YAMAHA

CDR-D651

Compact Disc Recorder

Lecteur/Enregistreur CD

COMPACT disc DIGITAL AUDIO Recordable

COMPACT disc DIGITAL AUDIO ReWritable

COMPACT disc DIGITAL AUDIO TEXT

COPY   REC MODE   TRACK NO.   INPUT   DISC A   DIGITAL   ANALOG   MULTI JOG   PUSH MODE

DIGITAL REC LEVEL

DISC B   **COMPACT disc DIGITAL AUDIO** Recordable ReWritable

◁◁/◁◁   ▷▷/▷▷| REC MUTE   REC   ANALOG REC LEVEL

FADE IN/OUT   MIN   MAX

OWNER'S MANUAL
MODE D'EMPLOI

ENGLISH

Introduction

Thank you for purchasing this YAMAHA product. We hope it will give you many years of trouble-free enjoyment. For the best performance, read this manual carefully. It will guide you in operating your YAMAHA product.

Features

- **Double Speed CD DIRECT Copy**
- **CD-R/CD-RW Recording and Playback**
- **Double Speed Finalization**
- **Optical Digital Input and Output**

- **Various Playback Functions for 2 CDs**
  Relay Play, Program Play
  Repeat Play, Random Play
- **CD TEXT Compatible**

Contents

PRECAUTIONS: READ THIS BEFORE OPERATING THIS UNIT ....

- To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- Install this unit in a well ventilated, cool, dry, clean place with at least 5 cm of ventilation space on the top, right and left, and at the back of this unit – away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold.
- Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds. To prevent fire or electrical shock, do not place this unit where it may get exposed to rain, water, and/or any type of liquid.
- Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in a environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
- On the top of this unit, do NOT place:
  - Other components, as they may cause damage and/or discoloration on the surface of this unit.
  - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
  - Containers with liquid in them, as they may cause electrical shock to the user and/or damage to this unit.
- Do not cover the rear panel of this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
- Do not plug in this unit to a wall outlet until all connections are complete.
- Do not operate this unit upside-down. It may overheat, possibly causing damage.
- Do not use force on switches, knobs and/or cords.
- When disconnecting the power cord from the wall outlet, grasp the plug; do not pull the cord.
- Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. YAMAHA will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
- To prevent damage by lightning, disconnect the power cord from the wall outlet during an electrical storm.
- Take care of this unit so that no foreign objects and/or liquid drops inside this unit.
- Do not attempt to modify or fix this unit. Contact qualified YAMAHA service personnel when any service is needed. The cabinet should never be opened for any reasons.
- When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet.
- Be sure to read the "Troubleshooting" section on common operating errors before concluding that this unit is faulty.
- Before moving this unit, first check that there is no disc in the disc tray. To prevent damage to this unit, be sure to

insert the transportation pad in the disc tray. Finally, press POWER to turn off this unit, and disconnect the AC power plug from the wall outlet. After this unit is moved, remove the pad to ensure correct operation.

SPECIAL INSTRUCTIONS FOR U.K. MODEL

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

Blue: NEUTRAL
Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED. Making sure that neither core is connected to the earth terminal of the three pin plug.

For U.K. customers
If the socket outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate 3 pin plug fitted. For details, refer to the instructions described above.

Note: The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

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

Voltage Selector (General model only)
The voltage selector on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC power supply.
Voltages are 110/120/220/240 V AC, 50/60 Hz.

■ Discs that can be used for recording

Be sure to use only CD-R and CD-RW discs made by reliable manufacturers.

CD-R and CD-RW digital audio discs that display either of the following marks can be used with this unit.

In addition to these marks being present on the disc, check that at least one of the following phrases can also be found on the disc or disc case.

FOR CONSUMER
FOR CONSUMER USE
FOR MUSIC USE ONLY

● **Regarding discs that can be used for recording**
  • CD-R discs can only be recorded on once, and the recorded material cannot be erased.
  • CD-RW discs can be recorded on, have the recorded material erased, and then recorded on again any number of times.

● **The following discs cannot be used for recording on this unit.**
  • Discs bearing marks other than those shown above.
  • Discs intended for recording computer data.
  • Discs intended for professional use or labeled "FOR PROFESSIONAL USE ONLY".

■ Finalization of CD-R discs for playback on standard CD players

Although a partially recorded CD-R disc can be played on this unit, it cannot be played on a standard CD player until it has undergone a process known as "finalization". In the finalization process, the Table of Contents (TOC) is written onto the disc and further recording is not possible.
However, this process makes it possible to play a CD-R disc on a standard CD player.

Some CD players may not play back the finalized CD-R discs properly due to differences in the playback system of different manufacturers.

See page 21 for the finalization procedure.

■ Regarding erasure or loss of data

Yamaha and suppliers accept no liability for the loss of data or any problems caused as a result. As a precaution, it is recommended that the discs are tested after they have been written to. Furthermore, under no circumstances does Yamaha and suppliers guarantee the reliability of the discs.

■ Discs that can be played back

In addition to CD-R and CD-RW digital audio discs described above, commercially available pre-recorded CDs bearing the mark shown below can also be played on this unit.

■ Playback of CD-RW discs

Please note that even after a CD-RW disc has been finalized, it still cannot be played on a standard CD player. CD-RW discs can only be played back on CD-RW compatible players such as this unit.
Additionally, CD-RW discs can be erased even after finalization has been performed, and recorded onto again.

■ Playback on DVD players

Before playing back a finalized CD-R or CD-RW discs on a DVD player, please check whether the DVD player is compatible with CD-R or CD-RW discs or not. Refer to the owner's manual of the DVD player for more information. If the DVD player is not compatible with CD-R or CD-RW discs, do not attempt to play them on the DVD player.
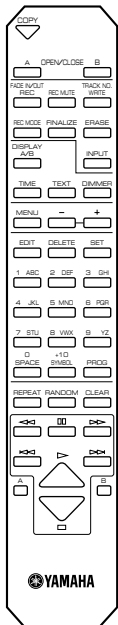
Note

Please check the copyright laws in your country to record from records, compact discs, radio, etc. Recording of copyright material may infringe copyright laws.

Supplied Accessories

After unpacking, make sure the following items are included in your package.

- **Remote Control**

- **Batteries (size AA, UM-3, R6) (2)**

- **RCA Pin Cables (2)**

- **Optical Fiber Cable (1)**

- **Ferrite core for headphones cable (1)**
  (U.S.A., Canada, and Australia model only)
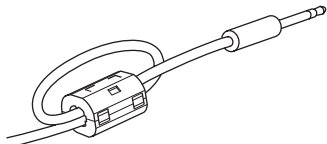
When using headphones, be sure to attach the ferrite core provided to the headphones cable in order to reduce the electromagnetic interference. Open the cover and fit the core onto the headphones cable as the illustration below shows.

Remote Control

■ Loading the batteries in the remote control

1. Remove the battery compartment cover on the back of the remote control.

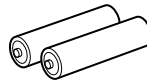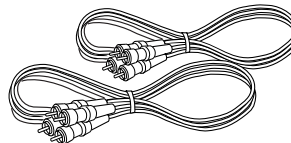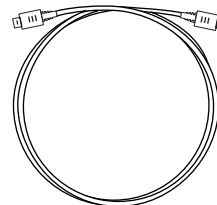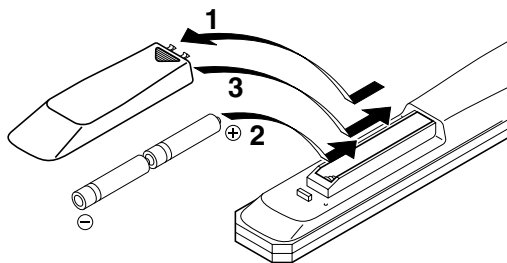**2.** Insert the batteries (AA, UM-3 or R6 type) according to the polarity markings on the inside of the battery compartment.

3. Close the battery compartment cover.

Battery replacement
If you find that the remote control must be used closer to this unit than usual, the batteries are weak. Replace batteries with new ones.

Notes
- Use only AA, UM-3, R6 batteries for replacement.
- Be sure the polarities are correct. (See the illustration inside the battery compartment.)
- Remove the batteries if the remote control will not be used for an extended period of time.
- If batteries leak, dispose of them immediately. Avoid touching the leaked material or letting it come in contact with clothing, etc. Clean the battery compartment thoroughly before installing new batteries.

■ Remote control operation range

Within approximately 6 m (20 feet)
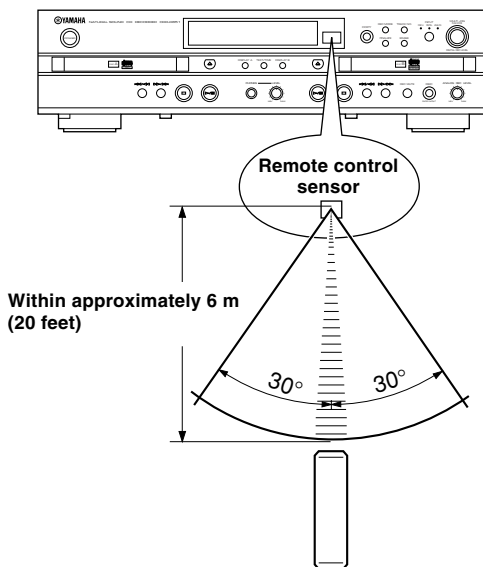
Notes
- There should be no large obstacles between the remote control and this unit.
- If the remote control sensor is directly illuminated by strong lighting (especially an inverter type of fluorescent lamp, etc.), it might cause the remote control not to work correctly. In this case, reposition the main unit to avoid direct lighting.

PREPARATION . . . .

Connections

Turn off the power of this unit and the other component, and unplug them from the wall outlet before making any connections.

- Correctly connect the input and output jacks on this unit to the input and output jacks on the other component.
- Arrow marks (→) in the illustration below indicate the direction of the audio signal.

