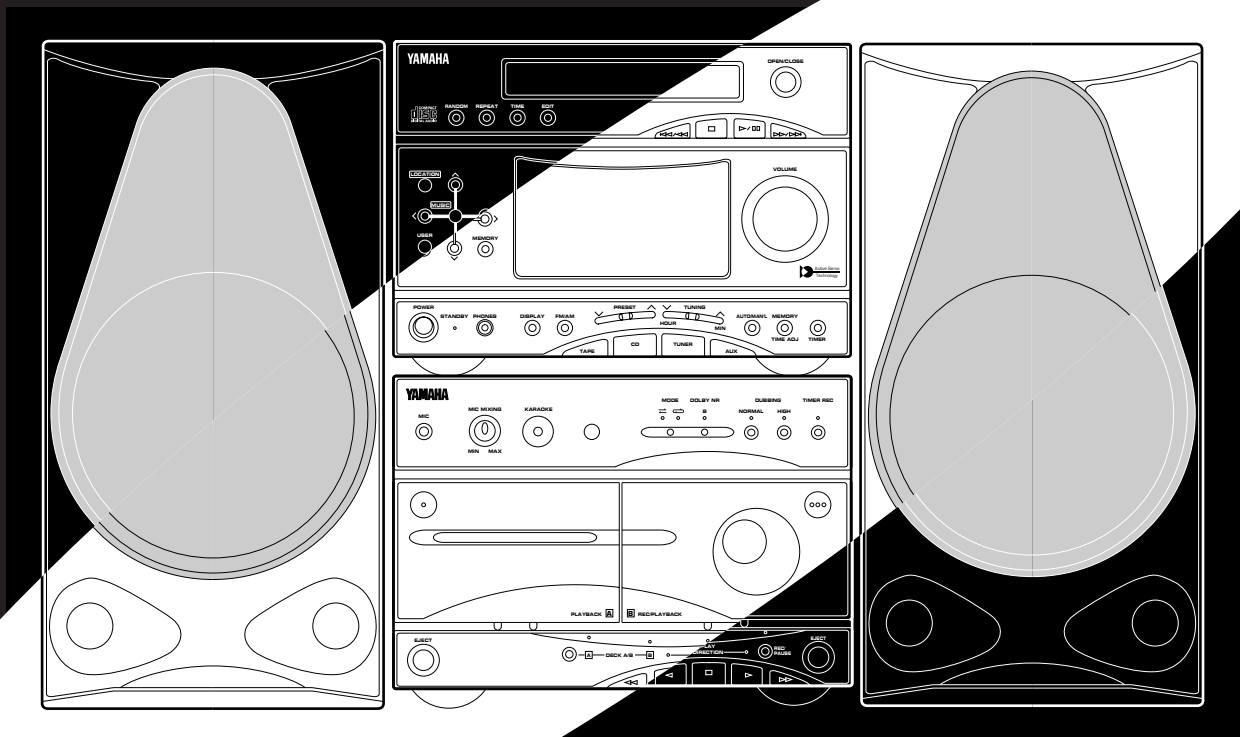


YAMAHA

GX-3

Active Servo
Technology

Natural Sound Mini Component System
Sistema de Componentes con Sonido Natural



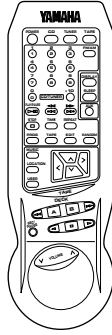
GX-3: TCD-GX3 + KMA-GX3 + NX-GX3

OWNER'S MANUAL
MANUAL DE INSTRUCCIONES

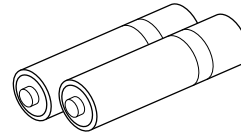
SUPPLIED ACCESSORIES
ACCESORIOS INCLUIDOS

- After unpacking, check that the following parts are included.
- Desembale el aparato y verificar que los siguientes accesorios están en la caja.

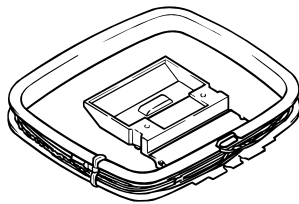
- Remote control transmitter
- Controlador remoto



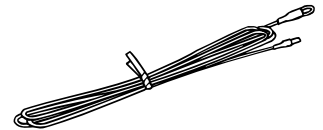
- Batteries (size AAA, R03)
- Pilas (tamaño AAA, R03)



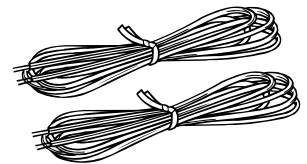
- AM loop antenna
- Antena de cuadro AM



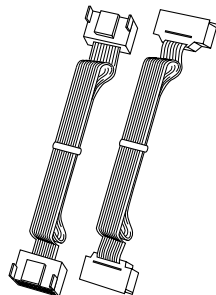
- Indoor FM antenna
- Antena interior de FM



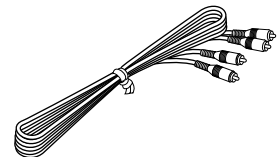
- Speaker cords
- Cables de los altavoces



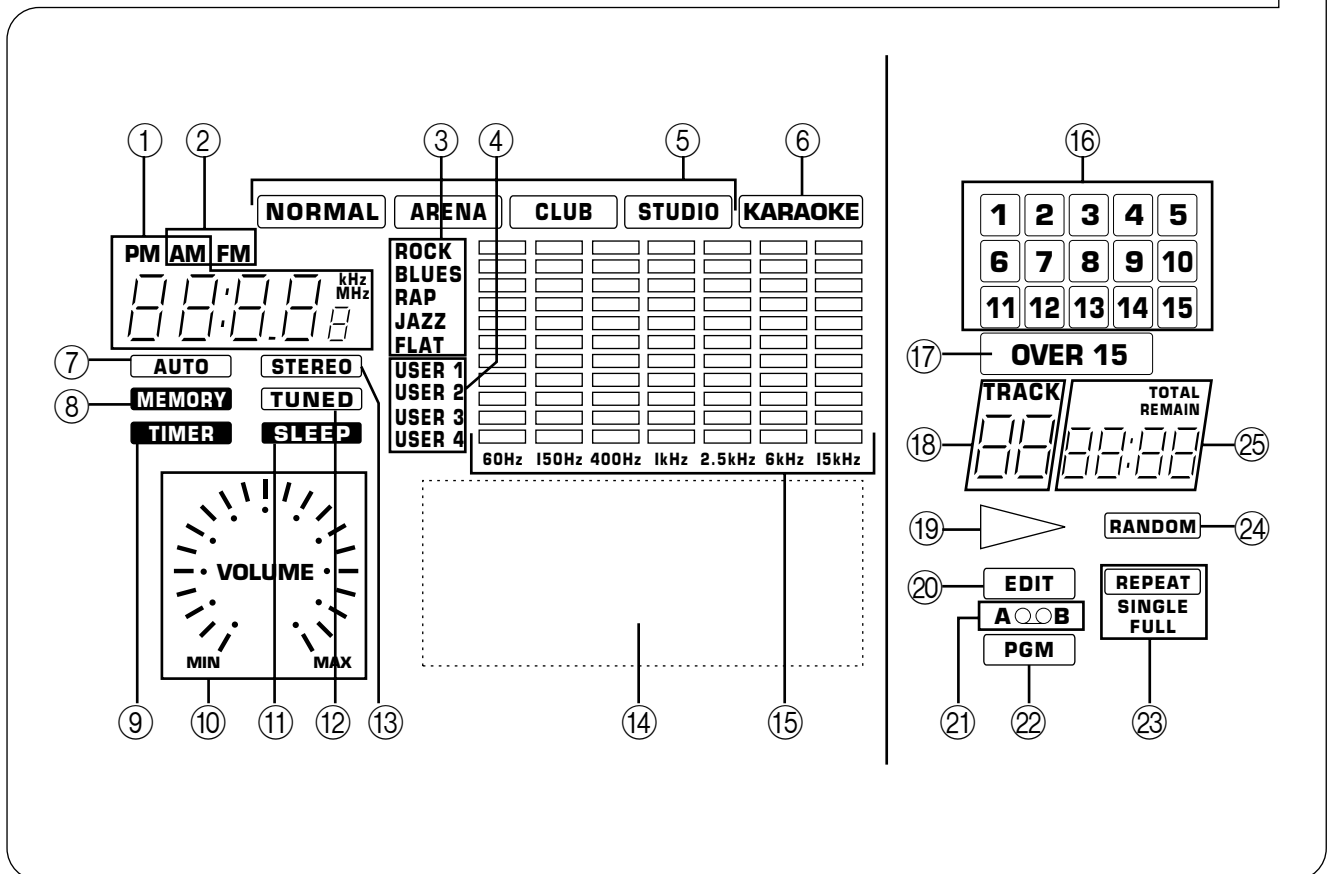
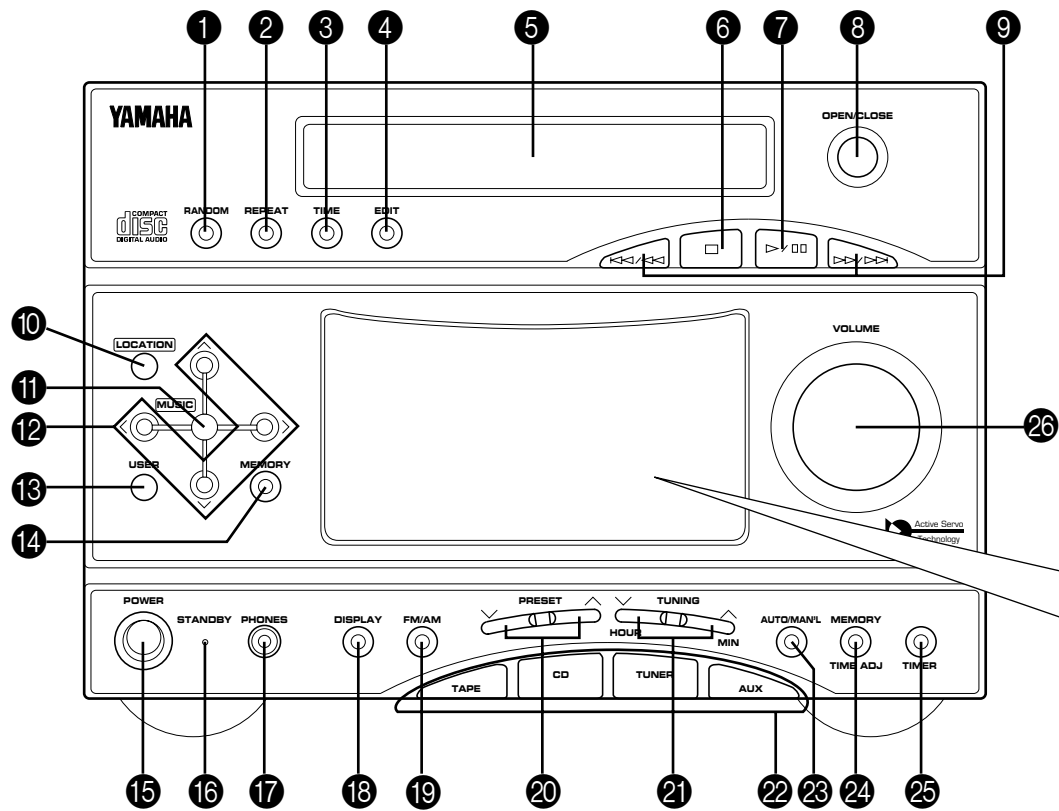
- System connector cables
- Cables de conexión del sistema



