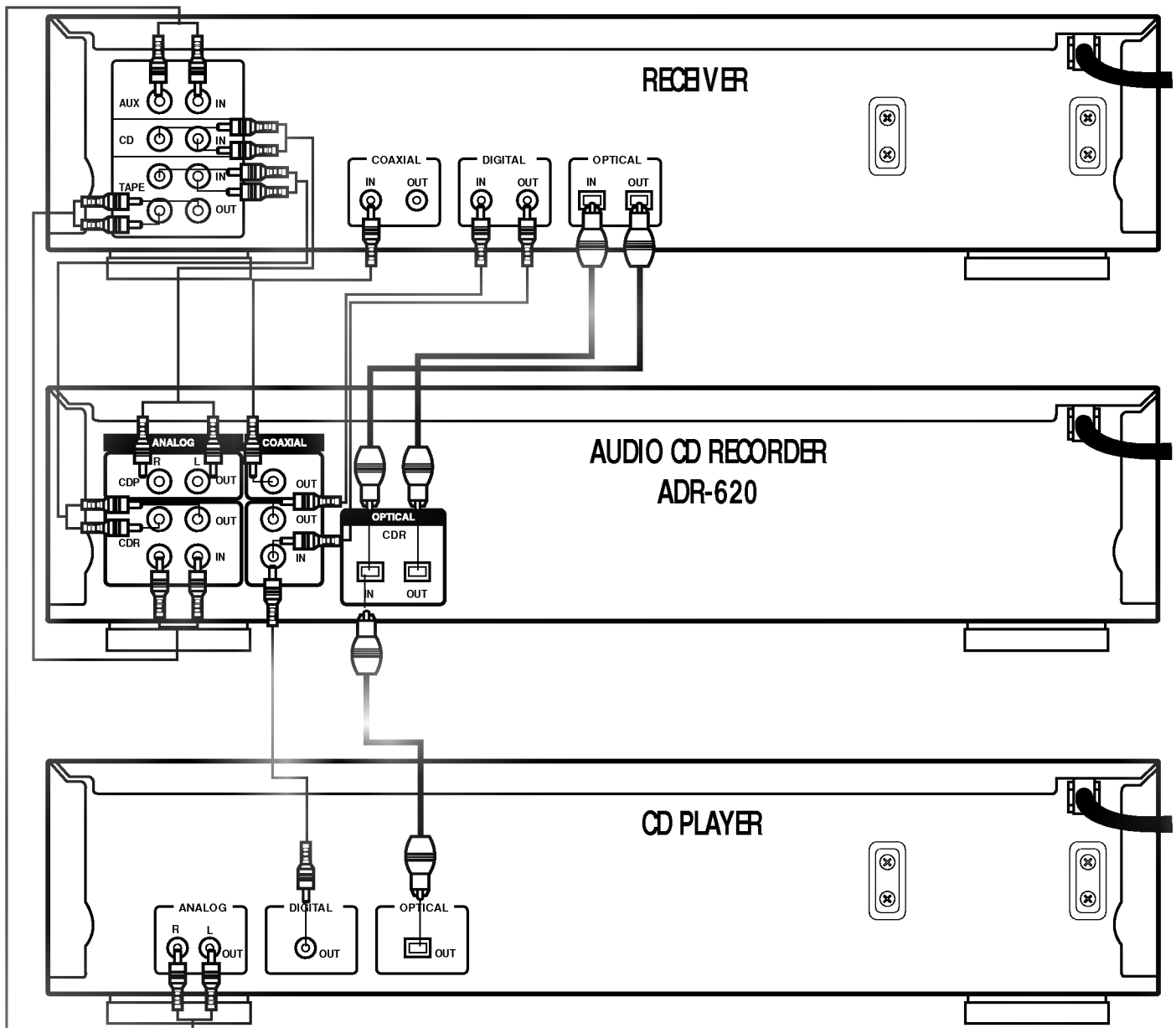


NOTE : When replacing batteries, it always a good idea to replace both at the same time. When the remote will not be used for an extended period of time, it is also a good idea to remove the batteries to avoid the possibility of damage due to corrosion. Batteries contain chemical substances and we recommend that you dispose of them properly and in compliance with any local regulations.

Power Connections

Connet the **AC Power Cord** to an AC power source. If the rear-panel AC outlet on a receiver or other product is used, make certain that it provides at least 48 watts, and that the total power of all products connected does not exceed the maximum rated output of the product containing the outlets. If the unit is connected to a switched outlet, remember to turn on the outlet or product controlling it in order for the unit to operate.

INSTALLATION AND CONNECTIONS



INSTALLATION AND CONNECTIONS

Locating the unit

It is recommended that the unit not be placed in a location that is subject to direct sunlight or extreme heat or cold, as these conditions may damage the discs used in the player, or the player itself. Note that audio amplifiers or high-power receivers, as well as certain other electronic products, may generate significant heat. For that reason, do not place the unit directly on top of an amplifier, receiver, or other heat source. Always allow at least an inch of free space on all sides of the unit as well as other electronic products, to allow for proper ventilation.

Connections to your Audio System

When connecting the unit, think of the process as if you were connecting a standard CD player and a tape or cassette recorder. With the addition of the digital connections.

Play-Deck Connections

The rear-panel connections labeled **CDP** refer to the outputs of the **Play Deck**, which functions as a standard CD player. Connect the analog left/right **CDP outputs** to the **CD inputs** on your receiver, preamp or surround processor. For best playback results, a digital connection is recommended using the **CDP coaxial output**. Connect them to the matching coaxial input of your receiver, preamp, processor or external digital decoder. Note that you may have to change a setting on the receiver or processor to link the digital input to the "CD" button or input selector. Consult the owner's manual on that device for details, as this configuration may vary from unit to unit.

Record-Deck Connections

The rear-panel connections labeled **CDR** refer to the inputs and outputs for the **Record Deck**. Depending on the capabilities of your receiver, preamp or processor, you may find it convenient to connect the analog inputs and outputs to the jacks marked for a tape recorder. As the unit's functions resemble those of a standard tape recorder, this might make it easier for you select it as an input. Connect the **analog CDR-Out** jacks to the **Play/In** jacks of a **tape or Aux input** on your receiver or preamp. Connect the **CDR-In** jacks to the **Tape Rec/Out** jacks on your receiver or preamp.

To play the output of the Record Deck through the digital decoder in your receiver or an external processor, connect the **CDR Coaxial-Out** or **CDR Optical-Out** jacks to the matching digital-input jacks on your receiver or processor. Note that you may have to change a setting on the receiver or processor to link the digital input to the "**Tape**" button or the specific input selector associated with the digital inputs. Consult the owner's manual on your receiver or processor for details, as this configuration may vary from unit to unit.

To make recordings from external digital sources, such as a CD, DVD or MD player, connect the **CDR Coaxial-In** or **CDR Optical-In** jacks on the CDR to the digital output jacks on your receiver or processor. If your receiver does not have digital-output jacks, you may connect the **CDR Digital Inputs** on the unit directly to the digital outputs on your CD player or to other digital device. If the CD player has BOTH types of outputs, you may want to connect one to the input of your receiver and the other directly to the unit.

Connections to a portable digital CD or MD player may also be made by connecting the **Coaxial Digital Output** of the player to the **Front-Panel Digital Input** on the unit. Note that when both are digital inputs are connected, the unit will give priority to the front-panel input. If it is impractical to disconnect the rear-panel input when you need to use the front panel jack, simply turn off the device connected to the rear panel input. This will stop the digital signal, and permit the front panel jack to be used.

IMPORTANT NOTES ON DIGITAL CONNECTIONS:

COAXIAL CONNECTIONS : Although digital-coaxial connections use the same type of "RCA" phono jack as standard analog signals, please take special care to connect digital signals only to digital jacks. In many cases, the digital jacks may be identified by an orange colored insert ring around the center of the jack. When making digital connections, be sure to use making digital connections be sure to use coaxial-interconnect cables, such as the one supplied with the unit or cables intended for video applications. Even though they have the correct type of RCA connector, do not use audio-interconnect cables that have twisted pair construction, as they are not appropriate for digital signal use. If you have any questions about the type of cables to use with the unit, consult your dealer.