RCA pin cable (included)
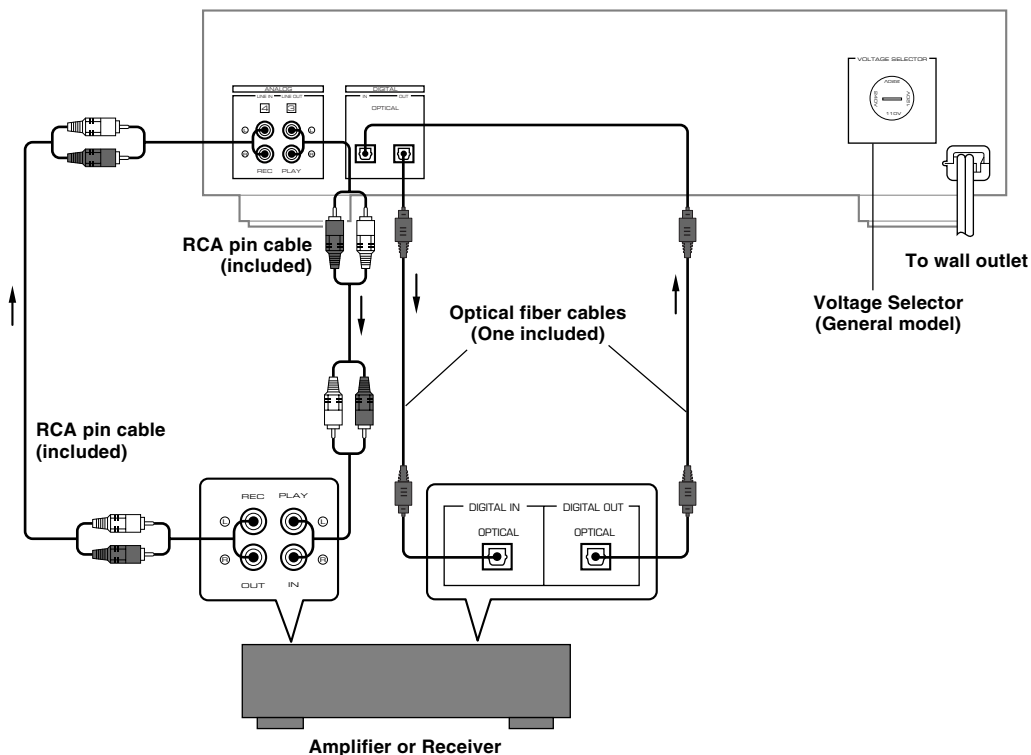
RCA pin cable (included)

Optical fiber cables (One included)

To wall outlet

Voltage Selector (General model)

Amplifier or Receiver

■ Digital connections
- Remove the jack covers for **DIGITAL IN OPTICAL** and **DIGITAL OUT OPTICAL** before starting to make connections. Using the optical fiber cable, connect the **DIGITAL IN OPTICAL** on this unit to the **DIGITAL OUT OPTICAL** on the other component, and the **DIGITAL OUT OPTICAL** on this unit to the **DIGITAL IN OPTICAL** on the other component.
- Keep the jack covers for future use. Replace them in order to protect the digital jacks from dust when the jacks are not being used.

■ Analog connections
- Make sure to correctly connect the **L** (left) and **R** (right) **ANALOG LINE IN (REC)** and **ANALOG LINE OUT (PLAY)** jacks on this unit to the **L** (left) and **R** (right) **ANALOG LINE OUT (REC)** and **ANALOG LINE IN (PLAY)** jacks on the other component.
- Connect the **ANALOG LINE IN (REC)** jack on this unit to the **ANALOG LINE OUT (REC)** jack on the other component, and the **ANALOG LINE OUT (PLAY)** jack on this unit to the **ANALOG LINE IN (PLAY)** jack on the other component.
- The **ANALOG LINE IN (REC)** and **ANALOG LINE OUT (PLAY)** jacks on this unit are numbered 4 and 3 respectively. Connect these jacks to the jacks with same numbers when connecting this unit with YAMAHA amplifier or receiver.

Plug in this unit to a wall outlet when all connections are complete.

CD Preventive Care

- This compact disc recorder is designed for use with compact discs bearing the [disc], [disc], [disc], or [disc] marks only. Never attempt to load any other type of disc into this unit.
  This unit will also play 8-cm (3-inch) compact discs.
- Compact discs are not subjected to wear during play, but damage to the disc surface when the disc is being handled can adversely affect the disc's play.
- Do not use cleaning discs or warped discs. All of these could damage the unit.

■ To prevent a malfunction of this unit

- Do not use any non-standard shaped CDs (heart, etc.) available on the market, because it may damage this unit.

- Do not use a CD with tape, seals, or paste on it, because damage to this unit may result.
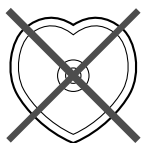- Be sure to use a felt-tip pen or similar writing tool when writing on the label side of the disc. Do not use a ball-point pen, pencil, or other hard-tipped writing tool, as these may damage the disc and may aversely affect further recording on the disc.

- Although playback of compact discs is generally not affected by small particles of dust or fingerprints on their playing surface, dust, fingerprints, small scratches and direct sunlight on the recording surface of a CD-R or CD-RW disc may make recording impossible. Therefore, for optimal performance of the recorder and for long-term enjoyment of your CD collection, handle discs correctly as outlined in the following guidelines.

  - Hold discs by touching only the edges or center hole.
  - When a disc is not currently being used, remove it from the recorder and store in an appropriate case.
  - With proper disc maintenance, cleaning should not be necessary. However, should cleaning be required, wipe by using a clean, dry cloth. Do not wipe with a circular motion; wipe straight outward from the center.
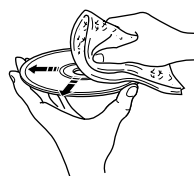
- Do not try to clean the disc's surface by using any type of disc cleaner, record spray, antistatic spray or liquid, or any other chemical-based liquid, because such substances might irreparably damage the disc's surface.
- Do not expose discs to direct sunlight, high temperature, or high humidity for a long period of time, because these might warp or otherwise damage the disc.

No!

GETTING STARTED

ENGLISH

E-7

CONTROLS AND FUNCTIONS ....

Front Panel

① **POWER** P.12,22

② Disc tray A P.14,16

③ Display P.10

④ ⏏ (Open/Close for disc tray A)

⑤ **DISPLAY A** P.10

⑥ **TEXT/TIME** P.10,20

⑦ **DISPLAY B** P.10

⑧ ⏏ (Open/Close for disc tray B)

⑨ Remote control sensor

⑩ **COPY** P.16

⑪ **FINALIZE** P.21

⑫ **REC MODE** P.16,17

⑬ **TRACK NO.** P.15

⑭ **ERASE** P.18

⑮ **INPUT** P.13,14

⑯ **MULTI JOG** P.11,15,16

⑰ Disc tray B P.12,16

⑱ **ANALOG REC LEVEL** P.15

⑲ **REC FADE IN/OUT** P.13,15,19

⑳ **REC MUTE** P.19

㉑ ▷▷/▷▷ (Skip/Search for disc tray B)

㉒ ◁◁/◁◁ (Skip/Search for disc tray B)

㉓ ☐ (Stop for disc tray B)

㉔ ▷/❚❚ (Play/Pause for disc tray B)

㉕ **PHONES LEVEL** P.27

㉖ **PHONES** P.27

㉗ ▷/❚❚ (Play/Pause for disc tray A)

㉘ ☐ (Stop for disc tray A)

㉙ ▷▷/▷▷ (Skip/Search for disc tray A)

㉚ ◁◁/◁◁ (Skip/Search for disc tray A)

Remote Control

❶ COPY P.16

❷ OPEN/CLOSE A, **B**

❸ REC FADE IN/OUT P.13,15,19

❹ REC MUTE P.19

❺ REC MODE P.16,17

❻ DISPLAY A/B P.10

❼ TIME P.10

❽ TEXT P.10,20

❾ MENU P.11,16

❿ EDIT P.20

⓫ DELETE P.20

⓬ Alphabetical/Numeric buttons P.20,23

⓭ REPEAT P.26

⓮ RANDOM P.25

⓯ ◁◁ (Search)

⓰ ⅠⅠ (Pause)

⓱ ◁◁ (Skip)

⓲ A (Disc tray A) P.24

⓳ TRACK NO. WRITE P.15

⓴ ERASE P.18

㉑ FINALIZE P.21

㉒ INPUT P.13,14

㉓ DIMMER P.10

㉔ +, **−** P.11,16

㉕ SET P.20

㉖ PROG P.24,25

㉗ CLEAR P.25

㉘ ▷▷ (Search)

㉙ ▷▷ (Skip)

㉚ ▷ (Play)

㉛ B (Disc tray B) P.24

㉜ □ (Stop)

Display

The display located in the center of this unit provides information about disc A and disc B. Press **DISPLAY A** or **DISPLAY B** on the front panel (**DISPLAY A/B** on the remote) to select the disc information you wish to see.

Disc tray A   Disc tray B

```
◀|  Open            |▶
                   L
                   R  dB-60 -30 -10  -6 -4 -2 -1 0 OVER
```
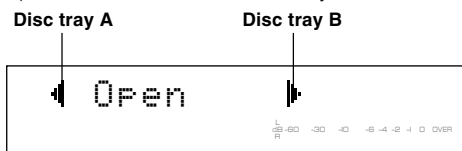
■ Displays during recording

Recording is done on disc tray B. While recording is being done, each time **TEXT/TIME** (**TIME** on the remote) is pressed, the display changes as follows:
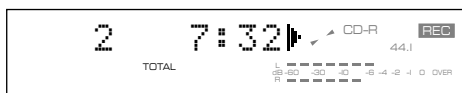
Elapsed time of the track being recorded

When recording from the LINE IN jack

```
    2    1:41 ▶|  CD-R    REC
                        44.1
                   L ▬▬▬▬▬▬▬▬▬▬
                   R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

When making a copy from disc tray A

```
▶- 8▶  2   1:41 ✓ CD-R   REC
                        44.1
                   L ▬▬▬▬▬▬▬▬▬▬
                   R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

Total time recorded on the disc

```
    2    7:32 ▶| ✓ CD-R  REC
                        44.1
       TOTAL       L ▬▬▬▬▬▬▬▬▬▬
                   R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

Total remaining recording time on the disc

```
    2   67:07 ▶|  CD-R   REC
                        44.1
       TOTAL      L ▬▬▬▬▬▬▬▬▬▬
       REMAIN     R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

■ Displays during playback

While a disc is being played, each time **TEXT/TIME** (**TIME** on the remote) is pressed, the display changes as follows:
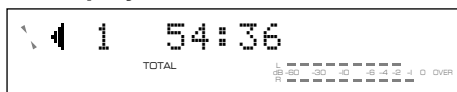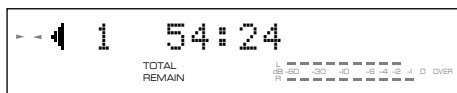
Elapsed time of the track being played

```
✓ ◀|  1    0:12
                   L ▬▬▬▬▬▬▬▬▬▬
                   R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```
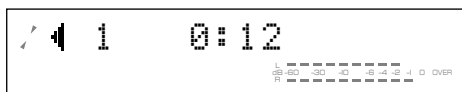
Remaining time of the track being played

```
＼ ◀|  1    4:27
       REMAIN     L ▬▬▬▬▬▬▬▬▬▬
                   R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

Total disc play time

```
＼ ◀|  1   54:36
       TOTAL      L ▬▬▬▬▬▬▬▬▬▬
                   R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

Total remaining time on the disc

```
▶-◀|  1   54:24
       TOTAL      L ▬▬▬▬▬▬▬▬▬▬
       REMAIN     R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```
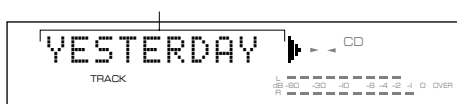
■ CD-TEXT displays

This unit is CD-TEXT compatible. When playing a CD with CD-TEXT data, the disc name and track name are displayed following after the total remaining time on the disc, by pressing **TEXT/TIME** on the front panel. When using the remote control, press **TEXT** to display the disc name and track name.