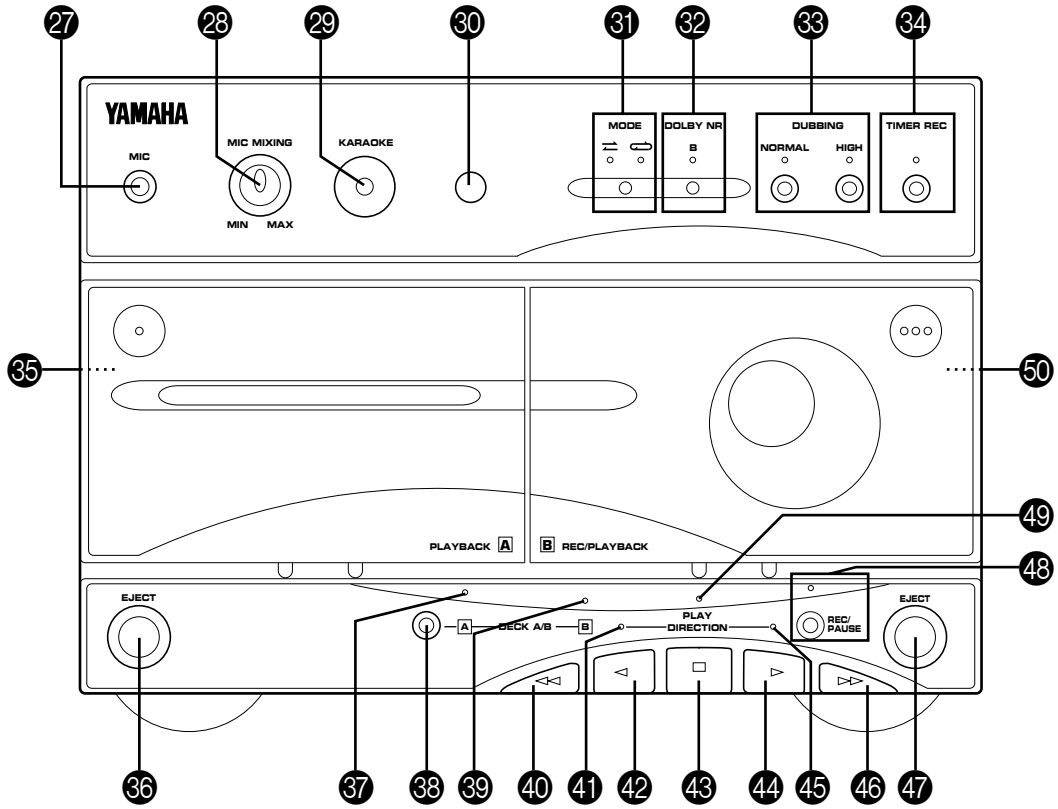
- Pin-plug connection cord
- Cable de conexión de toma



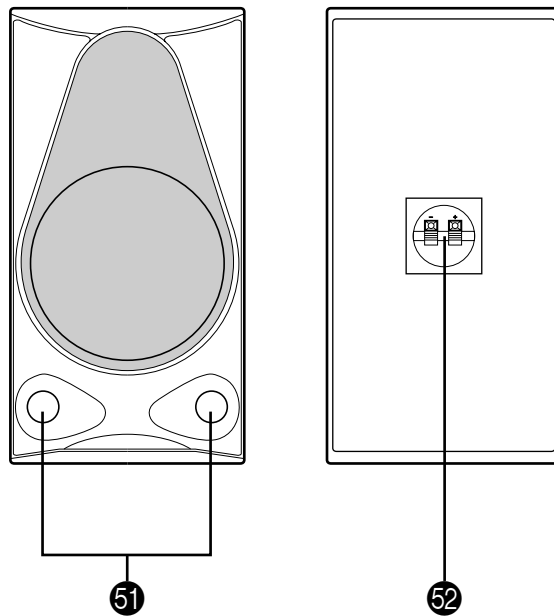
1 TCD-GX3



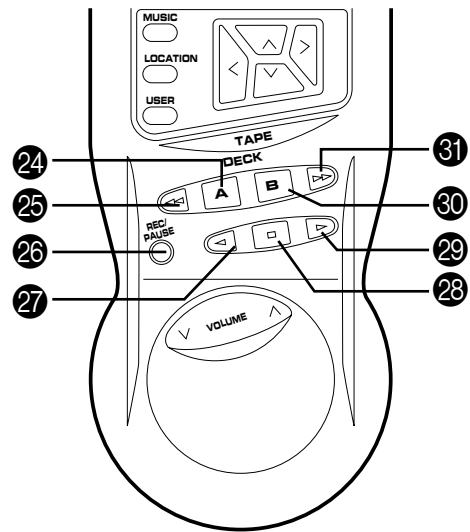
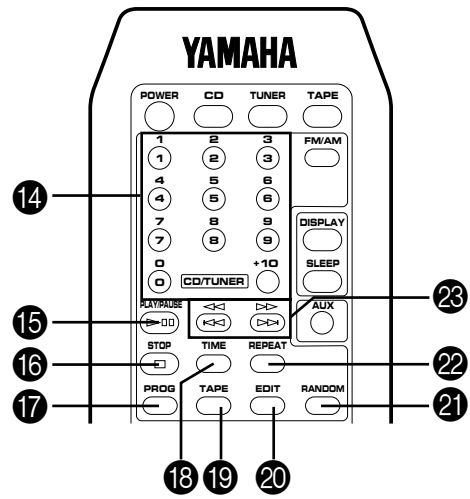
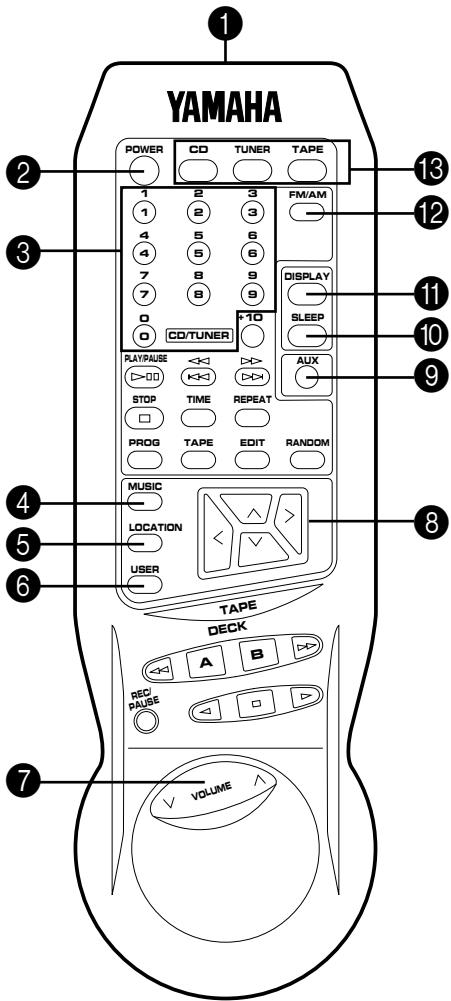
2 **KMA-GX3**