OPTICAL CONNECTIONS : There are a number of different types of optical connections, so make certain that you use only "TOS" type optical cables with the unit. To ensure proper connection of optical cables, fully insert them into the jack until there is an audible click. This tells you that the connector has been completely inserted. Remember to save the plastic dust caps that cover the optical jacks, and replace them when a jack is not in use to prevent dust from entering the connection point.

CD RECORDING BASICS

CD Recorders (CDRs) are similar to standard CD players, with the addition of the features and controls needed for recording. Functions such as play, search and programming for playback will be familiar, but the recorder will function slightly differently than what you may be used to for magnetic tape recorders.

Disc Types

Unlike a conventional CD player, the unit uses three types of discs, and it is important to understand how each one plays.



Both decks in the unit will play back any conventional CD that bears this logo.



Discs that bear this logo may be recorded on one time, and when they are finalized they will play in either deck in the unit or in any conventional CD player, including home, car and portable models. The **Record Deck** on the unit may also be used to record on these discs, and it will play CD-R/Audio discs even if they have not been finalized.



Discs that bear this logo may be recorded on, and they may also be erased and reused. They may be recorded on or played on the **Record Deck** of the unit and in other CD-RW recorders or CD-RW compatible players. They will NOT play back in most current CD players unless the player is CD-RW compatible.



Discs designed for use in computer CD-R drives may not be used for recording in the unit. Only discs specifically designed for use in consumer CD audio recorders may be used. If you attempt to use a blank-computer-type recordable disc for recording on the unit you will see a **CDR** indicator in the **Information Display** and **NO AUDIO** message appears on the Information Display when the **REC** button is pressed, and recording will not be possible. However, discs that have been recorded in the CD-R drive of a computer may be played in the unit, provided that they have been properly finalized in accordance with audio standard IEC958.

Note that the unit is specifically designed for the recording and playback of consumer audio discs, and cannot be used to copy data discs, DVD discs, or other optical discs used by video- or computer-game systems.

CDR Terminology and Display Messages

Compact disc recording has its own terminology, and some of the messages you will see when using the unit may be new to you. Before using the unit, you may wish to familiarize yourself with some of the terms used by the unit. Additional error message displays may occasionally appear.

Finalize : This term refers to the process that completes the recording of a disc by recording a final Table of Contents and preparing the disc so that it may be played on other machines.

A CD-R disc may not be played on other CD players until it is finalized. However, once the finalization process is complete, a CD-R disc may not be recorded on again.

CD-RW discs only may be "Unfinalized" so that additional tracks may be recorded on a disc.

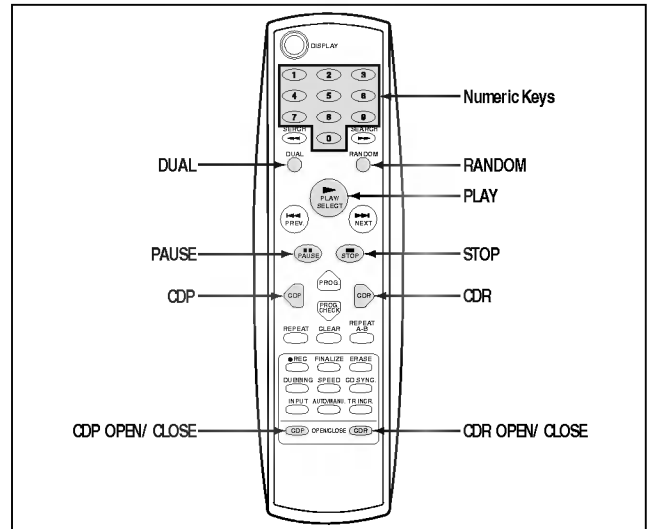
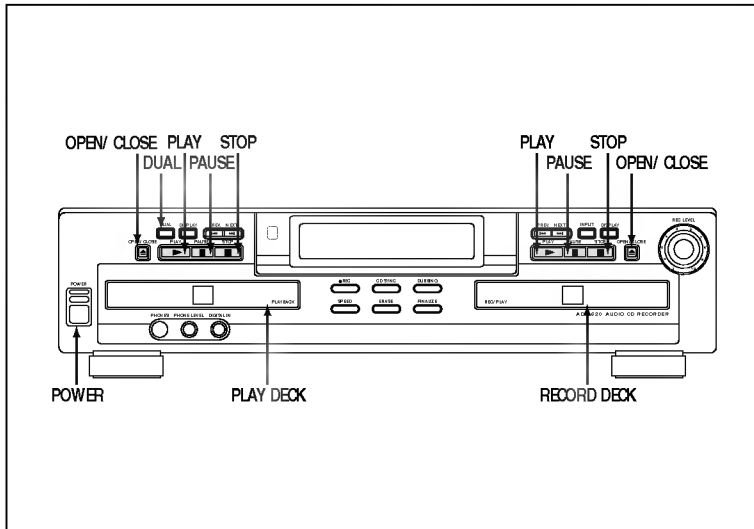
TØC : Stands for Table of Contents and it refers to the data recorded on each CD that tells the player how many tracks are on the disc, the total time of the disc and the running time of each individual track. Each time a disc of any sort is placed in the unit, you will see a **TØC** to indicate that the unit is reading this data from the disc. This is required to copy the track information to any recording.

ØPC : Stands for Optical Processing Calibration. When you see this message in the **Information Display for the Record Deck**, it means that the laser transport inside the unit is making the calibrations and adjustments needed so that the recording process is optimized for the specific disc in use.

BUSY : When you see this message, it means that the Record Deck is completion part of the record operation. When you see this message, do not press any buttons, simply wait until the message clears from the display.

DISC FULL : This message will appear when there is not enough room left on an unfinalized disc to record all the tracks you have programmed. When you see this message you may either erase tracks from a CD-RW disc to make room, or you must use a fresh CD-R or CD-RW disc.

PLAYBACK BASICS



Loading Discs

1. Connect the Power cord and power-up the unit by pressing the Main **POWER Switch** until it latches.
2. Press the **OPEN/CLOSE** button to open the disc tray.
3. Load a disc in the tray with the printed (label) side facing up.
4. Gently push the front of the tray or press **OPEN/CLOSE** button.

If the disc is standard CD or a finalized CD-RW disc, TOC will flash while the unit reads the disc's Table of Contents Information. Once that data is read, the **Information Display** will show the total number of tracks and the total time of all tracks on the disc. The **CD Indicator** will also light to indicate that a standard CD is in use.

When an unfinalized CD-R or CD-RW disc is placed in the **Record Deck**, the letters OPC will flash once the Table of Contents has been read. This indicates that the unit is optimizing its circuit for maximum compatibility with the specific recordable disc in use. The number and total running time of any tracks that have already been recorded will appear in the **Information Display**, and the appropriate indicator will light to tell you if a CD-R or CD-RW disc is in use.

If a computer data disc is placed in the machine, a DATA DISC message will appear to alert you to the error. Data discs will not play and may not be recorded or dubbed in the unit.

Normal Play

1. Turn on the Power.
2. Insert a disc.
3. To start the playback, press the **PLAY** [▶] button on the front panel for the appropriate deck or press the **CDP** or **CDR** button on the remote for the desired deck and then press the **PLAY** [▶] button on the remote.

The **Information Display** will show the track number being played and running time of the track. As each new track begins to play, the track time will reset to 00:00 and begin to count up for the new track.

NOTE : Remember that unfinalized CD-R or CD-RW discs will only play in the **Record Deck**. If you attempt to play an unfinalized disc in the **Play Deck**, a **DISC ERROR** message will appear to remind you to play the disc in the other deck.

To go directly to a specific track on a disc

Enter the track number using the **Numeric Keys**.

Note that when selecting a two digit track number, the second digit must be entered within two seconds after the first Numeric Key is pressed.

To play all of the tracks on a disc in random order

Press the **CDP** or **CDR** button for the desired deck, and then press the **RANDOM** button.

The unit will briefly examine all of the tracks on the disc and **RANDOM Indicator** will illuminate. Each track will be played in a random order until all tracks on the disc have been played. Note that there will be brief pause in between each track as the unit searches for the next track to play.

To momentarily stop the disc at any time

Press the **PAUSE** [||] button. Press either the **PLAY** [▶] button or the **PAUSE** [||] button to resume playback at the point where the disc was paused.