Disc name

```
BEATLES BE ▶ ✓ CD
   TITLE      L ▬▬▬▬▬▬▬▬▬▬
              R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

Track name

```
YESTERDAY ▶-✓ CD
   TRACK      L ▬▬▬▬▬▬▬▬▬▬
              R  dB-60 -30 -10 -6 -4 -2 -1 0 OVER
```

When the name contains more than 10 characters, the first 10 characters are displayed after the entire name is shown scrolled.

■ Display brightness

The brightness of the display can be changed in three degrees by pressing **DIMMER** on the remote.

Menu Setting

Before starting recording and playback, it is necessary to set the mode for each operation using the **MULTI JOG** knob on the front panel (**MENU** and **+/–** on the remote).

1. While this unit is in the stop mode, press and rotate the **MULTI JOG** knob (**MENU** and **+/–** on the remote) to display the items in the menu.

```
※Play Mode   ※ CD
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

* To select single disc play or relay play of 2 discs.

```
※Auto Play   ※ CD
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

* To select an automatic start or manual start of playback when the power is turned on.

```
※Copy Speed ※ CD
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

* To select normal (x1) or double (x2) speed when copying from disc tray A to disc tray B.

```
※FadeIn Time※ CD
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

```
※FadeOutTime※ CD
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

* To set the fade-in and fade-out time respectively for recording.

```
※SCMS Mode   ※ CD
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

* To select analog recording when digital recording is not possible for SCMS using the DIRECT copy function.

When editing CD TEXT

```
※Track Name ※ CD-R
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

```
※Disc Name   ※ CD-R
         L
         dB-60  -30  -10   -6 -4 -2 -1 0 OVER
         R
```

2. Press the **MULTI JOG** knob to select the item to be set. The options (shown underlined below) blink and alternate as the knob is rotated. Select the one to be set by pressing the **MULTI JOG** knob again.

⇒ Play <u>SINGLE</u> ↔ Play <u>RELAY</u>

⇒ Auto <u>ON</u> ↔ Auto <u>OFF</u>

⇒ Copy <u>x1</u> ↔ Copy <u>x2</u>

⇒ Fade In <u>1s</u> — <u>10s</u>

⇒ FadeOut <u>1s</u> — <u>10s</u>

⇒ <u>Can't Copy</u> ↔ <u>ANALOG Copy</u>

These settings remain even when the power is turned off.

* Enter alphabetical letters, numbers, and symbols. See page 19 for details.

RECORDING TO A DISC ....

**1**   **2,4**   **3**

2,4
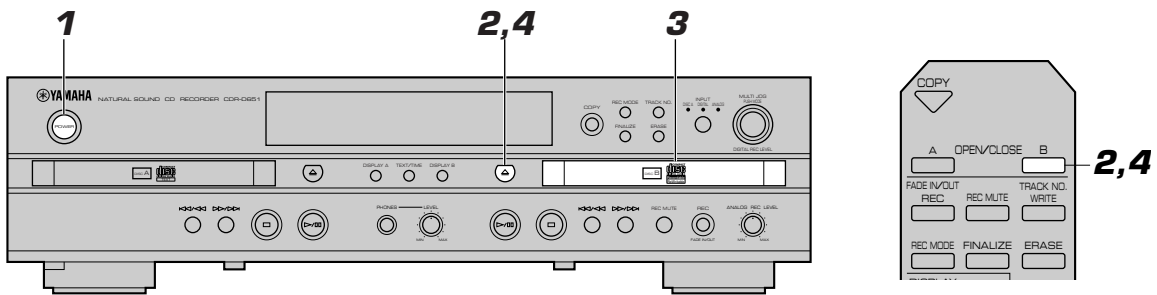
Basic Recording Operation

Recording is done on disc tray B of this unit. Disc tray A is used for playback only. Recording operation is described with buttons on this unit and the remote control. These button names are noted in the order of "button name (remote control button name)".

■ To load a disc

1. Press **POWER** on the front panel to turn on the power.

2. Press ⏏ for disc tray B on your right (**OPEN/ CLOSE B** on the remote) to open the disc tray.

3. Load a disc to be used for recording, correctly aligned in the recessed area of the disc tray with its recordable side facing down.

When loading an 8 cm (3 in.) disc, place it in the inner recessed area of the disc tray. Do not put a normal 12 cm (5 in.) disc on top of an 8 cm disc.
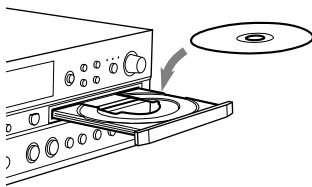
4. Press ⏏ (**OPEN/CLOSE B** on the remote) to close the disc tray.

Note

• You can also close the disc tray by pressing the front edge of the disc tray gently.

When a new disc is loaded in this unit, this unit performs a number of internal operations to determine the format and content of the disc. During this time, "Reading" appears in the display. This process requires approximately 10 seconds to complete for any type of disc.

```
Reading ▶☼
                        L
                      dB R -60  -30  -10  -6 -4 -2 -1 0 OVER
```

When a CD-R disc without finalization performed or a CD-RW disc is loaded in this unit, OPC (Optimum Power Calibration) is automatically performed to make an optimal recording. OPC optimizes the laser power to the reflectivity of the disc.

During OPC, "OPC Adjust" appears in the display. This process requires approximately 15 seconds for a CD-R and 45 seconds for a CD-RW to complete.

Note

• OPC data is memorized both in this unit and the disc. This unit can memorize the OPC data for up to 24 discs. After 24 discs are reached, the oldest OPC data will be deleted and the newest one will be added.
OPC process will not be performed on the disc if its OPC data has been already in this unit's memory. (When Disc Erase is performed on a CD-RW disc, its OPC data will be also erased.)

```
OPC Adjust▶☼
                        L
                      dB R -60  -30  -10  -6 -4 -2 -1 0 OVER
```
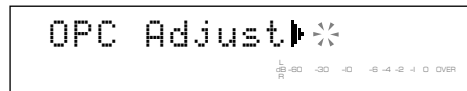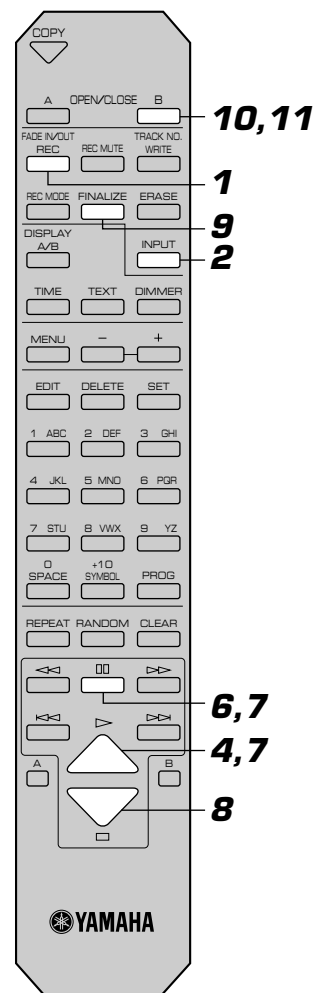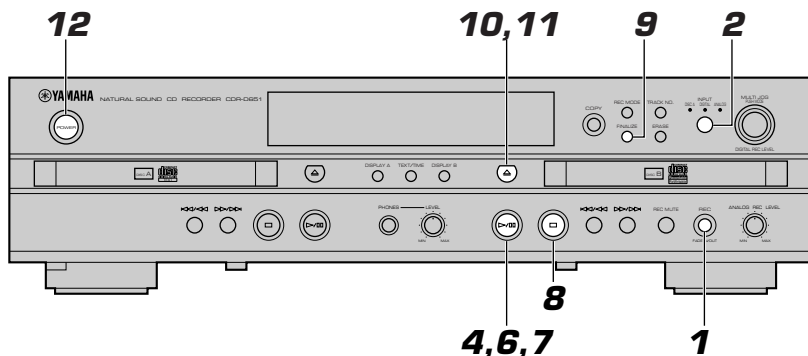
After the disc has been read and any necessary internal adjustments have been performed, one of the following displays appears, and normal operation is possible.

When a prerecorded audio CD is loaded in this unit

```
1        ⁞   ▶☼ CD
                        L
                      dB R -60  -30  -10  -6 -4 -2 -1 0 OVER
```

When a new CD-R or CD-RW disc is loaded in this unit

```
0        ⁞   ▶☼ CD-R
                        L
                      dB R -60  -30  -10  -6 -4 -2 -1 0 OVER
```

12　　　　　**10,11**　　**9**　**2**

RECORDING

10,11

1

9

2

6,7

4,7

8

8

4,6,7　　　　　**1**

■ To start recording

1. Press **REC**.
This unit enters the record pause mode.

```
Standby ▶ ☼ CD-R        REC

L
dB-60    -30   -10   -6 -4 -2 -1 0 OVER
R
```

2. Select the appropriate input signal to be used for recording by pressing the **INPUT** button.
(See page 14 for details.)

3. Adjust the recording level.
(See page15 for details.)
The recording level can be adjusted when making digital and analog recordings. However the recording level cannot be changed when making a CD DIRECT copy.

4. Press ▷/▯▯ (▷ on the remote) to start recording.

5. Start playing the source.

6. Press ▷/▯▯ (▯▯ on the remote) to pause recording temporarily.
"Standby" lights in the display.

7. To resume recording, press ▷/▯▯ (▷ or ▯▯ on the remote).

8. Press ▢ to stop recording.
"Wait" lights in the display while information is being written to the PMA (Program Memory Area).

9. Finalize the disc when recording is complete.
See page 21 for the finalization procedure.

10. Press ⏏ (**OPEN/CLOSE B** on the remote) to open the disc tray and remove the disc.

11. Press ⏏ (**OPEN/CLOSE B** on the remote) again to close the tray.

12. Press **POWER** to turn off the power when you have finished using this unit.


Important
- Do not turn off the power during recording. If the power is turned off, recorded material may be lost or the disc may not perform normally.
- If the power is turned off while recording on a CD-R disc, any material recorded before the information is written to the PMA (Program Memory Area) will be lost and further recording on that disc will not be possible.
- During recording, make sure that this unit is not subjected to shock or vibration as it may cause skips or jumps to be included in the recording.

ENGLISH

E-13

RECORDING TO A DISC ....