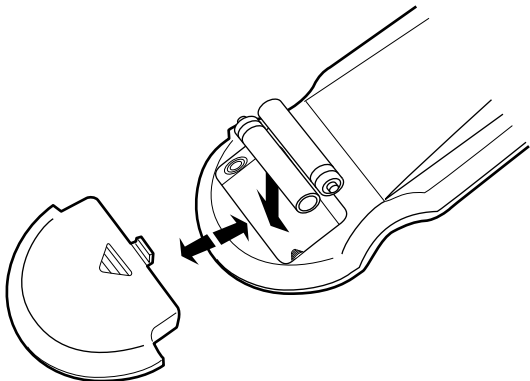
3 **NX-GX3**



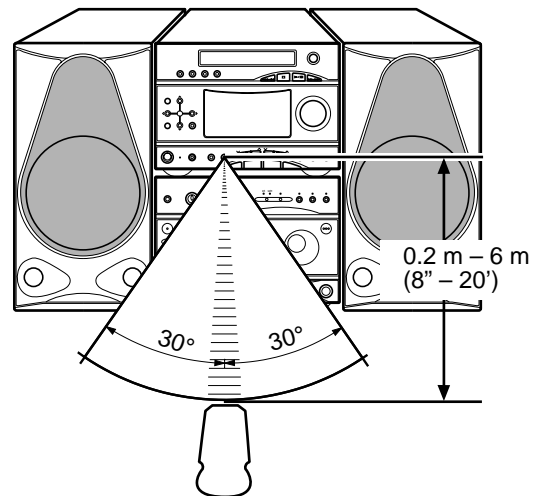
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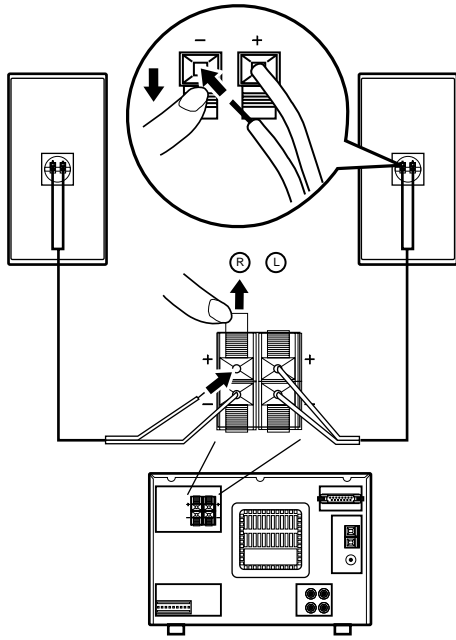
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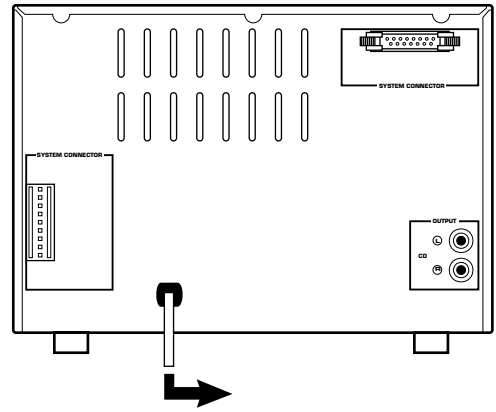
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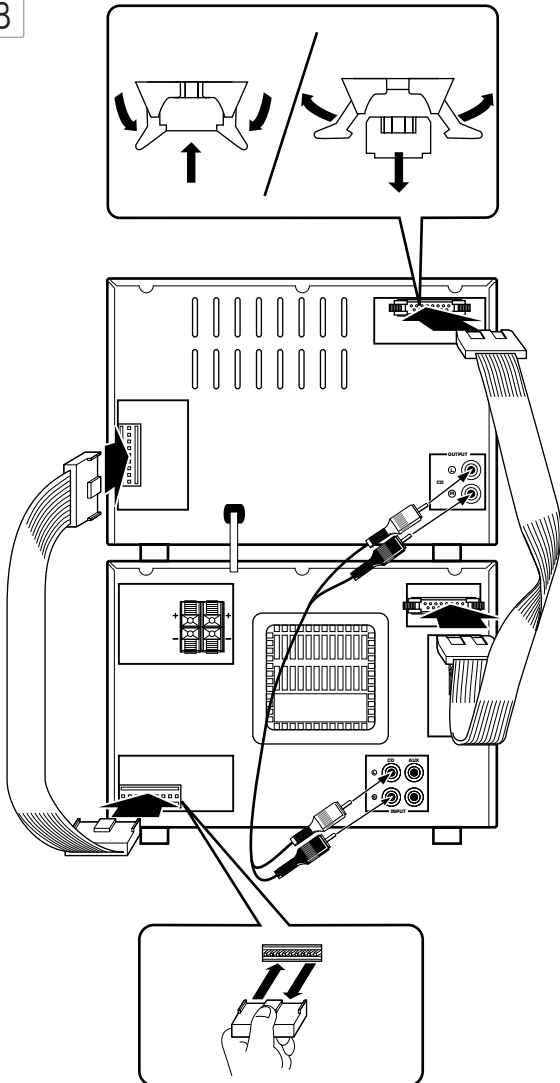


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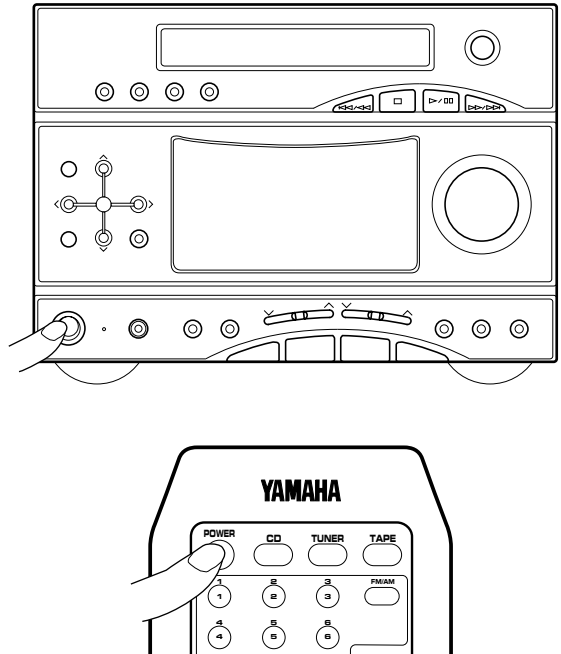


To AC outlet
Al tomacorriente

8



10



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

- 35W + 35W (8Ω) Output Power, 10% THD, 1 kHz
- 4 Preset Graphic Equalizer Modes Selectable According to the Music Source (MUSIC)
- 3-Mode Sound Field Processor (LOCATION)
- 4 User's Equalizer Pattern Storing Capability
- Karaoke Function Which Makes a General Stereo Source Usable for Karaoke
- Microphone Jack and Mixing Level Control for Karaoke
- Random Access Programmable CD Playback
- Single Track/Entire Disc Repeat Play
- Random-sequence Play
- Automatic Synchronized Recording with CD Playback
- Automatic CD Editing Function for Recording to Tape
- Double Cassette Tape Deck with Automatic Reversing Function
- 2-Way Speed Dubbing
- Dolby B Type Noise Reduction System
- 10 FM and 10 AM Station Random Access Preset Tuning
- Timer/Sleep Timer
- Active Servo Processing Speaker System (NX-GX3)
- Remote Control Capability
- Large Liquid Cristal Display Easy to See Including Dot Matrix Information Display

CONTENTS

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SETTING THE CLOCK	8	MAINTENANCE	35
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For basic source play, the following illustrations on top of pages will help you to look for the section you need.