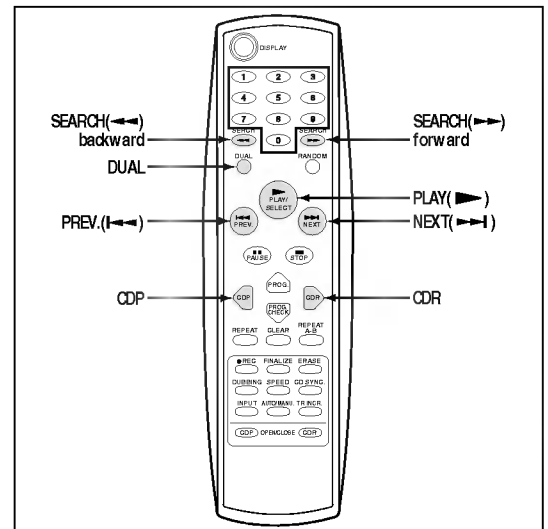
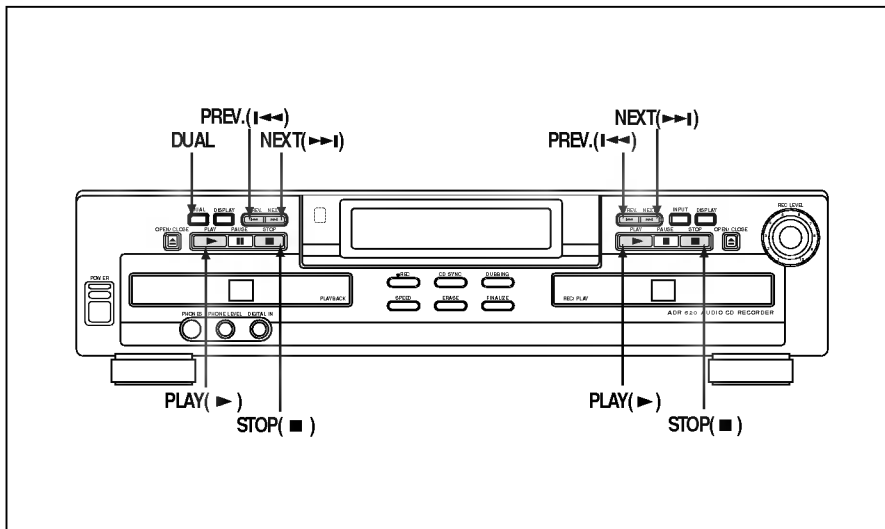
To stop playback at any time

Press the **STOP** [■] button for the deck in use.

When there is only one disc in the unit, it will automatically stop when all tracks on a disc have played through.

When there is a disc in each deck, the player will respond in one of two ways, depending on which way the dual-play setting is activated. In normal operation, when the disc in one drawer finishes, the disc in the other drawer will begin to play. When the **DUAL** button is pressed so that the **DUAL-Play Indicator** is lit, each deck will operate as a separate, single-play CD unit without regard to the status of the other deck.

PLAYBACK BASICS



Searching for a Particular Point in a Track

You may quickly scan through the contents of a disc while listening to the playback at high speed in forward or reverse.

To move forward through a disc, press the SEARCH[I>>>] button on the remote or press and hold the NEXT[I>>>I] button on the front panel that is appropriate for the deck in use.

To move backwards through a disc, press the SEARCH[I<<<] button on the remote, or press and hold the PREV.[I<<<I] button on the front panel that is appropriate for the deck in use. When using the remote, always remember to make certain that you have selected the deck you wish to control by pressing the appropriate selector[CDP or CDR] button before entering the desired remote command.

Skipping to the Beginning of a Track

To move from one track on a disc directly to another, enter the number for the desired track with the Numeric Keys. The disc will pause briefly to locate the track, and then immediately play it. When entering a two digit track number, the second digit must be entered within two seconds of the first digit.

To move to the next track on a disc by cycling through the individual tracks, press the NEXT[I>>>I] button on the remote, or the appropriate front-panel NEXT[I>>>I] button for the deck in use. Additional presses of the button will move forward through the tracks on the disc.

When a disc is playing, press the PREV.[I<<<I] button to return to the beginning of the track being played. Additional presses of the PREV.[I<<<I] button will move backwards through the tracks on the disc.

When a disc is stopped, you may press the NEXT[I>>>I] or PREV.[I<<<I] button to locate a specific track that you wish to play. When the desired track number appears at the left side of the appropriate Information Display, press the PLAY[I>I] button to hear that track.

Dual-play Mode

Since the unit has more than one CD deck, you may play a disc in either drawer. When only one deck is playing, the unit is in the Single mode. In the Single mode, the audio output will be fed to all digital and analog jacks for both decks. This means you may select the input on your receiver, preamp or processor for either deck. For example, if you have the Play Deck connected to "CD" and the Record Deck connected to "TAPE," when only one deck is playing, either input may be selected.

It is also possible to play two discs at once, using the Dual mode. To initiate dual-mode playback, press the DUAL button on the front panel or remote. When the DUAL-Play Indicator is lit, you may play a different disc in both decks at the same time. The output of each deck will be sent to its appropriate output jacks, and you will need to select the deck you wish to listen to using the input selectors on your receiver, preamp or processor. You may also use the output of one deck to feed your main-room system, while the second deck is used to feed a remote room.

As long as the DUAL-Play Indicator is lit, each deck functions as a separate CD player, and will respond to its own set of controls on the front panel for either the Play Deck or Record Deck. To control the transports using the remote, remember to first press the Selector button

for either the **Play/CDP Deck** or the **Record/CDR Deck**, and then press the desired command function.

NOTE : When in the Dual mode, you may return to Single play mode by pressing the DUAL button on the remote or the DUAL button on the front panel. However, pressing the DUAL button while both decks are playing, will automatically stop playback of the disc in the **Record Deck** while the disc in the **Play Deck** continues to play. The output of the play deck will be sent to both sets of output jacks.

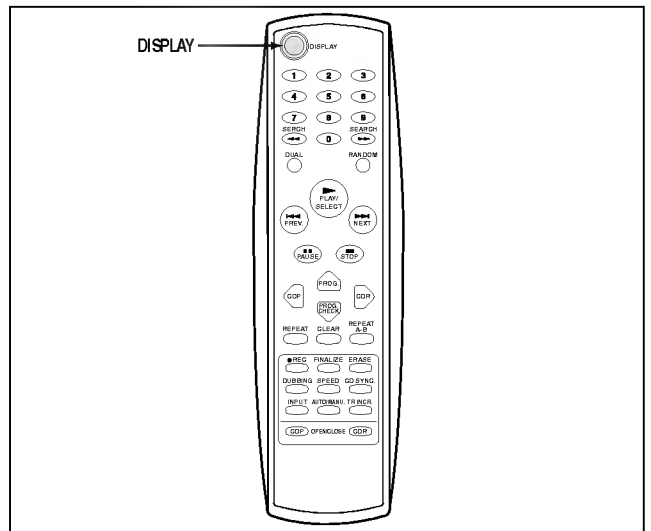
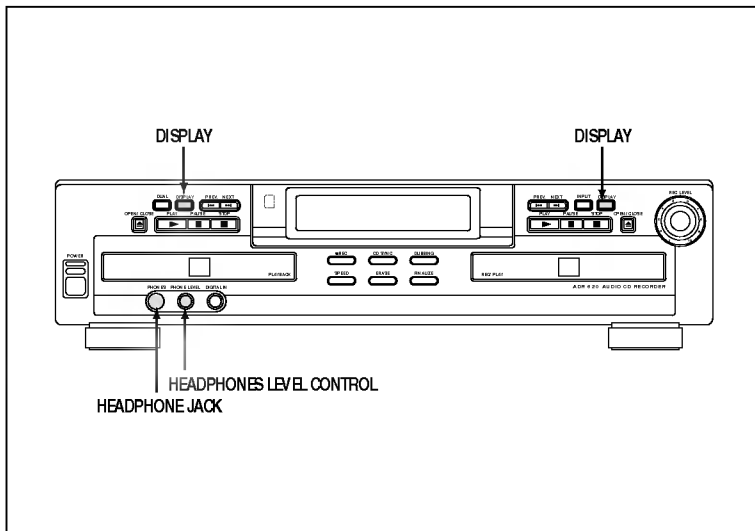
Dual-Deck Operation

Since the unit has two separate CD decks, it may be used to function as two-disc changer, so that you can continually play two discs.