Selecting an Input Source

Press **INPUT** to select the appropriate input source to be used for recording among optical digital recording, analog recording, and copying from disc tray A.
- To record a digital source, press **INPUT** to light DIGITAL.
- To record an analog source, press **INPUT** to light ANALOG.
- To record a source CD placed on the disc tray A, press **INPUT** to light DISC A. A CD placed on the disc tray A can be recorded to a CD-R or CD-RW disc.
  The copy speed can be selected at either normal speed (as you listen) or double speed (takes half of the time of normal speed recording).
- When CD DIRECT copy is selected, DISC A automatically lights.
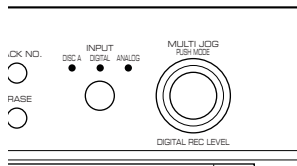
- Regardless of the INPUT setting, both digital and analog signals are output at the same time.
- When DIGITAL or DISC A is selected using **INPUT**, the input digital sampling frequency is indicated in the display.
- Make this input source selection while this unit is in the stop or record pause mode.

Selecting a Recording Mode

This unit features a number of recording modes. Select the appropriate mode that suits your purpose.

■ CD DIRECT copy
A source CD placed on the disc tray A can be directly recorded to a CD-R or CD-RW disc placed on the disc tray B.

■ Single track synchronized recording
This unit automatically starts recording a single track when the source component starts playback. This mode is convenient for recording a mix of single tracks from different sources.

■ All track synchronized recording
This unit automatically starts recording all tracks when the source component starts playback. Track numbers are automatically placed between the tracks being recorded.

■ Full AUTO synchronized recording
This mode automatically finalizes the disc after all track synchronized recording. A CD-R disc can then be played on a standard CD player.

■ Manual recording
In this recording mode, all recording operations (such as starting, stopping, track marking, and finalization) are manually performed.

When recording onto a partially recorded disc
If a CD-R or CD-RW disc has some recording time remaining on it before finalization is performed, any of the recording modes can be normally performed. Recording automatically starts from the location immediately after the last recorded track on the disc.

### In the following cases recording is NOT possible
- When the CD indicator is lit indicating that a CD or finalized CD-R disc is loaded in this unit.
- When the CD-RW and TOC indicators are lit indicating that a finalized CD-RW disc is loaded in this unit.
- When there is no recording time remaining on the disc and "Disc Full" appears in the display.
- When 99 tracks have been recorded and "Track Full" appears in the display. Only 99 tracks may be recorded on a CD.
- When the CD-R or CD-RW disc loaded in this unit is not intended for recording audio and "Not Audio" appears in the display.

Before CD-R discs can be played on standard CD players – Finalization
When you have finished recording on a CD-R disc, it is necessary to finalize the disc to make it compatible with standard CD players. If this procedure is not performed, the CD-R disc will not be playable on a standard CD player.
- If Full AUTO synchronized recording or CD DIRECT copying is performed, finalization is automatically performed following the conclusion of recording.

Setting the Recording Level

**MULTI JOG**

REC
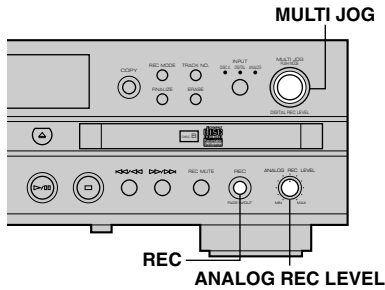
ANALOG REC LEVEL

There are two knobs used for setting the recording level depending on the input source. When ANALOG is selected using **INPUT**, the **ANALOG REC LEVEL** knob is used for setting. When DIGITAL or DISC A is selected, it is not normally necessary to set the recording level. However it is possible to lower the recording level using the **DIGITAL REC LEVEL** knob.

■ Analog recording

1. Press **REC** to set this unit to the record pause mode.

```
Standby  ▶ ✳ CD-R      REC
                                         L
                                         R ᴰᴮ-60  -30  -10  -6 -4 -2 -1 0 OVER
```

2. Play the loudest passage of the source to be recorded.

3. Set the recording level using the **ANALOG REC LEVEL** knob.

ANALOG REC LEVEL

MIN   MAX

```
L
dB-60   -30   -10   -6 -4 -2 -1 0 OVER
R
```
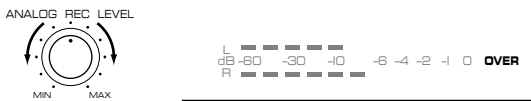
Adjust the recording level so that the OVER indicator does not light at the loudest sound levels.

■ Digital recording

The digital recording level is set by default to 0dB, the level of the input source. Normally, it is not necessary to adjust the recording level.

However, it is possible to lower the recording level between 0 and –64dB if necessary.

The recording level can be adjusted by 1dB steps using the **DIGITAL REC LEVEL** knob (**MULTI JOG** knob) (**+/–** on the remote), while this unit is in the record or record pause mode.

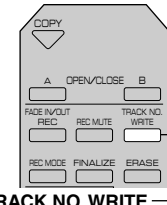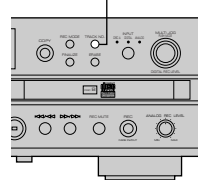**DIGITAL REC LEVEL knob**

+/– buttons
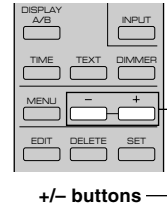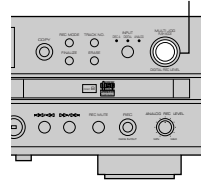
■ CD DIRECT copy

The recording level cannot be changed when the CD DIRECT function is on.

Manual Track Marking

This unit can automatically place track markers. However you can also manually place track markers as you like anywhere in your recording.

TRACK NO.

TRACK NO. WRITE

While recording, press **TRACK NO.** (**TRACK NO. WRITE** on the remote).

- A new track number is added at the location on the disc corresponding to the time **TRACK NO.** (**TRACK NO. WRITE** on the remote) is pressed.
- Tracks cannot be shorter than 4 seconds, and a disc cannot contain more than 99 tracks. Even if there is time remaining on the disc, further recording is impossible once 99 tracks have been recorded.

Notes

- Manual track marking is recommended for the following:
  * When an analog source is being recorded that contains a section or numerous sections with levels too low to be detected on the level meter.
  * When recording digital satellite broadcasts
- Manual track marking is possible even during synchronized recording only if it is not digital recording from an external unit.

RECORDING

ENGLISH

E-15

RECORDING FUNCTIONS ....

CD DIRECT Copy

This unit has a CD DIRECT copy function using both disc trays. It digitally copies an entire source CD placed on disc tray A onto a disc placed on disc tray B to be used for copying.

When making a CD DIRECT copy, the copy speed can be selected at either normal or double speed. However the recording level cannot be changed when making a CD DIRECT copy.

1. Load a source CD on disc tray A and a disc to be used for copying on disc tray B. Press ⏏ (**OPEN/ CLOSE** on the remote) to close the trays.
Make sure that the recordable time on the disc to be used for recording is longer than the total play time on the source CD.

2. Press and rotate the **MULTI JOG** knob on the front panel (**MENU** and **+/–** on the remote) to select "Copy Speed" in the set menu shown in the display. Then press the **MULTI JOG** knob (**MENU** on the remote) again.

```
⁚⁚Copy x2          ⁚⁚  CD-R
                   L
                   R  dB -60  -30  -10  -6 -4 -2 -1 0 OVER
```
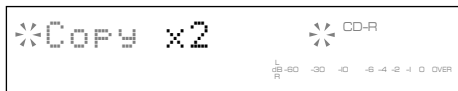
3. Copy speeds of "x1" and "x2" appear blinking alternately in the display as the **MULTI JOG** knob (**+/–** on the remote) is rotated. Select the desired copy speed by pressing the knob (**+/–** on the remote).

4. After the copy speed is set, press **COPY** to start a CD DIRECT copy.
When making a CD DIRECT copy with the synchronized recording mode described in the next section, press **REC MODE** to select the synchronized recording mode and press **COPY**.
When copying is complete, finalization automatically starts and the disc can then be played on a standard CD player. However, finalization is not performed when doing single or all track synchronized recording.

Notes

- While making a CD DIRECT copy at double speed, the analog signal can be heard but the digital signal can not.
- Never turn off the power or pull out the plug out from the wall outlet during a CD DIRECT copy.
- A disc copied from a source CD cannot be copied to another disc.
  See page 28 for Serial Copy Management System (SCMS) standards.
- If a disc cannot be digitally copied, analog copy is possible. To make an analog copy, set the "SCMS Mode" to "ANALOG" in the menu settings. (See page 11 for details.)

Synchronized Recording

This function automatically starts recording when an audio signal is detected. Therefore, recording starts at the same time the source CD starts playback. There are three ways of doing synchronized recording as follows:

■ Single track synchronized recording

This mode is convenient for recording a mix of tracks from different sources. A new track marker is automatically placed at the start of each track.
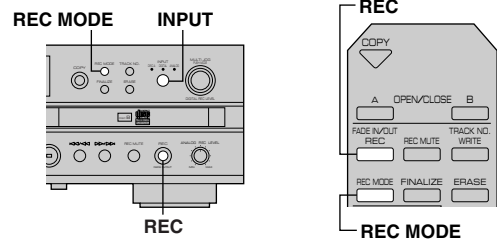
1. Load a disc to be used for recording.
Use a disc containing enough space for recording a source CD.

2. Press **REC** to set this unit to the record pause mode.

3. Select the appropriate input source to be used for recording by using **INPUT** on the front panel.

4. Adjust the recording level. (See page 15.)

5. Make sure that the source component is in the stop mode.

6. Press **REC MODE**.
The SINGLE and SYNCHRO indicators light in the display.

```
    2        1:41▶  ⁚⁚ CD-R    REC
                               44.1
SINGLE         L  dB -60  -30  -10  -6 -4 -2 -1 0 OVER
SYNCHRO        R
```

7. Start playing the source.
- This unit automatically starts recording.
- When playback of the current track is over (digital recording), or this unit has recorded 4 seconds of continuous silence as a track separation (analog recording), recording ends. Then this unit enters the record pause mode and synchronized recording mode is canceled.
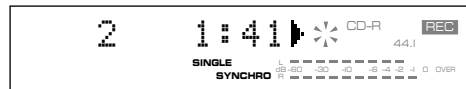
8. Repeat steps **5**, **6** and **7** to record another track.

9. Press ☐ when all recording is complete.
Disc information is being written to the PMA (Program Memory Area).

When all recording is complete, perform finalization. (See page 21 for the finalization procedure.)
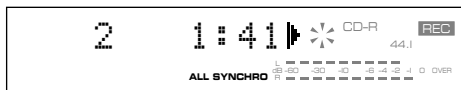
■ All track synchronized recording

This mode is convenient for recording all of the material from a single audio source such as an MD, cassette tape, or LP. Track markers are automatically placed between the tracks being recorded.

1-5. Repeat the steps described in the previous section "Single track synchronized recording".