.....CD playback



.....Tuning



.....Tape playback/recording

PRECAUTIONS: READ THIS BEFORE OPERATING YOUR UNIT

- To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- This system is equipped with the newly developed Active Servo Processing Speaker System. It is not designed for use with conventional speakers. Therefore, **do not attempt to connect other speakers than the provided speaker system.**
- Choose the installation location of this unit carefully. Avoid placing it in direct sunlight or close to a source of heat. Also avoid locations subject to vibration and excessive dust, heat, cold or moisture. Keep it away from sources of hum such as transformers and electric motors.
- Do not operate this unit upside-down. It may overheat, possibly causing damage.
- Never open the cabinet. If something drops into the set, contact your dealer.
- The openings on the rear assure proper ventilation of the unit. If these openings are obstructed, the temperature inside the cabinet will rise rapidly and eventually damage the circuits. Therefore, avoid placing objects against these openings and do not install the unit where the flow of air through the ventilation openings could be impeded.
- Always set the VOLUME control to minimum before starting the audio source: increase the volume gradually to an appropriate level after play has started.
- When not planning to use this unit for long periods of time (ie., vacation, etc.), disconnect the AC power plug from the wall outlet.
- Grounding or polarization – Precautions should be taken so that the grounding or polarization of an appliance is not defeated.
- Do not use force on switches, controls or connection wires. When moving the unit, first disconnect the power plug and the wires connected to other equipment. Never pull the wire itself.
- Do not attempt to clean the unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
- Be sure to read the "TROUBLESHOOTING" section regarding common operating errors before concluding that the unit is faulty.
- To prevent lightning damage, disconnect the AC power plug and the antenna cable when there is an electrical storm.
- Do not plug the AC power plug to the wall socket before you finish all connections.
- Never allow metallic items (e.g. screwdrivers, tools, etc.) to come near the cassette deck's record/playback head assembly in this unit. Doing so may not only scratch or damage the head's mirror-smooth finish, it may change the magnetic characteristics of the heads, causing a deterioration in reproduction performance quality.
- Although the cassette deck's record/playback heads used in this unit are high quality heads with outstanding reproduction characteristics, they can become dirty through the use of old tapes or from dust accumulation over time. This can have a serious effect on reproduction quality. Clean the heads regularly with one of the commonly available head cleaners or with cleaning solutions.
- The voltage to be used must be the same as that specified on this unit. Using this product with a higher voltage than that which is specified is dangerous and may result in a fire or other type of accident causing damage. YAMAHA will not be held responsible for any damage resulting from use of this unit with a voltage other than that which is specified.
- The sound level at a given volume setting depends on speaker location and other factors. Care should be taken to avoid exposure to sudden high levels of sound, which may occur when turning on the unit with the volume control setting at high, and to continuous high levels of sound.
- Sudden temperature changes and storage or operation in an extremely humid environment may cause condensation inside the cabinet. Condensation can cause the unit to malfunction. To eliminate condensation:

- **CD pickup**

Leave the power on with no disc in the unit until normal playback is possible (about 1 hour).

- **Tape head**

Leave the power on with no cassette in the unit until normal playback is possible (about 1 hour).

Note

If condensation forms on the tape head, foreign matter may accumulate during use.

- **Remote control**

Wipe off condensation on the transmitter window with a soft cloth before operating the unit.

IMPORTANT

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

Serial No.:

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

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

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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.

PRECAUTIONS: READ THIS BEFORE OPERATING YOUR UNIT

CAUTION FOR CARRYING THIS UNIT

Be sure not to carry or tip this unit with a disc remaining in it.

The apparatus is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the apparatus itself is turned off.

VOLTAGE SELECTOR

The voltage selector on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC main supply.

Voltages are 110-120/220-240V AC, 50/60 Hz.

WARNING

To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION 1

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

CAUTION 2

As the laser beam used in this unit is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.

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

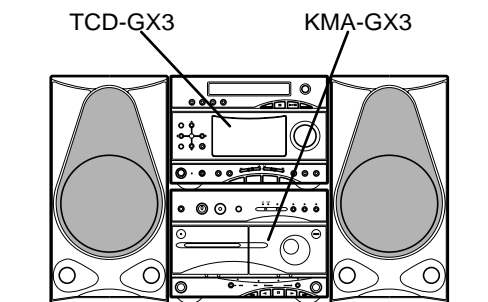
Laser Diode Properties

- Material: GaAlAs
- Wavelength: 780nm
- Emission Duration: continuous
- Laser Output: max. 44.6 μ W*

* This output is the value measured at a distance of about 200mm from the objective lens surface on the Optical Pick-up Block.

PLACING THE SYSTEM

Placing examples



- If the system is put in a rack, allow a space of at least 5 cm (1-15/16") above and behind the system for proper ventilation.
- Disconnect the AC supply lead from the AC outlet before connecting or disconnecting any component.

NAMES OF CONTROLS AND INDICATORS

(See figure 1 on page 3 at the beginning part of this manual.)

TCD-GX3 (CD player/pre-amplifier/tuner)

- 1 **RANDOM** Button
- 2 **REPEAT** Button
- 3 **TIME** Button
- 4 **EDIT** Button
- 5 Disc Table
- 6 Stop Button: □
- 7 Play/Pause Button: ▷/⏸
- 8 **OPEN/CLOSE** Button
- 9 Skip Buttons: ◀◀/▶▶
(Search Buttons: ◀◀/▶▶)
- 10 **LOCATION** Button
- 11 **MUSIC** Button
- 12 Equalizer Control Buttons
- 13 **USER** Button
- 14 User Program **MEMORY** Button
- 15 **POWER** Switch
- 16 **STANDBY** Indicator
- 17 **PHONES** Jack
- 18 **DISPLAY** Button
- 19 **FM/AM** Button
- 20 **PRESET** ∨ (Down)/ ^ (Up) Buttons
- 21 **TUNING** ∨ (Down)/ ^ (Up) (**HOUR/MINUTE**) Buttons
- 22 Input Selector Buttons (**TAPE, CD, TUNER, AUX**)
- 23 **AUTO/MAN'L** Button
- 24 Tuner **MEMORY (TIME ADJUST)** Button
- 25 **TIMER** Button
- 26 **VOLUME** Control

Display

For pre-amplifier/tuner

- 1 Current Time/Station Frequency Display
- 2 **FM/AM** Indicator
- 3 Preset Equalizer Mode Indicators (**MUSIC**)
- 4 User Program Number Indicators
- 5 Sound Field Mode Indicators (**LOCATION**)
- 6 **KARAOKE** Indicator
- 7 **AUTO** Tuning Indicator
- 8 **MEMORY** Indicator
- 9 **TIMER** Set Indicator
- 10 **VOLUME** Level Indicator
- 11 **SLEEP** Indicator
- 12 **TUNED** Indicator
- 13 **STEREO** Indicator
- 14 Information Display Area
- 15 Graphic Equalizer Level Indicators

For CD player

- 16 Music Calendar Indicator
- 17 Music Calendar **OVER 15** Indicator
- 18 Track Number Indicator
- 19 Play Indicator: ▷
- 20 **EDIT** Indicator
- 21 Tape Side Indicator
- 22 Program (**PGM**) Play Indicator
- 23 **REPEAT** Mode (**SINGLE, FULL**) Indicator
- 24 **RANDOM** Play Indicator
- 25 Time Display

NAMES OF CONTROLS AND INDICATORS

(See figure 2 and 3 on page 4 at the beginning part of this manual.)