When the unit is in the Single-Play mode, as shown by the DUAL-Play Indicator NOT being lit, when the disc in one deck has played through to the end, the disc in the other deck will automatically begin to play. Each disc will play through, and when one deck is finished the other will start. To stop playback, press the STOP[I■I] button for the deck that is currently playing.

To have the unit function as a standard CD player, where the deck in use stops at the end of a disc, press the DUAL button until the DUAL-Play Indicator lights. In the Dual mode, each deck acts independently of the other and when the disc in one deck finishes, it stops unless one of the Repeat functions has been activated.

PLAYBACK BASICS



Time Display

Once the disc's Table of Contents or TOC data has been read, the **Information Display** for any deck that has a CD inside will show the number of tracks on the disc in the two left digits of the display, and the total running time of the disc. When the disc is playing, the tracks will count up as each new track is reached, and time display will show the elapsed time for the track being played.

To view the time remaining in the track being played, press the **DISPLAY** button for the deck in use so that the **REMAINING TIME** Indicator illuminates. The **Information Display** will count down the time remaining in the track, and at the start of the next track the counter will start to count down the running time of that track.

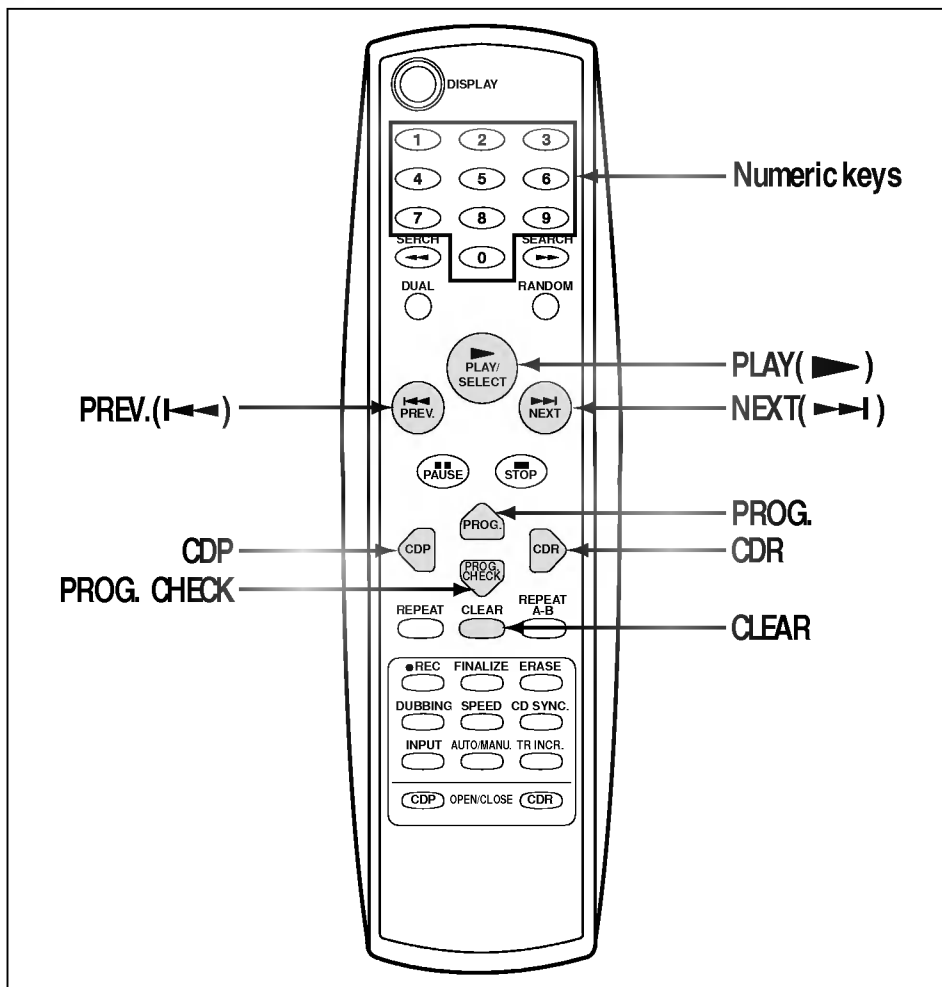
To view the total time remaining on disc, press the **DISPLAY** Button for the deck in use so that the **TOTAL TIME** Indicator illuminates. The **Information Display** will show the total time remaining for all tracks on the disc and count down until the disc has finished playing. When the disc has played all the way through, the total number of tracks and the total running time of the disc will be displayed.

Headphone Listening

You may listen to the output of the unit through headphones at any time by simply plugging the headphones into the **Front-Panel Headphone Jack**. The volume of the headphone output may be adjusted with the **Headphones Level Control**. Note that changes to the headphone level will not alter the output settings to the analog outputs. Those levels are fixed, and the volume should be adjusted using your receiver, preamp or processor.

Note that when only one deck is playing back a disc, the output of that deck will be fed to the headphone jack. When the unit is in the Dual-Playback mode, only the output of the **Play Deck** will be fed to the headphone jack

PROGRAM PLAY



enter that track to the programmed sequence.

When the complete list of tracks has been entered, press the **PLAY[▶]** button. The tracks will then play in the order they have been entered.

Note that a programmed list of tracks may also be recorded if the disc being programmed is in the **Play Deck**. Follow the instructions of the explanation for recording and dubbing.

Checking, Editing and Clearing Programmed Play Lists

Once you have entered a program list it will remain in the unit's memory until the disc is removed or the unit is turned off. Thus, if you play through a program list, simply press the **PLAY[▶]** button again to replay the list. If you find that you wish to check the list or make changes, that is also possible by following a few simple steps.

To scroll through a program list, press the **PROG.** button. Each press of the button will move through the tracks that have been programmed. The display will alternate between the track number of the program step number (e.g. **12 P-03** tells you that track 12 on the disc is the 3rd program step) and the track number and the total running time so far in the program (e.g. **12 16:04** tells you that at this point you have programmed a total of 16 minutes and 4 seconds of material).

At any point in the list you may change a new track by simply entering the track number using the Numeric Keys.

Simply press the buttons that correspond to the number of the track you wish to change.

To add a new step in the program,

1. Press the **PROG. CHECK** button until track number **00** appears on the Information Display.
2. Add a new track by simply entering the track number using the **Numeric Keys**. You may add up to 20 tracks, if less than 20 tracks in the program step.

To remove a step in the program,

1. First use the **PROG. CHECK** button to locate the track you wish to delete.
2. Next, press the **CLEAR** button. The information in the display will blink and the step will be removed from the program list.

Program steps need not be deleted in any order; as long as you have located a step in the program list, it may be erased.

To cancel an entire program list while the program is playing, press the **PROG.** button and note that the **PROG** Indicator will go out. **To remove a total program list when the disc is stopped,** simply open and close the disc drawer. Whenever a disc is removed or the unit is turned off, the program list is erased.

The unit's advanced programming system enables you to preset the order in which tracks are played, to repeat one track or all tracks, or to repeat any segment of a disc without regard to track numbers.

Programming Play Lists

To program the order of playback for the tracks on a disc,

1. **Insert the disc,** let the unit read the Table of Contents information, and wait until the disc has stopped and the number of tracks and total running time is displayed.
2. **Select the deck** that will be programmed by pressing the **CDP Select** button on the remote for the **Play Deck** or the **CDR Select** button on the remote for the **Record Deck**.
3. **To begin the programming sequence,** press the **PROG.** button and note that the **PROG** Indicator will illuminate and the **Information Display** will show **00 00:00**.
4. **Enter the track numbers to be played by pressing the Numeric Keys.** For two-digit track numbers, be certain to enter the second digit within three seconds after the first number is entered. As each track is entered, the display will blink three times, alternating between two displays. The first display will show the track number just

entered on the left side of the Information Display under the Track Indicator, while the right side will flash the number of steps that have been programmed. For example, after programming the first step to be track number 3, the display will flash **03 P-01**.