6. Press **REC MODE** twice.
ALL and SYNCHRO indicators light in the display.

```
  2        1:41 ▶ ☼ CD-R    REC
                            44.1
           L ━ ━ ━ ━ ━ ━ ━ ━ ━ ━
ALL SYNCHRO  dB-60 -30 +0 -8 -4 -2 -1 0 OVER
           R ━ ━ ━ ━ ━ ━ ━ ━ ━ ━
```

7. Start playing the source.
- This unit automatically starts recording.
- When making a digital recording, a new track marker is placed each time a new track begins on the source component.
- When making an analog recording, spaces of silence are interpreted as track separations, and a new track marker is placed when a new audio signal is detected. The silence should be about 4 seconds long.

8. Once this unit has recorded 20 seconds of continuous silence, recording ends and "Wait" lights in the display while the disc information is being written to the PMA.
After this writing is complete, this unit enters the stop mode.

When all recording is complete, perform finalization. (See page 21 for the finalization procedure.)

Notes

- Track numbers may not be correctly recorded depending on the source component. In this case, perform track marking manually.
- If the recording source has excessive noise or contains a lot of low level sound, track marking may not be properly performed without the silence being recognized. In this case, perform track marking manually.
- If the sampling frequency changes while making digital recordings from an external unit, this unit may fail to perform synchronized recording normally.

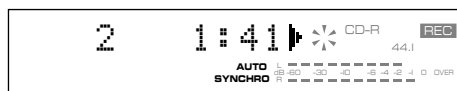## ■ Full AUTO synchronized recording with finalization

This mode automatically performs finalization after all synchronized recording is complete.
(See page 21 for the finalization procedure.)

1-5. Repeat the steps described in the section "Single track synchronized recording".

6. Press **REC MODE** three times.
AUTO and SYNCHRO indicators light in the display.

```
  2        1:41 ▶ ☼ CD-R    REC
                            44.1
           L ━ ━ ━ ━ ━ ━ ━ ━ ━ ━
  AUTO       dB-60 -30 +0 -8 -4 -2 -1 0 OVER
SYNCHRO    R ━ ━ ━ ━ ━ ━ ━ ━ ━ ━
```

7. Start playing the source.
This unit automatically starts recording.

8. Once this unit has recorded 20 seconds of continuous silence, recording ends and "Wait" lights in the display while the disc information is being written to the PMA.

9. Finalization automatically starts after this writing is complete.
- Press □ to cancel finalization before the 20 seconds of continuous silence is reached.
- Once finalization is started, operation buttons do not work.
- Never turn off the power during finalization.
- Recording stops while the source is being played if there is no more recordable space on a disc, or 99 tracks have been already recorded. In this case, perform finalization manually.

Note

- When making a synchronized recording after DISC A is selected using **INPUT**, track marking and ending are all performed based on the CD placed on disc tray A. Also recording can be done at double speed if necessary by changing the copy speed in the menu settings when DISC A is selected.

RECORDING

ENGLISH

E-17

RECORDING FUNCTIONS ....

Track and Disc Erase (CD-RW discs only)

CD-RW discs can be erased and new recordings can be made after material has been erased. The following 4 types of erasing are possible with this unit.

■ Last Track Erase

This operation erases the last track. Last Track Erase cannot be done if a CD-RW disc has been finalized or only one track has been recorded on the disc.

1. Load a CD-RW disc that has been recorded on.
  - This operation is not possible on a finalized CD-RW disc.

2. Press **ERASE**.
  - "Erase LAST?" appears in the display.
  - Proceed to the next step when erasing only the last track. To erase other tracks as well, select the track number from which you wish to start erasing by rotating the **MULTI JOG** knob counterclockwise.
  - To cancel the Erase mode, press □.

3. Press ▷/❙❙ (▷ on the remote) to start Last Track Erase.
  - This operation requires from several seconds up to a few minutes to complete.
  - During Last Track Erase, "Erasing" appears in the display, and the approximate amount of elapsed time is displayed.

4. This unit enters the stop mode when erase is complete.

■ All Track Erase

This operation erases all of the tracks. All Track Erase cannot be done if a CD-RW disc has been finalized.

1. Load a CD-RW disc that has been recorded on.
  - This operation is not possible on a finalized CD-RW disc.

2. Press **ERASE** until "Erase ALL?" appears in the display.
  - To cancel the Erase mode, press □.

3. Press ▷/❙❙ (▷ on the remote) to start All Track Erase.
  - This operation requires approximately 80 seconds.
  - During All Track Erase, "Erasing" appears in the display, and the approximate amount of elapsed time is displayed.

4. This unit enters the stop mode when erase is complete.

■ TOC Erase

TOC erase is only available on a CD-RW disc that has been finalized. After the TOC is erased, the effects of finalization are defeated, and further recording is possible.

1. Load a CD-RW disc that has been finalized.

2. Press **ERASE**.
  - "Erase TOC?" appears in the display.
  - To cancel the Erase mode, press □.

3. Press ▷/❙❙ (▷ on the remote) to start TOC Erase.
  - This operation requires approximately 80 seconds to complete.
  - During TOC Erase, "Erasing" appears in the display, and the approximate amount of elapsed time is displayed.

4. This unit enters the stop mode.

> *Notes*
> - When TOC Erase is complete, the TOC indicator turns off.
> - When CD TEXT is recorded on a CD-RW disc, the TOC indicator blinks in the display. To save this data, perform finalization.

■ Disc Erase

This operation deletes all data on the disc. It is usually not necessary to perform this function, however, it may be used to recover a disc.

1. Load a CD-RW disc that has been recorded on.
  - This operation is possible on both finalized and underlined discs.

2. Press and hold **ERASE** for about 2 seconds.
  - "Erase DISC?" appears in the display.
  - To cancel the Erase mode, press □.

3. Press ▷/❙❙ (▷ on the remote) to start Disc Erase.
  - This operation requires approximately a half of the total recordable time on the disc.

4. The disc tray opens when Disc Erase is complete.

> *Notes*
> - When there is only one track recorded on a CD-RW disc that has not been finalized, only All Track Erase is possible.
> - Do not turn off the power during the erase operation as it could cause this unit to malfunction and make the disc unusable.
> - If the message "Check Disc" appears in the display during an erase operation and erasing stops, the disc may be damaged. In this case, inspect the disc and then try erasing it again.

REC Mute
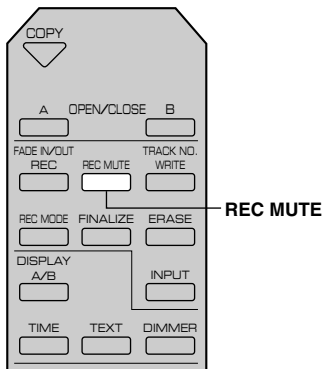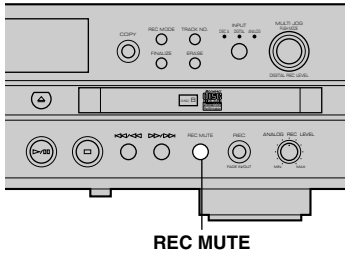
REC MUTE

REC MUTE

Press **REC MUTE** to create a blank space at the end of recording. A 4-second blank space is recorded, and this unit enters the record pause mode. To create a blank space longer than 4 seconds, press and hold **REC MUTE**. When **REC MUTE** is released, this unit enters the record pause mode. During the REC MUTE operation, the REC indicator blinks.

Fade In/Fade Out Function

This unit has a fade-in function to gradually rise the recording level at the start of recording and a fade-out function to gradually lower the recording level at the end of recording.

■ Fade In

While this unit is in the record pause mode, press **REC** to start a recording with a fade-in. During this recording, the REC indicator blinks in the display.
Fade-in lasts about 3 seconds. However it is possible to adjust the fade-in time between 1 and 10 seconds in the menu settings.

■ Fade Out

Press **REC** during recording to end the recording with a fade-out. This unit enters the record pause mode when fade-out recording is complete. Fade-out time can also be adjusted in the menu settings.

■ To change the fade-in and fade-out time

1. While this unit is in the record or stop mode, press and rotate the **MULTI JOG** knob (**MENU** and **+/–** on the remote) to select "FadeIn time" or "FadeOutTime" in the set menu.

2. Press the knob (**MENU** on the remote) again and rotate the knob (**+/–** on the remote) to set the desired time between 1 and 10 seconds.

3. Press the MULTI JOG knob (MENU on the remote) again to enter the time setting. This setting remains even when the power is turned off.

CD TEXT Copying and Editing

This unit is CD TEXT compatible. When digitally recording a disc with CD TEXT data, the data is automatically recorded onto the disc loaded on the disc tray B. It is also possible to edit CD TEXT data on the newly recorded disc.

■ CD TEXT copying

CD TEXT data is automatically copied as the source CD is recorded, when recording a source CD with CD TEXT data (23 characters maximum) placed on the disc tray A onto a disc placed on the disc tray B with DISC A selected using **INPUT**, or with the CD DIRECT copy function. To save the CD TEXT data on the disc, perform finalization. CD TEXT data is displayed by pressing **TEXT/TIME** on the front panel (**TEXT** on the remote). See page 10 for details.
CD TEXT copying cannot be made when doing manual recording.

TEXT/TIME
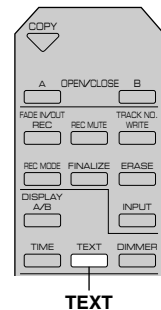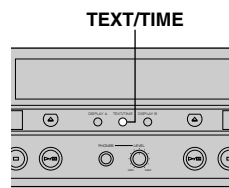
TEXT

Note

• Some CD TEXT data cannot be copied if they are protected by copyright.

RECORDING

ENGLISH

RECORDING FUNCTIONS ....

■ CD TEXT editing

This unit can edit CD TEXT data on the disc to be used for recording. Each name can contain up to 23 characters using capital and lower case letters of the alphabet, numbers, and symbols. CD TEXT data editing should be complete before finalization is performed. Once the disc is finalized, CD TEXT data editing is not possible.

Making a name using the MULTI JOG knob
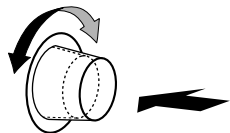
1. Load a disc that you wish to enter a name for on disc tray B.

To make a disc name, press and rotate the **MULTI JOG** knob to select "Disc Name" in the set menu while this unit is in the stop mode. To make a track name, select "Track Name" in the set menu by rotating the **MULTI JOG** knob. Then select the track that you wish to enter a name for using ▷▷| while this unit is in the stop mode. Follow the steps described below to complete a disc and track name.

2. When the **MULTI JOG** knob is pressed, a cursor appears in the display. Rotate the **MULTI JOG** knob to select the character you wish to use from the character selection. Press the knob when you find the desired character.

Press the knob again to enter the character. Character selection appears in the display in the order of alphabet capital letters, alphabet lower case letters, numbers, and symbols. Rotate the **MULTI JOG** knob clockwise or counterclockwise to find the desired character.