KMA-GX3 (Tape deck/power amplifier)

- 27 **MIC** (Microphone) Jack
- 28 **MIC MIXING** (Microphone Mixing) Level Control
- 29 **KARAOKE** Button
- 30 Remote Control Sensor
- 31 Reverse **MODE** Selector Button and Indicators
- 32 **DOLBY B NR** Button and Indicator
- 33 **DUBBING (NORMAL/HIGH)** Buttons and Indicators
- 34 **TIMER REC** Button and Indicator
- 35 DECK A Cassette Compartment
- 36 DECK A **EJECT** Button
- 37 **DECK A** Indicator
- 38 **DECK A/B** Button
- 39 **DECK B** Indicator
- 40 Fast Wind Button: <<
- 41 Play Direction Indicator
- 42 Play Button: <
- 43 Stop Button: □
- 44 Play Button: >
- 45 Play Direction Indicator
- 46 Fast Wind Button: >>
- 47 DECK B **EJECT** Button
- 48 **REC/PAUSE** Button and Indicator
- 49 **PLAY** Indicator
- 50 DECK B Cassette Compartment

NX-GX3 (Speakers)

- 51 YST Port
- 52 Speaker Terminals

REMOTE CONTROL TRANSMITTER

Names of control buttons

(See figure 4 on page 5 at the beginning part of this manual.)

■ Pre-amplifier/tuner control buttons

- 1 Remote Control Transmitter Window
- 2 **POWER** Switch
- 3 Preset Station Number Buttons
- 4 **MUSIC** Button
- 5 **LOCATION** Button
- 6 **USER** Button
- 7 **VOLUME** ∨ (Down)/∧ (Up) Button
- 8 Equalizer Control Buttons
- 9 **AUX** Input Selector Button
- 10 **SLEEP** Button
- 11 **DISPLAY** Button
- 12 **FM/AM** Button
- 13 Input Selector Buttons (**CD, TUNER, TAPE**)

■ CD player control buttons

- 14 Track Number Input Buttons
- 15 **PLAY/PAUSE** Button: > ■■

- 16 **STOP** Button: □
- 17 **PROGRAM** Button
- 18 **TIME** Button
- 19 **TAPE** Button
- 20 **EDIT** Button
- 21 **RANDOM** Button
- 22 **REPEAT** Button
- 23 Skip Buttons: <</>>
(Search Buttons: <</>>)

■ Tape deck control buttons

- 24 **DECK A** Selector Button
- 25 Fast Wind Button: <<
- 26 **REC/PAUSE** Button
- 27 Play Button: <
- 28 Stop Button: □
- 29 Play Button: >
- 30 **DECK B** Selector Button
- 31 Fast Wind Button: >>

REMOTE CONTROL TRANSMITTER

Loading the batteries for the remote control transmitter

(See figure 5 on page 5.)

- 1 Remove the battery compartment cover.
(Slide the cover in the direction of the arrow on the cover.)
- 2 Insert 2 "AAA" (R03) batteries into the battery compartment.
* Installing the batteries improperly may cause failure.
- 3 Replace the battery compartment cover.

Precautions for battery use

- Insert the batteries according to the direction indicated in the battery compartment.
- Replace all batteries with new ones at the same time.
- Remove the batteries if they are weak or if the unit is not in use for long periods.
- Don't mix normal batteries with rechargeable batteries.

Proper use of the remote control transmitter

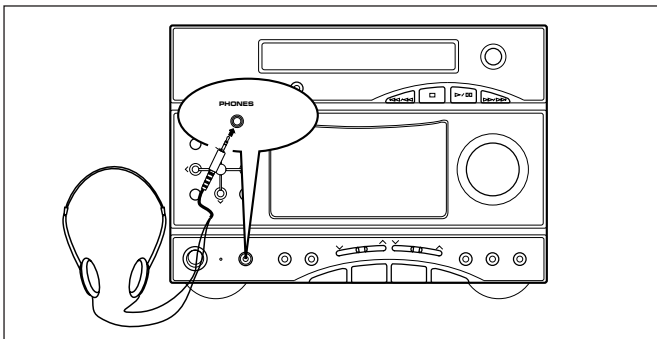
(See figure 6 on page 5.)

Aim (within the range of 60° with no obstacles) the remote control transmitter at the remote control sensor and operate as shown.

Notes concerning use

- Replace the batteries if control distance decreases or operation becomes unstable.
- Periodically clean the transmitter window on the remote control transmitter and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light (especially an inverter type of fluorescent lamp etc.) may interfere with operation. In this case, reposition the main unit to avoid direct lighting.
- Keep the remote control transmitter away from moisture, excessive heat, shock and vibrations.
- The remote control transmitter's usable range is within 0.2m (8") and 6m (20') away from the sensor.

LISTENING WITH HEADPHONES



- Be sure that your headphones have a 3.5 mm (1/8") diameter plug and are between 16 ohms and 50 ohms impedance. Recommended impedance is 32 ohms.
- When headphones are connected, the speakers are defeated automatically. Adjust the VOLUME control for desired volume.

CONNECTIONS

Speaker connection

(See figure 7 on page 6.)

Connect each speaker wire to the SPEAKERS terminals.

Cautions

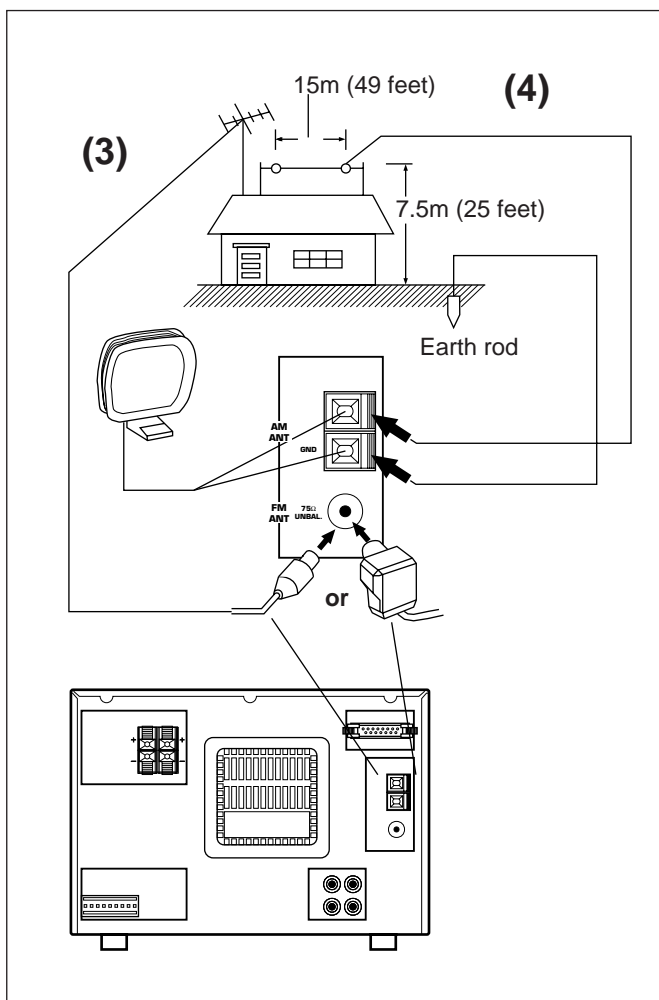
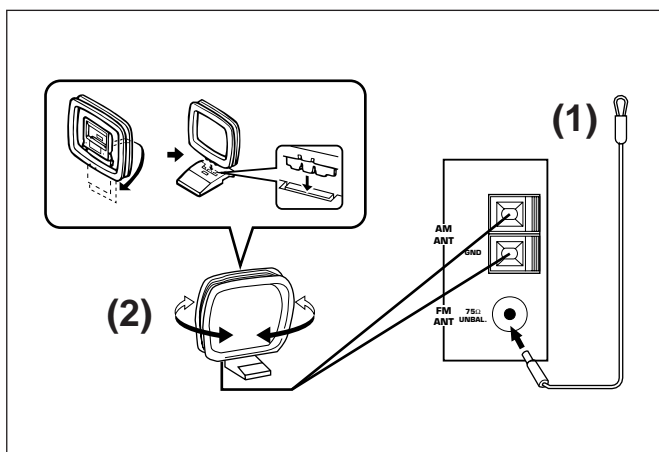
- Do not let the bare speaker wires touch each other as this could damage the power amplifier and/or speakers.
- When connecting the speakers to the unit, be sure to connect the speaker wires properly. Do not make a mistake from the right channel to the left channel and from the plus (+) terminal to the minus (-) terminal.
- Do not connect these SPEAKERS terminals to speakers other than the provided speaker system NX-GX3.

System connection

(See figure 8 on page 6.)

- Make system connections between TCD-GX3 and KMA-GX3 with the provided two system connector cables as figured.
- Connect the CD terminals of TCD-GX3 and KMA-GX3 with the provided pin-plug connection cord.

CONNECTIONS



Antenna connection

(1) Supplied FM antenna

Connect the FM antenna wire to the corresponding terminal and direct the FM antenna wire to the direction where the strongest signal can be received.