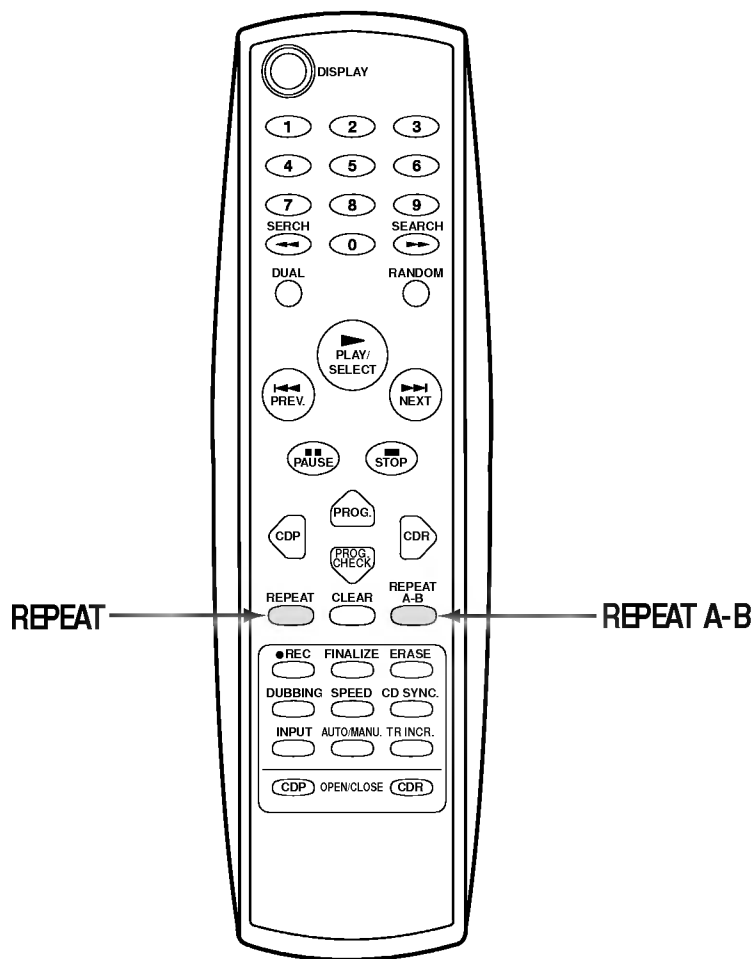
Alternating with the track number and program step will be a display of the track and the total running time of all tracks that have been programmed so far. For example, a display of **06 11:25** will indicate that track number six was the last track programmed, and that the total time of all tracks so far is 11 minutes and 25 seconds. The **TOTAL TIME** Indicator will flash with this display to remind you of the display's contents.

These displays will alternate three times, and then show a steady display of the total time and last track programmed.

Continue to add tracks in the order you wish to have them played until the programming session is complete. You may add up to 20 tracks, repeating a track if desired, as long as the total number does not exceed 20. If you exceed the 20 track limit, the display will read **FULL**.

Tracks may also be added using the **NEXT[▶▶]** and **PREV.[◀◀]** buttons to locate the track, and the **PROG.** button to

PROGRAM PLAY



Repeat Programmed Play

The unit's programming system enables you to repeat either a single track on a disc, the entire disc, or a specially programmed passage that you select.

Repeat One Track

To repeat the track you are currently listening to, press the **REPEAT** button and note that the **REPEAT** Indicator and the **Repeat-Status Indicator** will both light 1. If the track is changed by using the **NEXT** [▶▶] / **PREV.** [◀◀] Skip button while the **Repeat 1** mode is active, the new track will now be repeated.

Once **Repeat 1** playback has been started, it will continue until the unit is stopped by pressing the **STOP** [■] button, or the disc deck is opened by pressing the appropriate **OPEN/CLOSE** button. When playback is stopped, the Repeat sequence is erased and must be reentered if you wish to repeat a track on another disc.

Repeat All Tracks

To repeat all the tracks on a disc in order, press the **REPEAT** button twice

while the disc is playing and note that the **REPEAT** Indicator and the **ALL Repeat-Status Indicator** will light. Once the **PLAY** [▶] button is pressed, the disc will play through from beginning to end continually, until the **STOP** [■] button is pressed. The **REPEAT ALL** function may be cancelled at any time by pressing the **REPEAT** button once until both the **REPEAT** Indicator and **ALL Repeat-Status Indicators** go out. The Repeat All Function is also canceled when the disc drawer is opened.

Repeat A-B

The unit may be programmed to repeat any section within a track, or a complete passage that includes material from a series of consecutive tracks.

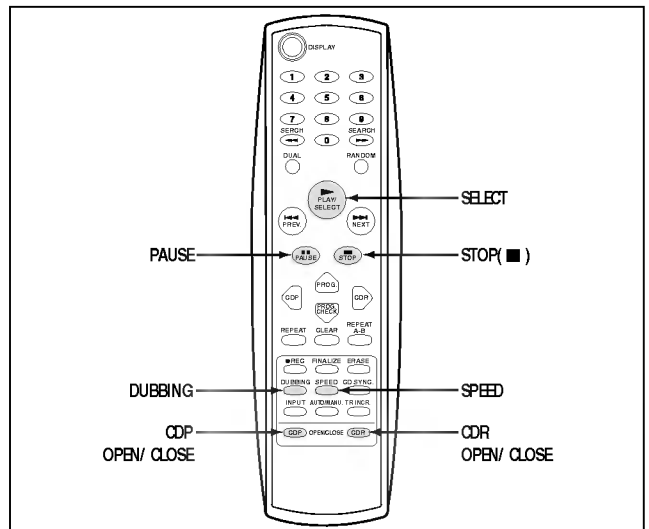
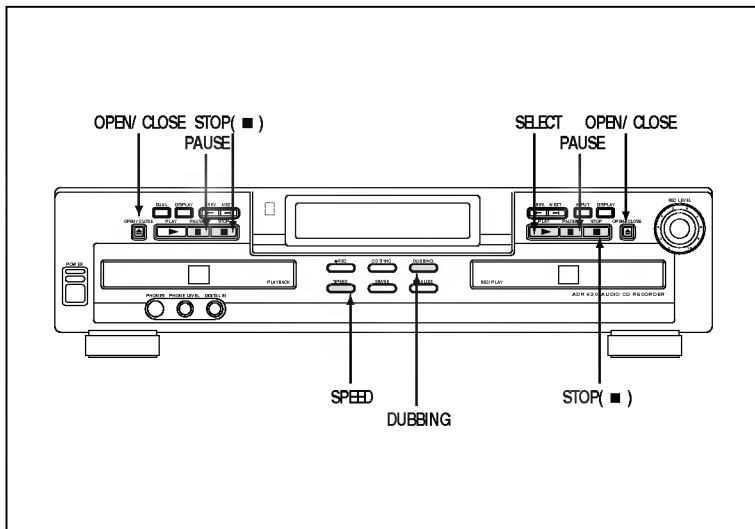
To program the unit for **A-B Repeat play**, first play the disc and locate the point where you wish to begin the repeated section. At the start point, press the **A-B Repeat** button and note that the Repeat Indicator and the **Repeat-Status Indicator** will show an A and flash. Let the disc play until the point at which the section to be repeated will end. At that end point, press the **A-B Repeat** button again and note that the Repeat-Status

Indicator will stop flashing and will light showing **Repeat A-B**

The unit will immediately begin to play the section you have programmed, and continually repeat it.

To resume normal play, press the **A-B Repeat** button. The **Repeat A-B Indicators** will go out, and the disc will continue playing through to the end. Stopping the disc or opening the disc drawer will automatically cancel the Repeat A-B programming.

CD RECORDING



Before Recording

- ▶ The unit accepts analog inputs, digital coaxial inputs and digital-optical inputs. Before making a recording, be certain that you have selected the correct input.
- ▶ After a disc is recorded, it must be finalized. This process adds the final table of contents data to the disc and makes it playable on other machines. Until a disc is properly finalized, it may not be played on any other machine.
- ▶ The unit may record on either CD-R or CD-RW discs, but they must be of the type specifically designed for use in consumer audio CD recorders. These discs may be recognized by looking for the words, Digital Audio ; in the compact disc logo on the blank disc or its packaging. Discs with the logo reading only, Compact Disc/Recordable ; are designed for computer data recording, and they will NOT work in the unit.
- ▶ CD-R discs may not be erased or have material added to them once they have been finalized.
- ▶ At least four(4) seconds of blank recording time must remain on an unfinalized disc for recording to take place.
- ▶ The maximum number of tracks that may be recorded on a disc is 99. If more than 99 tracks are programmed, a DISC FULL message will appear.
- ▶ Note that some CD-R/CD-RW audio recording discs may be used for single-speed recordings only. If you use a disc with such a warning, make certain not to dub at that 2x or 4x speed. However, the unit has been tested for compatibility with a wide range of blank discs for manufacturers throughout the world. In most cases, blank discs will produce high-quality recordings at any dub speed.
- ▶ In some rare cases, a CD player may not be compatible with CD-R discs. If you find that a CD-R disc plays in some players but not in others, the fault is most likely with the player, not with the recorded disc or the unit. Remember that

CD-RW discs made in the unit will play in CD players that are specially designed to accommodate CD-RW discs.