3. After the character is selected, press the knob to enter the character entry and move the cursor to the next space.

Repeat this step to complete the name. Each name can contain up to 23 characters.

4. After all characters are entered, press and hold the **MULTI JOG** knob for 2 seconds to enter the name.

Making a name using the remote control

1. Repeat step **1** in "Making a name using the MULTI JOG knob" to select "Disc name" or "Track name" and press **EDIT** while this unit is in the stop mode. Then the cursor appears in the display.

2. Select the characters to be used using the numeric buttons.

Alphabet capital letters, alphabet lower case letters, and numbers switch each time the buttons are pressed. To make a space, press **SPACE**. To use a symbol, press **SYMBOL** to select the desired symbol.

3. Select the next character with the appropriate button.

When using the same button, move the cursor to the next space by pressing ▷▷|. Repeat the steps described above to complete a name. Each name can contain up to 23 characters.

4. After all characters are entered, press **SET** to enter the name.

To correct names

Press |◁◁ or ▷▷| for the disc tray B (|◁◁ or ▷▷| on the remote) to move the cursor to the character to be corrected. Press **ERASE** (**ERASE** or **DELETE** on the remote) or select the correct character and press **SET** to enter the new name.

■ Editing on the disc

After the disc name or track name is complete, the TOC indicator blinks in the display. Perform finalization in order to record this CD TEXT data on the disc. (See the next page for the finalization procedure.) You will then have a complete disc with CD TEXT data.

Notes

- CD TEXT data is normally edited while this unit is in the stop mode. However it is possible to edit the disc name and track name for the track being played or recorded. In this case, perform finalization after pressing □ when editing is complete.
- When editing is complete, if you attempt to open the disc tray before finalization is performed, "TEXT Save?" appears in the display. In this case, press ▷/❚❚ (▷ on the remote) twice to start finalization. If the disc tray is opened by pressing ⏏ (**OPEN/ CLOSE** on the remote), the edited CD TEXT data will be lost.

Finalization

Finalization is the process that concludes recording, and allows a CD-R disc to be played on a standard CD player. (CD-RW discs can only be played on a CD-RW compatible player even after finalization has been performed. CD-RW discs cannot be played on a standard CD player.)

- Once a CD-R disc is finalized, recording is no longer possible. Please ensure the disc is in its final form before performing finalization.
- If the power is turned off or interrupted during finalization, the disc may not be usable.
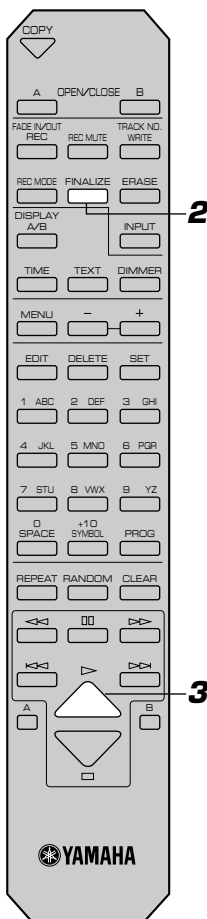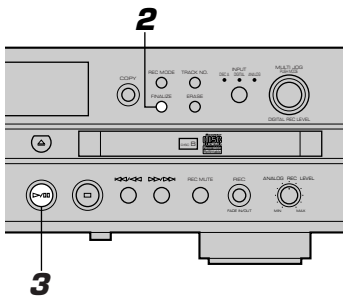
■ To finalize a CD-R or CD-RW disc

1. Load a recorded (but not finalized) CD-R or CD-RW disc.
   - Before loading the disc, make sure there are no scratches, dust, fingerprints or similar marks on the disc. If necessary, clean the disc as described on page 7.

2. Press **FINALIZE**.

   - To cancel finalization, press □.

3. Press ▷/❙❙ (▷ on the remote) to start finalization.

   - The approximate amount of elapsed time is displayed. Finalization can usually be completed within about 2 minutes.
   - When CD-R disc finalization is complete, the CD-R indicator changes to the CD indicator in the display, and this unit enters the stop mode.
   - When CD-RW disc finalization is complete, the TOC indicator lights in the display, and this unit enters in the stop mode.

Notes

- Once the finalization process has started, no other operation is possible until finalization has been complete.
- If the disc is marked or scratched, finalization may not be possible.
- Do not turn off the power or disconnect the power during finalization.

RECORDING

ENGLISH

E-21

PLAYING 1 OR 2 CDS . . . .
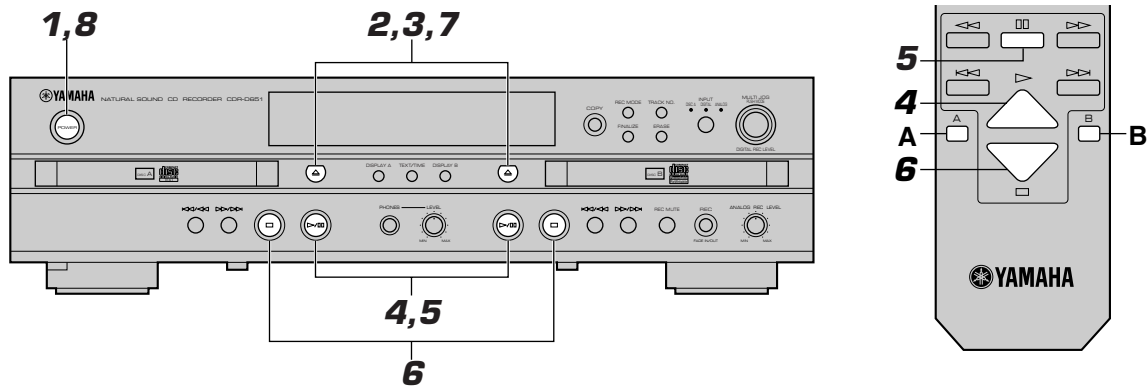
Basic Playback Operation

This unit has two trays; one on the left for playback only, and the other on the right for both recording and playback. Each tray has its own operation buttons. When operating this unit with the remote control, select A or B to use the operation buttons on the remote.

CDs, finalized CD-R discs, and finalized CD-RW discs can be played on disc tray A. CDs, CD-R discs, and CD-RW discs can be played on disc tray B.

■ To load a CD

1. Press **POWER** on the front panel to turn on the power.

2. Press ⏏ (**OPEN/CLOSE** on the remote) to open the disc tray.

3. Load a CD to be played on the disc tray and close the disc tray.

■ To play

4. Press ▷/⏸ (▷ on the remote) to start playback from the beginning of the first track.

5. Press ▷/⏸ (⏸ on the remote) to pause playback temporarily.
Press ▷/⏸ (▷ or ⏸ on the remote) to resume playback.

6. Press ☐ to stop playback.

■ When finishing playback

7. Press ⏏ (**OPEN/CLOSE** on the remote) to remove the CD and close the disc tray.

8. Press **POWER** to turn off the power.

Relay Playback of 2 CDs

This unit can play two CDs placed on trays A and B consecutively. When one CD ends, the other CD automatically starts from its first track.

1. Load a CD to be played on each tray.

2. Press and rotate the **MULTI JOG** knob (**MENU** and **+/–** on the remote) to select "Play Mode" in the set menu.

```
☼Play Mode    ☼ CD
        L
        R dB -60  -30  -10   -6 -4 -2 -1  0  OVER
```
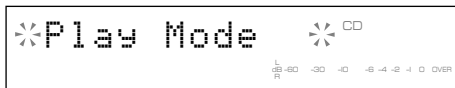
3. Press the **MULTI JOG** knob (**MENU** on the remote) again. Then the following displays appear blinking alternately as the knob is rotated.

```
☼Play SINGLE☼
```
```
☼Play RELAY ☼
```
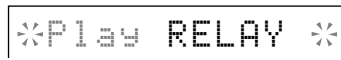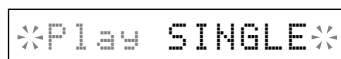
4. Select "RELAY" and press the **MULTI JOG** knob (**MENU** on the remote) again to enter the playback setting.

```
☼Play RELAY ☼ CD
        L
        R dB -60  -30  -10   -6 -4 -2 -1  0  OVER
```
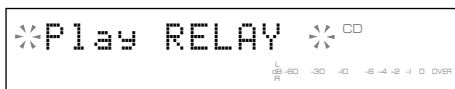
5. Press ▷/⏸ (▷ on the remote) for the disc tray on which the CD to be played first is placed.

6. When playback of the second disc ends, this unit enters the stop mode.

K◁◁/◁◁

▷▷/▷▷I
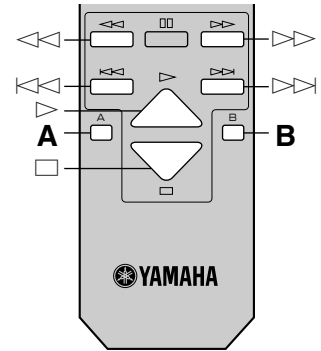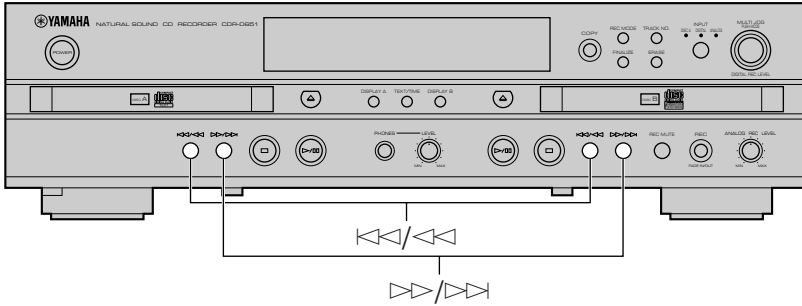
Searching

■ To go forward rapidly
Press and hold ▷▷/▷▷I (▷▷ on the remote) during playback.
When the button is released, normal playback is resumed.

■ To go backward rapidly
Press and hold K◁◁/◁◁ (◁◁ on the remote) during playback.
When the button is released, normal playback is resumed.

Notes
- With analog connection, low level sound can be heard when searching is performed during playback.
- No sound can be heard when searching is performed during the pause mode.

Skipping Tracks

■ To advance to the next track
During playback, press ▷▷/▷▷I (▷▷I on the remote).
Pressing ▷▷/▷▷I (▷▷I on the remote) repeatedly advances to other tracks.

■ To return to the beginning of current track
During playback, press K◁◁/◁◁ (K◁◁ on the remote) once.

■ To return to previous tracks
During playback, press K◁◁/◁◁ (K◁◁ on the remote) twice in succession to return to the previous track. Pressing K◁◁/◁◁ (K◁◁ on the remote) repeatedly returns to other previous tracks.

Note
- It is also possible to use ▷▷/▷▷I or K◁◁/◁◁ (▷▷I or K◁◁ on the remote) to cue a track while this unit is in the pause or stop mode. To start playback, press ▷/□□ (▷ on the remote).