(2) Supplied AM loop antenna

Connect the AM loop antenna wires to the corresponding terminals. Position the AM loop antenna for optimum reception. Place the AM loop antenna on a shelf etc., or install it on the rack or wall with screws (not supplied).

Notes

- When static is still heard even after adjusting the position of the AM loop antenna, try reversing the wire connections (top to bottom).
- Do not place the AM loop antenna on the unit. It will result in noise generation, since the unit is equipped with digital electronics. Place the AM loop antenna away from the unit.

(3) External FM antenna

Use an external FM antenna instead of an indoor FM antenna if you need better reception. Consult your dealer.

(4) External AM antenna

Use an external AM antenna if you need better reception. Consult your dealer.

Note

When using an external AM antenna, be sure to keep the wire of the AM loop antenna connected.

Connecting the AC supply lead

(See figure 9 on page 6.)

- After connecting the speakers and system connectors, plug the AC supply lead into a convenient AC outlet.
- Unplug the AC supply lead from the AC outlet if the unit is not to be used for a long period of time.

Switching the frequency step

The frequency step can be switched between 9 kHz and 10 kHz by following the procedure described below. If the current setting is not proper for your area, switch it to the other setting.

1. Press the POWER switch to turn the power on.
2. Press the TUNER input selector button.
3. Press the DISPLAY button to show the current time.
4. While holding the MEMORY (TIME ADJ) button pressed, press the FM/AM button.

- * If the power is cut off, due to a power failure etc., the setting may be changed to the preset condition. In that case, ascertain the current frequency step on the display, and, if necessary, switch the frequency step again.

TURNING THE POWER ON/OFF TO THIS SYSTEM

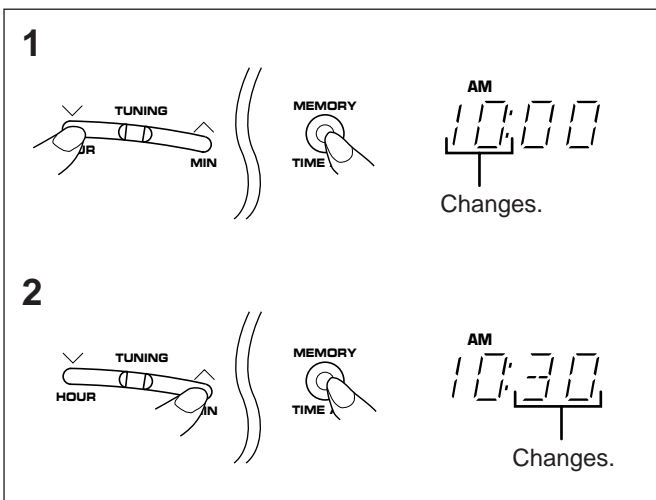
(See figure 10 on page 6.)

If the AC supply lead is connected to the AC outlet, this system can be turned ON and OFF (STANDBY mode) by pressing the POWER switch on the front panel of TCD-GX3 or the POWER switch on the remote control transmitter.

STANDBY mode

While the power is on, pressing the POWER switch (or the POWER switch on the remote control transmitter) switches the system to the STANDBY mode. (In this mode, the display shows only the time and the STANDBY indicator on the front panel is illuminated.) In this mode, main voltage is still present inside the system. If you want to switch off the system completely, disconnect the AC power plug from the AC outlet.

SETTING THE CLOCK



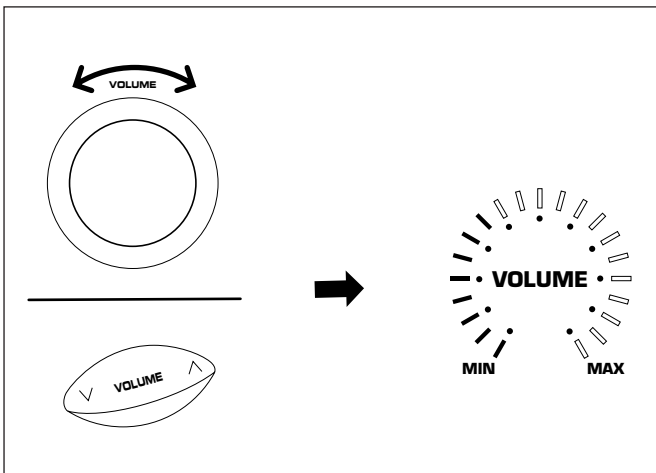
Before setting the clock, if the built-in tuner is selected as the input source, press the DISPLAY button to change the station frequency display to the time display, and proceed to the next steps immediately before the station frequency display is restored.

- 1 While pressing the TIME ADJ button, press the HOUR button and set the hour.
 - * Press the HOUR button once to advance the time by 1 hour. Press and hold to advance continuously.
- 2 While pressing the TIME ADJ button, press the MIN button and set the minute.
 - * Press the MIN button once to advance the time by 1 minute. Press and hold to advance continuously.
 - * The hour setting will not advance even if minute is advanced from "59" to "00".

In the event of a power failure or when the AC supply lead is disconnected.

The time display will go out and the time which you had set will be cleared. So set the time again if the AC power supply is resumed.

VOLUME CONTROL



Front panel operation

Rotate the VOLUME control clockwise to increase the volume, and counterclockwise to decrease the volume.

Remote control operation

Press the " ^ " side of the VOLUME button to increase the volume and the " v " side to decrease the volume.

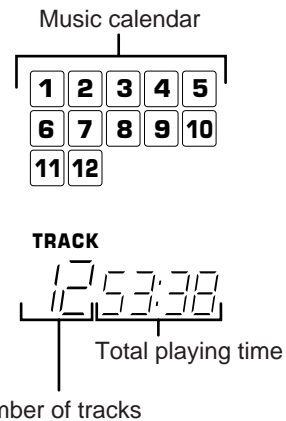
- * The current volume level can be seen at a glance on the display.



COMPACT DISC PLAYER OPERATION

CD playback

- 1** Press the CD input selector button.
- 2** Press the OPEN/CLOSE button to open the disc table.
- 3** Place a disc on the table, label side up.
 - * 8 cm (3") disc can be played without an adaptor.
- 4** Press the OPEN/CLOSE button to close the disc table.
 - * The total number of tracks and the total playing time of the disc will be displayed.
 - * The music calendar will be displayed only for the number of tracks on the disc.
 - * If the compact disc contains more than 15 tracks, the "OVER 15" indicator will light up on the music calendar.



- 5** Press the play/pause button to start playback from track 1.
 - * The "▷" indicator will appear and playback will begin.
 - As the playback of each track on the music calendar is finished, that track number will go out.

To interrupt playback

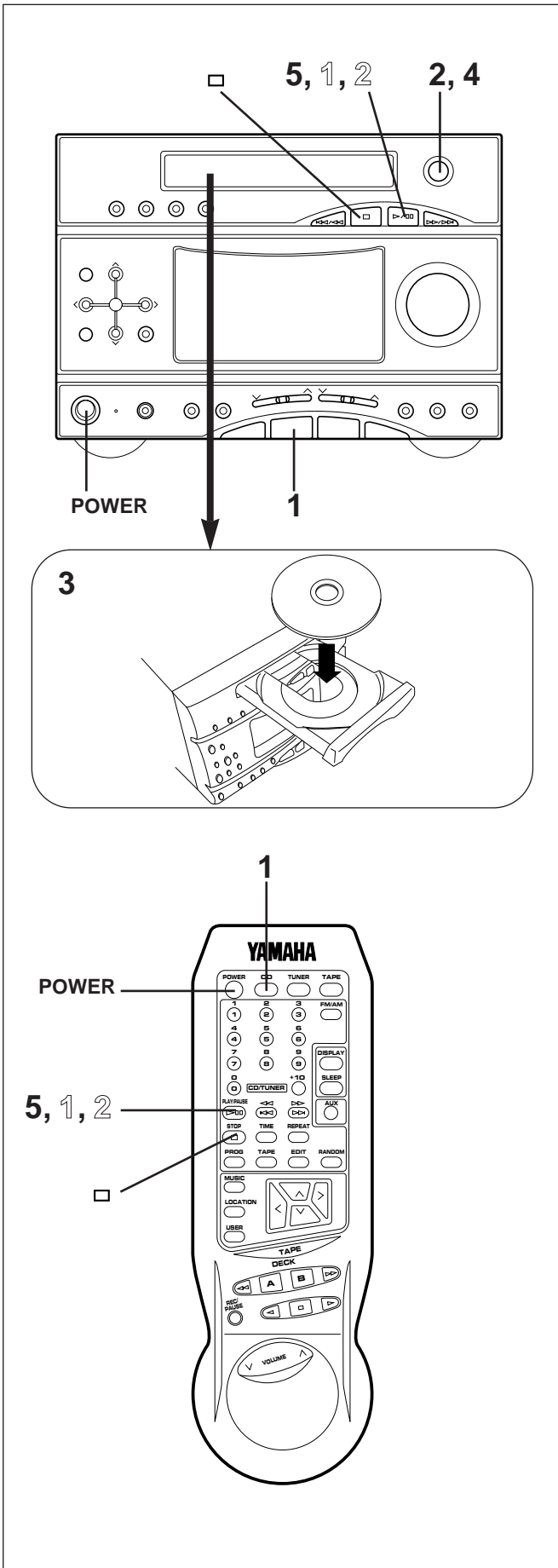
- 1** Press the play/pause button.
 - * The time display will flash.
- 2** Press the play/pause button to resume playback from the same point.