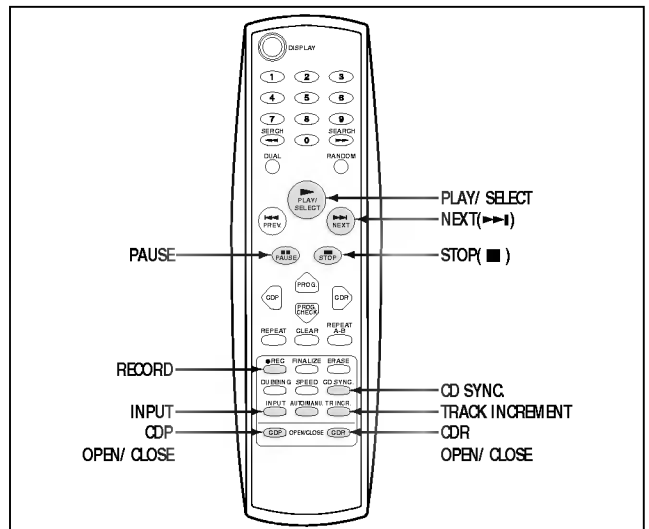
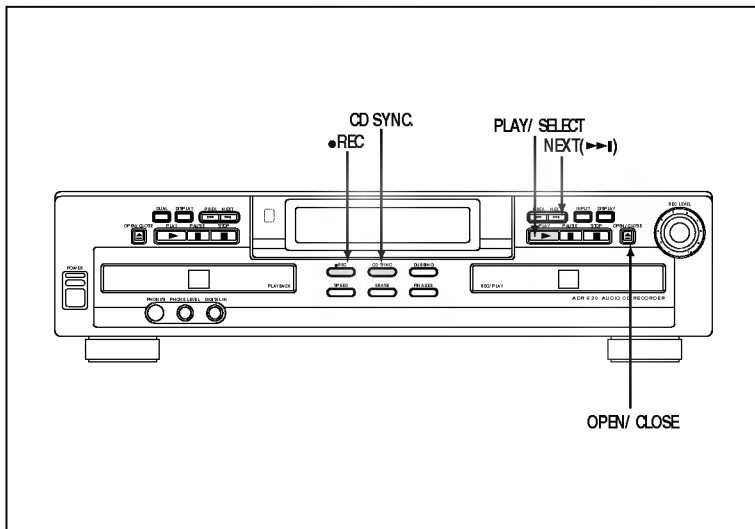
- ▶ Some commercial CD discs may contain a copy protection data bit that will prevent the disc from being dubbed. In that case, the **COPY PROHIBIT** indicator will light to remind you that the inability to record is intentional, and not the result of a problem with the unit.
 - ▶ This product is equipped with the Serial Copy Management System(SCMS) to protect the rights of copyright owners. As a part of this system, it is possible to make a copy of most CDs for your own personal use. However, it is not possible to make a copy of most CDs for your own personal use. However, it is not possible to make a digital copy from another digital copy. It is possible to make an analog copy of a digital copy.
RECORDINGS MAY BE MADE FOR PERSONAL USE ONLY, AND ANY UNAUTHORIZED COPYING IS SUBJECT TO THE APPLICABLE LAW.
 - ▶ The unit will not copy DVD discs, computer data discs, CD-based computer or video game discs, or digital audio discs with a sample rate that is not compatible with the range of the unit's sample-rate converter.
- Recordings on the unit may be made in a number of ways:
- ▶ Discs may be dubbed using the playback deck on the unit as a source. These copies may be made in real time, at twice normal speed, or at four times normal playback speed.
 - ▶ Recordings may be made from an external CD player or other digital source that is synchronized with the dub being made in the unit.
 - ▶ Recordings may be made from any compatible external digital source.
 - ▶ Recordings may be made from an external analog source.

Disc Dubbing

The easiest way to make a copy of an entire disc is to use the unit's internal dub capability.

1. **First, insert a blank or unformatted disc in the Record Drawer.**
When the disc is inserted, the unit will examine it to determine if it is a CD-R or CD-RW disc, and optimize itself for the best possible recording. This is indicated by **OPC** message in the Information display.
2. **Next, select a dub speed.**
The default speed is a real-time dub, where the recording takes as long as the actual running time of the disc. However, with the unit you may also select 2x dubbing or 4x dubbing.
Press the SPEED button to select a speed as indicated by the 2x/4x Indicators.
When no Speed Indicator lights, the unit is set to real-time recording. Note that the slower the record-dub speed, the more tolerant the unit is of errors on the blank disc. However, with most high-quality blank discs, the 2x and 4x speeds should not present a problem.
3. **Place the disc to be dubbed in the Play Drawer** and wait until the Table of Contents data is read and the Information Display shows the track and running time data for the disc.
4. **When you are ready to start the dub, press the DUBBING Button.**
The Play Deck will begin to read the track information again to make certain that there is enough space on the blank disc for the recording. If there is NOT sufficient room on the blank disc, a **DISC FULL** message will remind you to use another disc. During this process the **DUBBING** Indicator will light, the **RECORD** Indicator will flash and a **BUSY** message will flash in the Record Deck's Information Display.
5. **When both Information Display Indicators return to normal, with indications of 01 00:00 press the SELECT Button to start the dub.**

CD RECORDING



While the dub is in progress, you will see the track numbers and running time increase as the disc is copied. The Level Indicators will also flash but this is only for your reference, as record levels may not be adjusted during digital recordings. It is possible to listen to the disc while it is being dubbed by selecting the appropriate input on your receiver, preamp or processor:

Important Note: When a high-speed (2x or 4x) dub is being made, you will hear the playback at the faster speed. Fast speed playback increases the pitch of a sound, and when played back at high volume levels this may damage your speakers. **DO NOT** use high volume levels when listening to high-speed dubs while they are in progress.

The dub will stop automatically when the source disc has played through to the end. After the dub is finished, the Information Display will show an **UPDATE** message, and then return to normal operation. To manually stop a dubbing operation, press the **STOP [■]** button for either deck.

As with all recorded CD-R/CD-RW discs, the disc must be finalized before it can be played in other machines.

Notes on Dubbing:

- ▶ If you wish to make a dub with the tracks in a different order from the original disc, omit tracks on a disc, or make a dub that mixes tracks from different discs, create a Program Playback List before pressing the **SELECT** button to start the dub.
NOTE: Dubs containing Program Lists may only be made at the 1x speed. If you attempt to make a Programmed Dub at the 2x or 4x speed, the unit will automatically select the 1x speed.
- ▶ The **PAUSE [||]** buttons do not operate while a dub is in progress.
- ▶ Tracks will be added automatically to mirror the track structure of the original disc.

- ▶ The Total Time indication of the recorded CD may vary slightly from the original due to variations in the spin speed of each drive, but this is normal. No information has been lost in the recording process.
- ▶ If the original disc being dubbed is a digital copy or if it contains copy-prohibit signals, the unit will automatically make a copy using an analog output from the disc.

CD Sync Recording

CD Sync recording allows you to make an automatic digital recording from an external CD player or MD. During CD Sync Recording, the record unit starts in sync with the source, and tracks are added automatically.

To make a CD Sync recording

1. **First select the appropriate digital input by pressing the INPUT button until the desired COAXIAL or OPTICAL indication appears in the Record Deck Information Display.** CD Sync recordings may not be made from an analog input.
2. **Next, make certain that there is a fresh disc in the Record Drawer for the recording.**
3. **Press the CD SYNC button** and note that the SYNC Indicator will light and the RECORD Indicator will flash.
4. **Select the type of recording to be made:**
 - ▶ To record only the first track from the source player, press the **CD SYNC** Button so that **1 TRK** appears in the Record Deck Information Display.
 - ▶ To record the entire disc or tape, press the **CD SYNC** Button so that **ALL** appears in the Record Deck Information Display.
5. **When the desired mode has been selected, start the playback from the**

source machine. The unit will automatically recognize the incoming digital data and begin recording. If the source material is a CD, the track numbering from the original disc will be carried over to the dub.