■ To play the desired track number on the disc
Select a desired track by using the numeric buttons on the remote. The selected track number appears in the display.

Example: To select track 25
Press +10 twice, then immediately press 5 once.

■ To select the desired track number using the MULTI JOG knob
Rotate the **MULTI JOG** knob clockwise to advance to the next track or counterclockwise to the beginning of the current track or the previous track.

Notes
- If the track number selected is higher than the highest track number on the CD, the last track on the CD will be played.
- Pressing ▷/□□ (▷ on the remote), the numeric buttons and **RANDOM** on the remote, closes the disc tray and playback starts.
  The total number of tracks and total recorded time on the CD are not displayed at this time.

PLAYBACK

ENGLISH

E-23

PLAYBACK FUNCTIONS ....

Program Play

You can enjoy listening to your favorite tracks in any desired order by programming tracks.
This unit can program a total of as many as 40 tracks on disc tray A and B using the remote control.

TIME

Numeric buttons

PROG

CLEAR

A   **B**
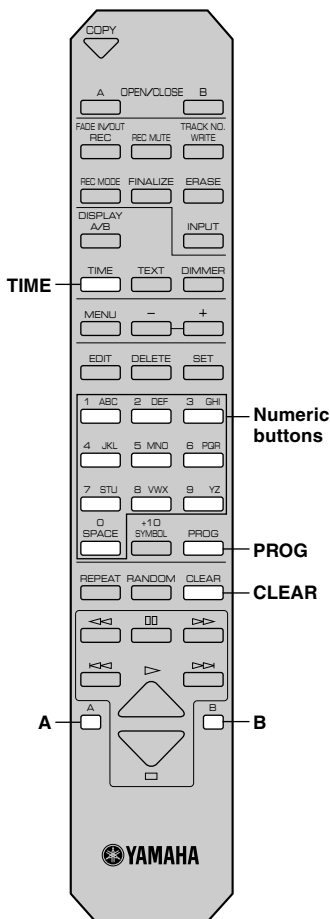
■ To program

1. Press **PROG** on the remote to begin programming while this unit is in the stop mode.

2. Press **A** or **B** located at the lowest part of the remote to select a disc to be programmed.
   • The following display appears when programming disc A.

```
A-__  STEP 1
PROG                              L  dB-60  -30  -10  -8 -4 -2 -1  0  OVER
                                  R
```

3. Press the corresponding numeric buttons on the remote to program the first track. The time of the first programmed track is displayed and then the following display appears.

```
A-__  STEP 2
PROG                              L  dB-60  -30  -10  -8 -4 -2 -1  0  OVER
                                  R
```

4. Repeat the step described above to program other tracks on disc A.
   • To begin programming tracks on disc B, press **B** on the remote and press the corresponding numeric buttons.
   • Total track time programmed is displayed for 2 seconds after each track is added to the program.

5. Press **PROG**, when programming is complete. To start playback of the programmed tracks, press ▷.

Notes

• During programming, if **TIME** is pressed, the total track time programmed is displayed. To return to the previous display, press **TIME** again.
• To skip tracks within the program, press ◁◁ or ▷▷ during program play.
• To search all tracks including unprogrammed tracks, press and hold ◁◁ or ▷▷ during program play.
• Make sure that both disc trays are closed when programming tracks.

■ To check program data

1. Press **PROG** during programming to display the track number of the first track.

2. Each time ⊲⊲ or ⊳⊳ is pressed, the programmed track numbers and their order in the program can be checked.

■ To correct program data

1. Press ⊲⊲ or ⊳⊳ during programming to select the track number to be corrected. The track number blinks in the display.

2. Press the numeric buttons to select a track to replace the one displayed. The previously programmed track is cleared from the memory and the new one is displayed.

3. After correction has been complete, press **PROG**.

■ To stop program play

Press □ and the first programmed track number is displayed. To resume program play again from the beginning of the program press ▷.

■ To cancel the program play mode

Press **CLEAR** or □ while this unit is in the stop mode.

Random Play

You can play all tracks in the disc in a random sequence.
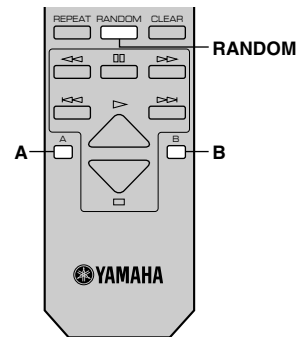
1. Load a disc and press **RANDOM** on the remote. The RNDM indicator appears in the display and random play begins.
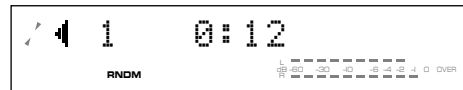
2. To stop the random play, press □ (**RANDOM** on the remote). The RNDM indicator in the display turns off.

3. To play a random sequence with two CDs, press **RANDOM** on the remote after relay play of the two CDs is set as described on page 22.

PLAYBACK

ENGLISH

PLAYBACK FUNCTIONS ....

Single Repeat

You can listen to a desired single track or the track being played repeatedly.

1. Press **REPEAT** on the remote. REP S indicator appears in the display.
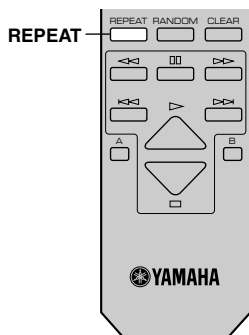
Repeat play can be done during program play or random play.

Full Repeat

You can listen to the entire CD on disc tray A or B repeatedly.

1. Set "Play Mode" in the set menu to SINGLE.

2. Press **REPEAT** on the remote until the REP F indicator appears in the display.

All tracks on a disc are repeatedly played.
- During program play, all programmed tracks are played repeatedly.
- During random play, all randomly sequenced tracks are played repeatedly.

Repeat Relay

You can repeatedly listen to all of the tracks on both CDs placed on disc tray A and B alternately.

1. Set the "Play Mode" in the set menu to RELAY.

2. Press **REPEAT** on the remote until the REP F indicator appears in the display.

3. When one CD ends, the other CD starts playback.

The two CDs are repeatedly played one after another. To cancel repeat play, press **CLEAR**, or press **REPEAT** until the REP S or REP F indicators turn off.

Random Repeat

Repeat step **1** and **2** described above in "Repeat Relay" and press **RANDOM** on the remote. Randomly selected tracks from both CDs can be repeatedly played.

Listening with Headphones

Connect the headphones to the **PHONES** jack and adjust the volume by using **LEVEL**.

Connect the headphones

Adjust the headphone volume
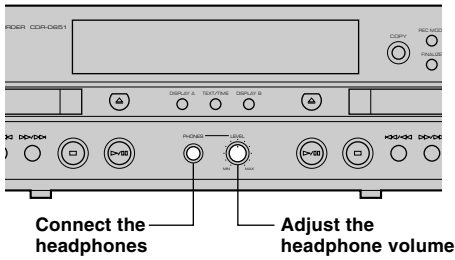
• If the power of the other component (such as an amplifier and receiver) connected to this unit is not turned on, the sound of this unit may be distorted. If this occurs, use the headphones with the other component's power turned on.

Auto Play

This unit can start playback automatically when the power of this unit is turned on using an external timer by selecting "Auto Play" in the menu settings.

1. While this unit is in the stop mode, press and rotate the **MULTI JOG** knob (**+/–** on the remote) to select "Auto Play" in the set menu.

2. Press the knob (**MENU** on the remote) again and rotate the knob (**+/–** on the remote) to select "Auto ON".

3. Press the **MULTI JOG** knob (**MENU** on the remote) again to enter the Auto Play setting. This setting remains even when the power is turned off.

4. When the power is turned on again, this unit starts playback.

To cancel Auto Play, select "Auto OFF" in step **2** described above.

PLAYBACK

ENGLISH

E-27

ADDITIONAL INFORMATION ....

CD-Recorder System Notes and Limitations

■ About track length and number

- The CD specifications state that the minimum length of a CD track must be 4 seconds. If a recording is stopped while the track is less than 4 seconds long, the unit will record silence until the 4 second track length requirement has been reached, and then stop recording.
- CDs can be recorded with up to 99 tracks on them. Recording will be automatically stopped if the 99 track limit is exceeded. Once 99 tracks have been recorded, no further recording is possible even if time is remaining on the disc.

■ About source sampling rate conversion

When recording an analog source (such as an LP or cassette), this unit converts the analog signals to a 44.1 kHz digital signal before recording them onto the CD-R or CD-RW disc.

When recording a digital source, this unit converts the digital signals to 44.1 kHz for recording onto the CD-R or CD-RW disc. This unit can record 32, 44.1 and 48 kHz digital signals.

■ When making digital recordings from DAT

When recording from a DAT source, make sure that the start IDs on DAT tapes are in positions slightly before the actual audio begins.

DAT tapes that are originally recorded using the DAT recorder's auto ID function record the start ID slightly after the actual recording begins. Because this recorder uses the start ID on the DAT to indicate the transition between tracks, the following problems may occur during synchronized recording (single track or ALL track).

- The beginning of the audio on a track is not recorded.
- A new track number is created slightly after the beginning of a new track.
- The beginning of the next track is recorded at the end of a recording.

To avoid these potential problems, it is recommended to perform manual recording of DAT sources. For more information on DAT operations, refer to the operating instructions provided with the DAT recorder.

■ When making a digital copying from a DTS-CD

Select CD DIRECT mode to make a digital copying from a DTS-CD.

■ Recording of non-audio signals

This unit is designed exclusively for recording audio signals. Non-audio signals from sources such as CD-ROM cannot be recorded. Recording is possible only when the input digital signal is an audio signal. Similarly when a digital signal contains graphic or character information such as a CD+graphics disc, the graphic or character information is not recorded.

SCMS Copy Protection

As a digital audio component, this CD recorder conforms with the Serial Copy Management System (SCMS) standards. The Serial Copy Management System restricts copies made by recording digital signals to first generation copies only.

● Rule 1

You can record digital program sources onto a recordable CD disc using a **DIGITAL IN** jack to create a first generation digital copy. You cannot, however, record from this recorded CD disc to another recordable CD disc using a **DIGITAL IN** jack.

● Rule 2

A CD disc that was recorded using the **ANALOG** jacks can be recorded onto other digital recording media using a **DIGITAL OUT** jack to create a first generation digital copy. You cannot, however, make a second generation copy using a **DIGITAL OUT** jack.

Second generation digital copy cannot be made because this unit is designed to conform with SCMS standards. However, when second generation digital copy is not possible, this unit automatically changes the setting to analog recording to complete recording.

In this case, set "SCMS Mode" in the set menu to ANALOG Copy. (See page 11.)

Before setting the recording level by using the **ANALOG REC LEVEL** knob, start the source CD on the disc tray A first, and then press **REC** for the disc tray B.