To stop playback

Press the stop □ button.

To switch the unit off after use

Turn the unit off by pressing the POWER switch. (The indicators will go off except for the current time display.)





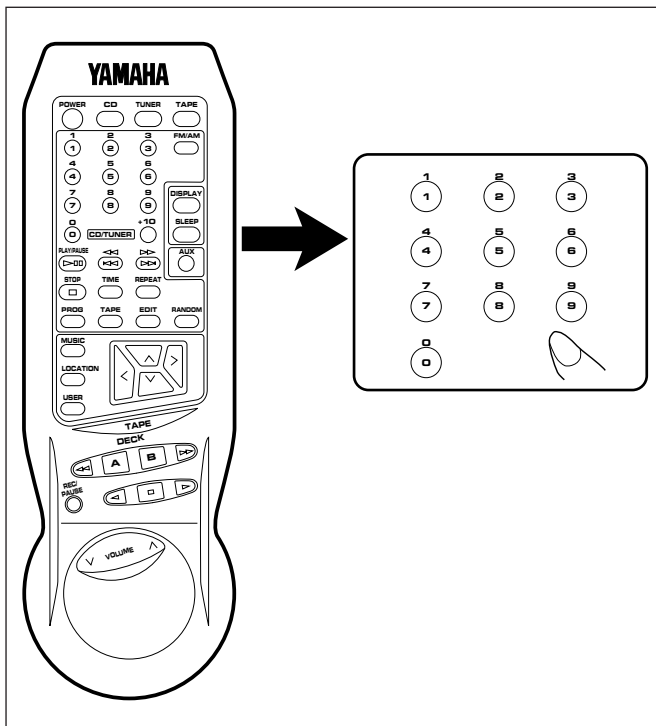
COMPACT DISC PLAYER OPERATION

Direct operation

Even when an input source other than CD player is selected, pressing the play/pause button will start playback directly. In this case, if the tape deck is playing back a tape, it will be stopped automatically.

Precautions

- If TV or radio interference occurs during CD player operation, move the unit away from the TV or radio.
- Subjecting the unit to shock or vibration can cause mistracking.
- Playing some compact discs at high volume can cause mistracking. In this case, listen at lower volume.
- Do not push the disc table while it is moving.
- If the power fails while the table is open, wait until the power supply returns or gently push the table manually to close it.
- The temperature range for playing compact discs is recommended to be 5°C (41°F) – 35°C (95°F).



Direct-selection play

By using the track number input buttons on the remote control transmitter, any track you wish to listen to can be played directly.

Use the track number input buttons to select the desired track number. Play will begin automatically.

A. For example, to choose selection 5

Press the "5" button.

B. For example, to choose selection 12

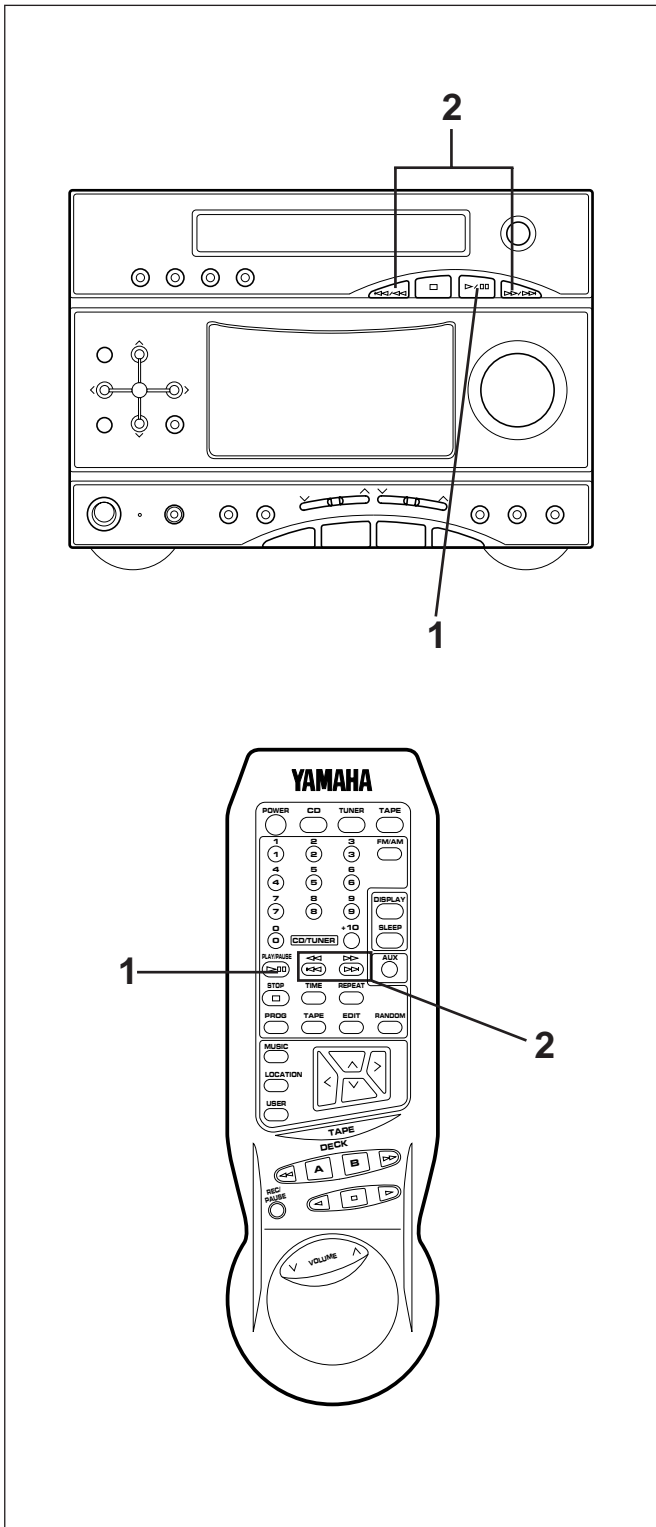
- (1) Press the "+10" button.
- (2) Within 8 seconds, press "2" button.

C. For example, to choose selection 20

- (1) Press the "+10" button.
- (2) Within 8 seconds, press the "+10" button again.
- (3) Within 8 seconds, press the "0" button.



COMPACT DISC PLAYER OPERATION



“Skip search” and “Manual search” are performed using the same buttons.

Skip search

The beginning of any track can be found automatically.

- 1 Load a disc and begin playback.
- 2 Press the $\triangleright\triangleright$ button to advance or $\triangleleft\triangleleft$ button to reverse through the disc. Press once for each track to be advanced or reversed.
 - Press $\triangleright\triangleright$ once to advance to the track following the one now playing back.
 - Press $\triangleleft\triangleleft$ once to return to the start of the track now playing back.
 - Press $\triangleleft\triangleleft$ twice to return to the track before the track now playing back.

Notes

- This function can also be performed while the unit is stopped. Press the play/pause button when your desired track number appears in the track number display. Playback will begin from the beginning of the track.
- This function will be performed forward or backward from any point on the disc. However, it will not move forward during playback of the final track.