6. **The recording will continue until the unit senses that the playback is finished when there is no incoming signal for more than three seconds. At that point the recording will stop.** You may also stop the recording at any time by pressing the **Record Deck STOP [■]** button. If the Record Disc does not have enough space to complete the recording, the dub will stop and a **DISC FULL** message will be displayed. After the recording is complete, an **UPDATE** message will appear briefly, and the unit will then return to normal operation. Remember to Finalize the recorded disc so that it may be used in other machines.

Recording from an External Source

To record from an external source

1. **Place a CD-R or CD-RW audio disc in the Record Deck.**
2. **Select the input to be used by pressing the INPUT button.** Pressing the button will cycle between the input choices, which will be shown in the Information Display as **COAXIAL**, **OPTICAL** and **ANALOG**. In addition, the **DIGITAL** Indicator will light when either the coaxial or optical inputs are selected, and the **ANALOG** Indicator will light when the analog inputs are selected.
3. **Press the ●REC button and then press the PLAY/SELECT [▶▶] button to start the recording.**
Note that when the coaxial digital input is selected, the connection may be made to either the rear panel Coaxial Input. If a signal is present at both coaxial inputs when a recording is made, the front-panel input will be used as the source.

CD RECORDING

4. Press the **AUTO/MANUAL** button to select how tracks will be numbered on the recorded disc.

- ▶ The default mode is Manual. In that mode for either digital or analog recordings, you must add track numbers manually by pressing the **TRACK INCREMENT** button. When you wish to increase the track number. During an analog recording, the track number may also be increased by pressing the **NEXT** button.
- ▶ The Auto mode will add track numbers automatically, in one of two ways. When track data is present from a digital recording, it will be carried over to the new copy disc. Thus, when the CD being played moves from one track to the CD being played moves from one track to the next track, the copy disc will also increase the track number by one. When recording from an analog source, activate the Auto mode by pressing the **AUTO/MANUAL** button once and note that the **AUTO** Indicator will light.
- ▶ In the Auto mode for recordings from an analog source or a digital source with no track data, the track number will be increased when the unit receives silence for 3 seconds. The recorder will also go into the Pause mode until the input source resumes. To activate the Auto mode, press the **AUTO/MANUAL** button once and note that the **AUTO** Indicator will light.

5. To prepare for a recording, press the **RECORD** button.

The **RECORD** Indicator will flash, and the word **BUSY** will briefly appear in the Information Display. When the Display returns to the track and running-time information, the unit is ready to record.

6. Start the actual recording by pressing the **PLAY/SELECT** button.

Note that the **RECORD** Indicator will stop flashing and Information display will begin to show the running time of the recording and the track data. Depending on which mode of track increment has been selected as described above, track numbers must be increased manually or they will be added automatically. Regardless of which mode has been selected, a track may be added at any time by pressing the **TRACK INCREMENT** button.

Note: If there is a pause in the playback signal for more than 3 seconds for digital recordings and 10 seconds for analog recordings, the unit will stop the recording. Also, when the Pause button is pressed during a recording, the recording will stop and must be restarted by pressing the **RECORD** button followed by the **SELECT** button.

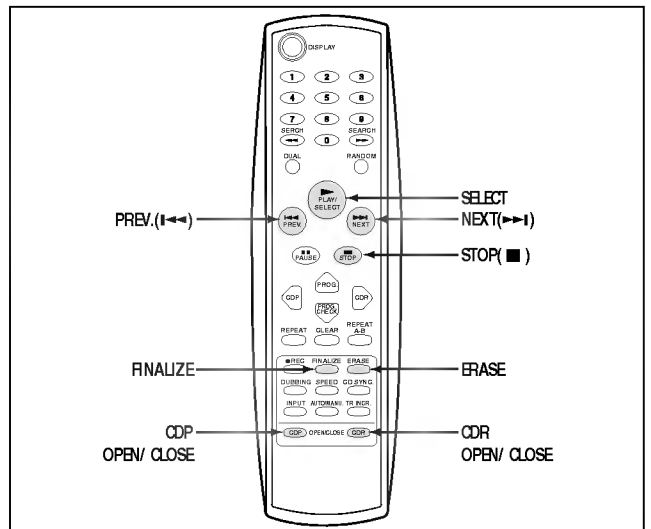
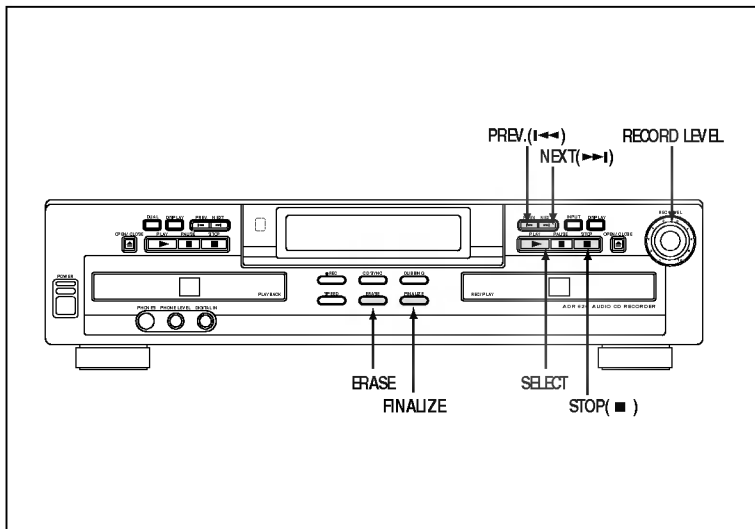
Digital Recording in **AUTO** mode from an External Source connected into the front panel **Digital IN**, rear panel **CDR Coaxial IN** or **CDR Optical IN**

1. Place a **CD-R** or **CD-RW** audio disc in the Record Deck.
2. Select the input to be used by pressing the **INPUT** button so that **COXIAL** or **OPTICAL** with **DIGITAL** indicator appears on the Information Display.
3. Put to the Play or Pause mode the external source that is connected into the front panel **Digital IN**, rear panel **CDR Coaxial IN** or **CDR Optical IN**.
4. Press the **AUTO/MANUAL** button so that **AUTO** appears on the Information Display.
5. Press the **REC** button and then press the **PLAY/SELECT** button to start the recording.

Note : While Analog source recording in **AUTO** mode. If the low signal level is lasted for more than 20 seconds the unit will stop automatically.

In this case we recommend that you record in **MANUAL** mode and in **MANUAL** mode you can add the track numbers using the **TRACK INCREMENT** button.

CD RECORDING



Unlike conventional analog tape recorders, the unit does not require level setting when recordings are made from a digital source. Although the Level Indicator will operate, this is only informative and the level may not be changed or adjusted. However, when you are making a recording from an external analog source such as a cassette recorder or the analog output of a receiver or preamp, you should adjust the input levels using the **RECORD-LEVEL Control**. Adjust the levels so that the blue segments of the display are almost all lit, and the red segments flash only occasionally. If the red segments are constantly lit, the recording will be distorted and produce unacceptable quality.

To stop the recording, press the **STOP [■]** button. The recording will automatically stop if it takes more space than is available on the CD-R/RW disc. A **DISC FULL** message will appear to remind you that a new disc is needed.

At the end of a recording, a **BUSY** message and an **UPDATE** message will appear briefly, and the unit will return to normal operation. Remember to Finalize the disc after recording so that it may be used in other players.

Finalizing CD-R and CD-RW Discs

Finalizing is a simple process that completes the recording of a disc so that it may be used in other players. When a recording is finished, a disc must be Finalized. Once that is done, a CD-R disc may not be changed or added to. CD-RW discs are "locked" once they are Finalized, and they must be Unfinalized to permit additional recording or erasure.