Display Messages

Can't Copy

Digital recording cannot be performed. (See "SCMS copy protection" on page 28.)

Check Disc

This is displayed when the recorder stops after reading disc information, while performing an erase procedure, finalization, or OPC. If this occurs, the disc may be dirty or possibly even damaged. Remove the disc and inspect it.

Close

The disc tray is being closed.

Data Track

This is displayed when the data track is played back.

Disc Full

Recording is not possible because there is no blank space remaining on the disc.

Erase ALL?

Erases all tracks on a CD-RW disc.
If you want to erase all tracks, press ▷/◻◻ (▷ on the remote).

Erase DISC?

Erases all of the information a CD-RW disc.
If you want to erase all of the information, press ▷/◻◻ (▷ on the remote).

Erase LAST?

Erases the last track on a CD-RW disc.
If you want to erase the last track, press ▷/◻◻ (▷ on the remote).

Erase TOC?

Erases the TOC (Table Of Contents) on a CD-RW disc.
If you want to erase the TOC, press ▷/◻◻ (▷ on the remote).

Finalize?

Finalizes the CD.
If you want to finalize the disc, press ▷/◻◻ (▷ on the remote).

Finalized

Recording has been attempted on a CD-RW disc that has already been finalized.

Finalizing

During the finalization process, the TOC (Table Of Contents) is being written onto the disc.

New Disc

The disc in the disc tray is either a new CD-R or CD-RW disc or a CD-RW disc that has been erased using the Erase ALL or Erase DISC function.

No Disc

There is no disc on the disc tray.

No Input

The digital input is selected, but the connections are not correct, or the digital signal is not being output from the source device. Please check all cabling, and the status of the source device.

Not Audio

The inserted disc is not an audio CD-R or CD-RW disc. This is displayed when REC, FINALIZE, or ERASE is pressed.

OPC Adjust

Adjustments performed when OPC (Optimum Power Calibration) optimizes the laser power to the reflectivity of the disc. Some time is required to complete these automatic adjustments.

Open

The disc tray is being opened.

Reading

When the recorder is turned on or a disc is loaded, the recorder reads the format of the disc loaded in the recorder.

Standby

This unit has been put in the standby mode.

TEXT Save?

This is displayed if you attempt to open the disc tray without performing finalization after CD TEXT data is copied or edited.

Track Full

Recording is not possible because the maximum number of 99 tracks has already been recorded on the disc.

Wait

The recorder has been put in the stop mode from the record mode and information is being written to the PMA (Program Memory Area). Never turn the power off when this is displayed.

ADDITIONAL INFORMATION

ENGLISH

Troubleshooting

If the 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 be corrected, or if the fault is not listed in the SYMPTOM column, disconnect the power cord and contact your authorized YAMAHA dealer or service center for help. When talking to the service center, the CDR-D651 may be needed. For details, contact your authorized YAMAHA dealer or service center.

SYMPTOM	CAUSE	REMEDY
The unit does not switch on when POWER is pressed.	The AC power cord is not connected or not completely connected.	Securely connect the power cord.
Play does not begin.	The disc is damaged.	Check the disc carefully; replace it if necessary.
	There is moisture on the laser pick-up.	Wait 20 to 30 minutes after switching the unit on before trying to play a disc.
	The disc has been loaded upside down.	Reload the disc with the label side facing up.
	The disc is dirty.	Clean the disc.
Play is delayed, or begins at the wrong place.	The disc may be scratched or damaged.	Check the disc carefully; replace it if necessary.
Recording is not possible.	The disc is finalized.	Load a recordable CD that has not been finalized yet. For a CD-RW disc, TOC Erase or Disc Erase may be needed.
	A pre-mastered CD is loaded.	Load a recordable CD.
	The input setting is incorrect.	Set **INPUT** to the position that reflects the source of the input signal.
	The output level of the source is too low.	Set the output level of the source to MAX.
	There is not enough blank space left or 99 tracks have already been recorded on the disc.	Load a recordable CD.
	If the power cord was unplugged or there was a power outage during recording, the recorded material may be lost.	If the recording of a CD-RW disc is interrupted, try recording again from the beginning. When the recording of a CD-R disc is interrupted, start recording over again with a disc that can be recorded on.
	The disc is dirty or damaged.	Clean or replace the disc.
Cannot play back a recorded CD-R or CD-RW disc on other CD or DVD players.	The CD or DVD players are not compatible with CD-R or CD-RW discs.	Use a CD or DVD player compatible with CD-R or CD-RW discs.
	The disc is not finalized.	Finalize the disc.
Sound "skips."	The unit and/or the component being recorded is being subjected to vibration or impact.	Relocate the unit(s). This is not possible if the skipping sound is already on the recording due to vibrations or impact that occurred during recording.
	The disc is dirty.	Clean the disc.
Sound "hums."	Improper cable connections.	Securely connect the audio cables. If the problem persists, the cables may be defective.
Noise from inside of the unit.	The disc may be warped.	Replace the disc.
The remote control does not work.	The batteries of the remote control are too weak.	Replace the batteries with new ones.
	Remote control is too far away or is being used at an incorrect angle.	Use within 6 meters and 60 degree radius.
	Direct sunlight or lighting (of an inverter type of fluorescent lamp, etc.) is striking the remote control sensor of the unit.	Change the position of the unit.
TV functions strangely when the remote control is being used.	Remote control is being used near TV set with a remote control sensor.	Relocate this unit away from the TV or cover the TV's remote control sensor.

Specifications

■ Audio Performance

Frequency response .... 5–20,000 Hz, ±0.5 dB

S/N ratio
    Playback .... 100 dB
    Recording .... 90 dB

Total harmonic distortion (1 kHz)
    Playback 0.004%
    Recording 0.02%

Dynamic range
    Playback .... 95 dB
    Recording .... 85 dB

■ Laser Diode Properties

CD (Drive A)
    Material .... GaAIAs
    Wavelength .... 790±25nm
    Emission duration .... Continuous
    Laser output Max:180µW

CDR (Drive B)
    Material .... GaAIAs
    Wavelength .... 785±5nm
    Emission duration .... Pulse
    Laser output .... Write mode:Max 10mW(Duty 50%)

Output value determined by 21 CFR CHAPTER1,
SUBCHAPTER J.

■ Inputs

LINE IN (REC)
    Type .... Pin jack
    Standard input level .... 700 mV/20 k-ohms

DIGITAL IN OPTICAL
    Type .... Square optical connector jack

■ Outputs

LINE OUT (PLAY)
    Type .... Pin jack
    Standard output level
    (1 kHz, 0 dB) .... 2.0 ± 0.5 Vrms

DIGITAL OUT OPTICAL
    Type .... Square optical connector jack

PHONES
    Standard output level
    (Input 150 ohms shorted, –20 dB)
    .... 300 mV/150 ohms

■ General

Power supply
    [U.S.A. and Canada models] .... AC 120 V, 60 Hz
    [Australia model] .... AC 240 V, 50 Hz
    [U.K. and Europe models] .... AC 230 V, 50 Hz
    [General model] .... AC 110/120/220/240 V, 50/60 Hz

Power consumption .... 24 W

Dimensions (W x H x D)
    .... 435 x 117 x 285 mm (17-1/8" x 4-1/4" x 11-1/16")

Weight .... 5 kg (13 lbs. 14 oz.)

Accessories .... RCA Pin Cables (2)
Optical Fiber Cable
Remote Control
Batteries (2)
Ferrite core for headphones cable
(U.S.A., Canada, and Australia model only)

Specifications are subject to change without notice.

**ADDITIONAL
INFORMATION**

ENGLISH

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

ATTENTION
L'emploi de commandes, de réglages ou un choix de procédures différents des spécifications de cette brochure peut entraîner une exposition à d'éventuelles radiations pouvant être dangereses.

ACHTUNG
Die Verwendung von Bedienungselementen oder Einstellungen oder die Durchführung von Bedienungsvorgängen, die nicht in dieser Anleitung aufgeführt sind, kann zu einem Kontakt mit gefährlichen Laserstrahlen führen.

OBSERVERA
Användning av kontroller och justeringar eller genomförande av procedurer andra än de som specificeras i denna bok kan resultera i att du utsätter dig för farlig strålning.

ATTENZIONE
Uso di controlli o regolazioni o procedure non specificamente descritte può causare l'esposizione a radiazioni di livello pericoloso.

PRECAUCIÓN
El uso de los controles o los procedimientos de ajuste o utilización diferentes de los especificados en este manual pueden causar una exposición peligrosa a la radiación.
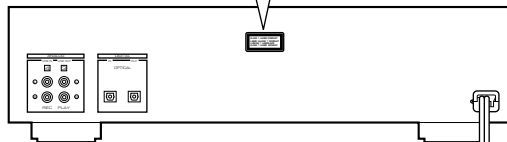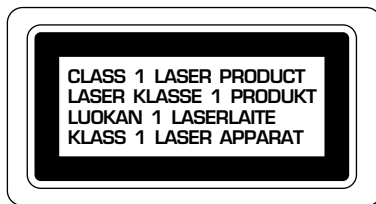
VOORZICHTIG
Gebruik van bedieningsorganen of instellingen, of uitvoeren van handelingen anders dan staan beschreven in deze handleiding kunnen leiden tot blootstelling aan gevaarlijke stralen.
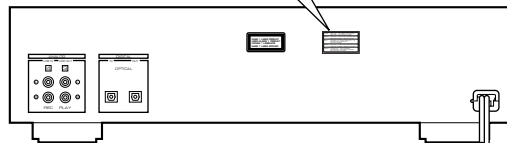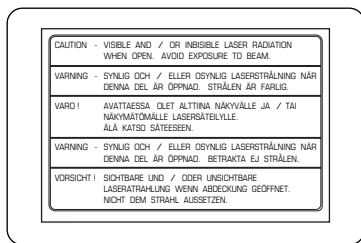
VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

CLASS 1 LASER PRODUCT
LASER KLASSE 1 PRODUKT
LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

(For U.K., Europe, General models)

CAUTION - VISIBLE AND / OR INBISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

VARNING - SYNLIG OCH / ELLER OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. STRÅLEN ÄR FARLIG.

VARO ! - AVATTAESSA OLET ALTTIINA NÄKYVÄLLE JA / TAI NÄKYMÄTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

VARNING - SYNLIG OCH / ELLER OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.

VORSICHT ! - SICHTBARE UND / ODER UNSICHTBARE LASERATRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

(For U.K., Europe, General, and Australia models)

Free Manuals Download Website

http://myh66.com

http://usermanuals.us

http://www.somanuals.com

http://www.4manuals.cc

http://www.manual-lib.com

http://www.404manual.com

http://www.luxmanual.com

http://aubethermostatmanual.com

Golf course search by state

http://golfingnear.com

Email search by domain

http://emailbydomain.com

Auto manuals search

http://auto.somanuals.com

TV manuals search

http://tv.somanuals.com