1. To Finalize a disc, place it in the **Record Drawer**.
2. Once the disc's **Table of Contents information has been read and the OPC process has been completed, press the FINALIZE button** and note that the FINALIZE Indicator will begin to flash.
3. Within three seconds, press the **SELECT button** and note that the FINALIZE Indicator will stop flashing.
4. The Finalization process will take **between 60 and 90 seconds**, depending on the length of material recorded on the disc. During the Finalization process the Record Deck will not accept any operating commands.
5. When the Finalization process is complete the **FINALIZE Indicator will go out**, and the R/RW Indicator will also go out as an indication that the disc is now playable on other players. The CD Indicator will remain lit.

Unfinalizing and Erasing CD-RW Discs

CD-RW discs are unique in that they are both recordable and rewritable. This means that you may use them over again like a cassette tape. However, the process of reusing a CD-RW disc is slightly different from that used with tapes.

Unfinalizing a CD-RW Disc

To keep the material that is already recorded on a CD-RW disc but to add an additional track and erase single tracks, you must first unfinalize the disc.

1. Place the CD-RW disc in the **Record Deck** and wait until the **Table of Contents data has been read**.
2. Press the **ERASE button twice** and

- check to make sure that the **ERASE Indicator flashes** and the word **TOC** appears in the **Record Deck Information Display**.
3. Within three seconds, press the **SELECT button** to start the process. The **ERASE Indicator** will remain lit and stop flashing, and the **Information Display** will switch to **OPC** and then back to **TOC**.
 4. When the process is finished, the **ERASE Indicator will go out**, and the **display will return to normal**. The disc is now ready to have single tracks removed or additional tracks added.

Erasing an Entire CD-RW Disc

Erasing the entire contents of a disc is simple, and it does not matter if the disc has been finalized or not.

1. To erase the disc, press the **ERASE button twice** if the disc has NOT been finalized and once if it has been finalized, so that the word **DISC** appears in the **Information Display** and the **ERASE Indicator flashes**.
2. To start the erasure, press the **SELECT button** and note that the **ERASE Indicator** will stop flashing.
3. The erasure process takes about a minute, and it is complete when the **Information Display** resets to **00 00:00** and the **ERASE Indicator** goes out. The disc is now totally erased and may be reused.

Erasing a Single Track

The individual tracks on a CD-RW disc may be erased one at a time, starting with the last track on the disc, or you may erase more than one track. Note that before individual tracks may be erased the disc must be unfinalized. If the disc is finalized, follow the instructions above for unfinalizing before proceeding with these steps.

CD RECORDING

1. To erase only the last track, press the **ERASE button**. Note that the Information Display will display 01 TRK and the ERASE Indicator will flash.
2. Press the **SELECT button within three seconds** and note that the ERASE Indicator will stop flashing.
3. When the ERASE Indicator goes out the Information Display will show the total number of tracks that now remain on the disc.

You may erase more than one track, counting backwards from the last track.

1. Press the **ERASE button**. Note that the Information Display will display 01 TRK and the ERASE Indicator will flash.
2. Press the **NEXT[▶▶] button or PREV.[◀◀] button** until the number of tracks to be erased appears in the Information Display.
For example, when 06 TRK appears in the display a total of six tracks will be erased, counting back from the last track on the disc.
3. Press the **SELECT button within three seconds** of making the track selection and note that the ERASE Indicator will stop flashing. When the ERASE Indicator goes out the Information Display will show the total number of tracks that now remain on the disc.

Important Note: Tracks at the beginning or in the middle of the disc may not be erased until all of the discs after them have been erased.

Important Note on Erasure and

Finalization Times: Regardless of the speed at which a disc was recorded, the unit will erase and finalize discs at the 4x speed to minimize the length of the process. However, in some cases it may be necessary for the unit to repeat the erasure or finalization due to the nature of an individual disc. For that reason, it is normal for the time required to complete these steps to vary from one disc to another.

TROUBLESHOOTING GUIDE AND ERROR MESSAGES

TROUBLE SHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
Unit does not operate when Power switch is pressed	<ul style="list-style-type: none"> No AC power 	<ul style="list-style-type: none"> Make certain AC power cord is plugged into a live outlet. Check to see if AC outlet is switch controlled.
Remote does not function	<ul style="list-style-type: none"> Wrong deck selected Dead batteries Sensor blocked 	<ul style="list-style-type: none"> Press the CDP button to control the Play Deck; press the CDR button to control the Record Deck Replace both batteries Remove obstructions from front panel
Disc does not erase	<ul style="list-style-type: none"> CD-R disc in use 	<ul style="list-style-type: none"> CD-R discs do not erase. Use a CD-RW disc
Recorded CD-R disc does not play in another CD player or DISC ERROR message appears in Play Deck	<ul style="list-style-type: none"> CD-R disc not finalized 	<ul style="list-style-type: none"> Finalize the CD-R disc in the units' Record Deck
Recording suddenly stops	<ul style="list-style-type: none"> Input source stopped or paused 	<ul style="list-style-type: none"> Recordings will always stop when the input source is paused for more than 3 seconds for digital recordings and 10 seconds for recordings

ERROR MESSAGES

ERROR MESSAGE	EXPLANATION AND PROBABLE CAUSE	SOLUTION
CHECK DISC	<ul style="list-style-type: none"> A record-related button has been pressed when a finalized disc is in the Record Deck A record-related button has been pressed when a standard CD is in the Record Deck 	<ul style="list-style-type: none"> Unfinalize the disc to add tracks to a CD-RW disc Replace the disc with a blank CD-R or CD-RW disc
DATA DISC	<ul style="list-style-type: none"> A non-audio CD-ROM or a CD-Video disc has been placed in the machine 	<ul style="list-style-type: none"> Only CD Audio and DTS discs will play in the unit replace the disc
DISC ERROR	<ul style="list-style-type: none"> An Unfinalized disc has been placed in the Play Deck A DVD disc has been placed in the unit 	<ul style="list-style-type: none"> Finalize the disc Replace the disc. The unit does not play or dub DVD discs
DISC FULL	<ul style="list-style-type: none"> There is not enough time left on the disc to complete a planned recording 	<ul style="list-style-type: none"> Use another blank CD-R or CD-RW disc Erase one or more tracks on a CD-RW disc
ERROR	<ul style="list-style-type: none"> The disc is not seated properly There is a problem with the disc 	<ul style="list-style-type: none"> Open the drawer and check to see that the disc is properly seated Try another disc
FAILED	<ul style="list-style-type: none"> A dub has not been completed properly 	<ul style="list-style-type: none"> Check the play disc Repeat the dub process
FULL	<ul style="list-style-type: none"> More than 20 tracks have been programmed 	<ul style="list-style-type: none"> Clear all programmed tracks over 20
NO AUDIO	<ul style="list-style-type: none"> A record-related button has been pressed when a non-audio disc is in the Record Drawer 	<ul style="list-style-type: none"> Replace the disc with a blank CD-R or CD-RW Audio disc
SVC - 1	<ul style="list-style-type: none"> There is an internal problem with the unit 	<ul style="list-style-type: none"> Contact an authorized LG service depot

TECHNICAL SPECIFICATIONS

■ Signal Format

Playback Sampling Frequency
D/A Conversion
Oversampling

■ Signal Format

44.1 kHz
96 kHz, Multi-Bit Delta-Sigma Conversion
128 Times

■ Playback Specifications

Frequency Response
Playback S/N
Playback Dynamic Range
Playback THD
Analog Audio Output
Digital-Coaxial Output
Headphone Output

■ Playback Specifications

20Hz – 20,050Hz
105dB
100dB
0.01% (– 80dB)
2V RMS, ± 0.15V
0.5Vpp / 75Ω
1V RMS / 32Ω Load

■ Record Specifications

Digital Input Sample Rates
Recording S/N: Analog
Recording S/N: Digital Dub Mode
Recording S/N: Digital External Source
Recording Dynamic Range
Recording THD(Digital / Analog)
Analog Input Sensitivity
Digital Inputs(Direct Recording)

■ General

32kHz – 96kHz
88dB
Equal to Source
95dB
90dB
0.01 % / 0.02 %
330mV RMS
44.1kHz, ± 100 ppm/min.

■ General

Power Requirement
Power Consumption
Dimensions
Width
Height
Depth
Weight

■ General

Refer to the back panel of the unit.
48 Watts
17.3" / 440mm
4.4" / 112mm
14.2" / 363mm
13.2 lb / 6kg

Depth measurement includes knobs, buttons and connection jacks.

Height measurement includes feet and chassis.

All features and specifications are subject to change without notice.



LG Electronics Inc.