Manual search

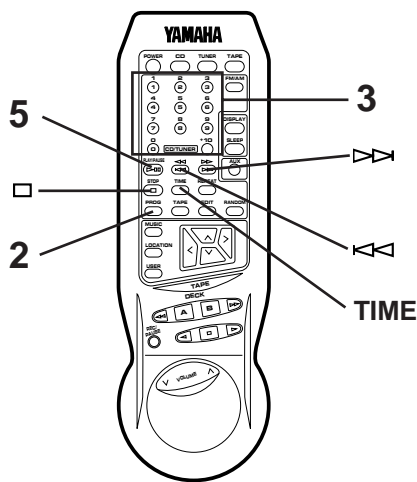
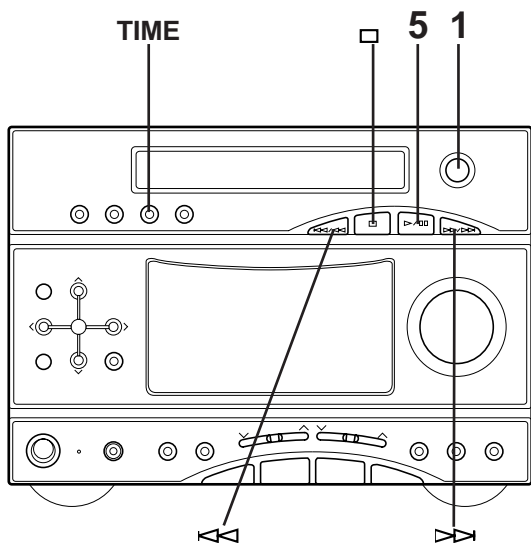
- 1 Begin playback.
- 2 Press and hold the $\triangleright\triangleright$ button to advance play rapidly, and the $\triangleleft\triangleleft$ button to reverse play rapidly.
 - * The sound can be heard (although slightly garbled) during manual search in either direction. This is convenient for reviewing the contents quickly.

Note

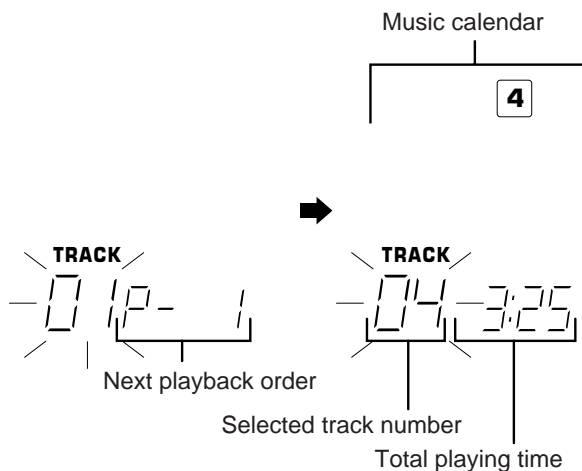
Manual search can also be performed while playback is paused.



COMPACT DISC PLAYER OPERATION



Display information during programming



Program play

You can program up to 30 tracks in any desired order.

- 1** Load a disc and close the disc table.
- 2** When in the stop mode, press the PROG button to prepare for programming.
* "PGM" and "P- 1" will light up on the display, and "01" will begin flashing.
- 3** Use the track number input buttons to select the desired track number.
* The selected track number and the next playback order will appear on the display, and soon it is replaced by the display of the total play time of the programmed tracks. Programmed track numbers will light up on the music calendar.
- * **For example, to choose selection 12**
(1) Press the "+10" button.
(2) Within 8 seconds, press the "2" button.
- 4** Repeat step 3 for any other track. Up to 30 tracks can be programmed.
- 5** Press the play/pause button to start playback of programmed tracks.

Notes

- If the total time of the programmed tracks reaches 100 minutes or more, the time will not be displayed.
- The total time of the programmed tracks will not be displayed, if a track number higher than 30 is programmed.
- Skip search and manual search can be performed during playing back, but only within the range of the programmed tracks.

To stop program play

- Press the stop \square button.
- To resume playback, press the play/pause \triangleright/\square button. Playback will begin from the beginning of the program.

To cancel a programmed sequence

There are two methods as described below.

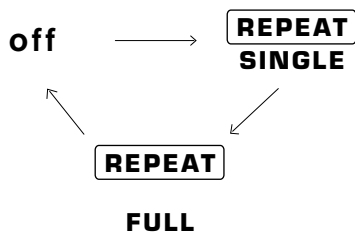
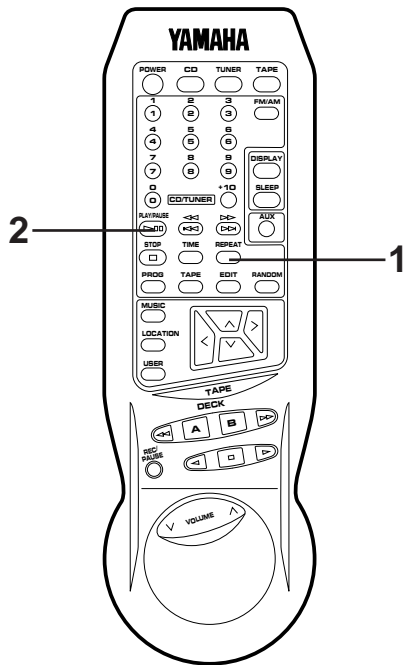
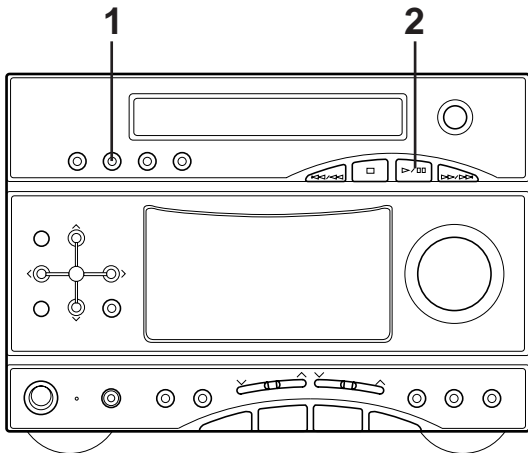
- Open the disc table
- Switch off the power.

To check program data

1. If during playing back or if the track number indicator is flashing, press the stop \square button.
2. Each time the \triangleright/\square button is pressed, the track numbers and sequential order of the programmed tracks can be checked one after another. The display of the track number can be returned (sequentially in reverse order) by pressing the \triangleleft/\square button.



COMPACT DISC PLAYER OPERATION



Repeat play

An entire disc, a single track or a programmed sequence can be continuously repeated.

1 While watching the display, press the REPEAT button once or more to select a desired repeat play mode (SINGLE REPEAT or FULL REPEAT).

2 Press the play/pause button.

Repeat play modes

SINGLE REPEAT

A single track is played back repeatedly.

* This is also available in the program play mode. (If the repeat play mode is switched off, the program play mode will be resumed.)

FULL REPEAT

An entire disc is played back repeatedly.

* In the program play mode, a sequence of programmed tracks is played back repeatedly.

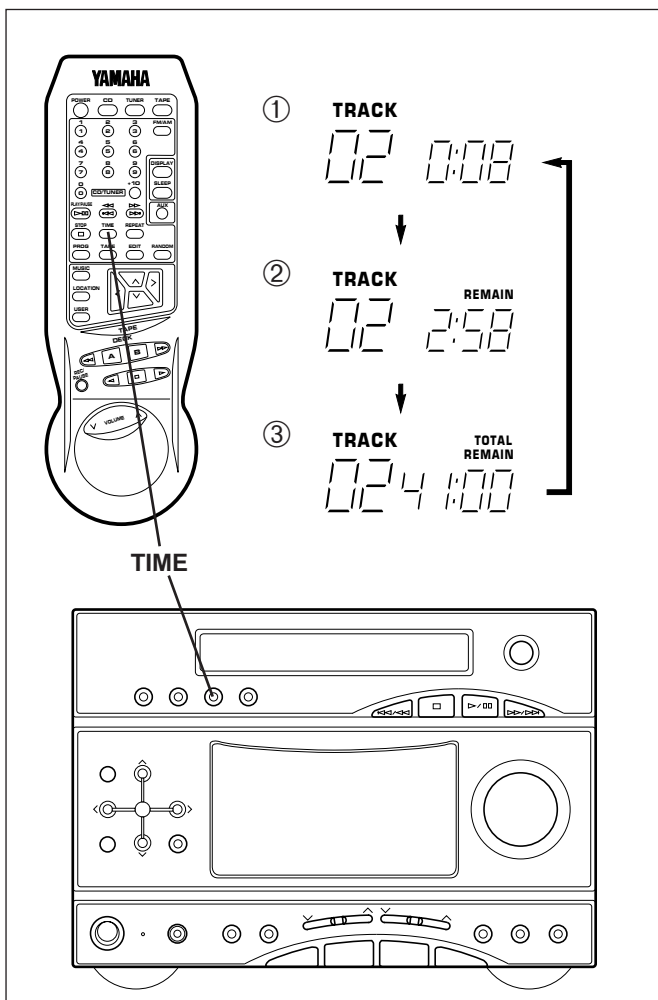
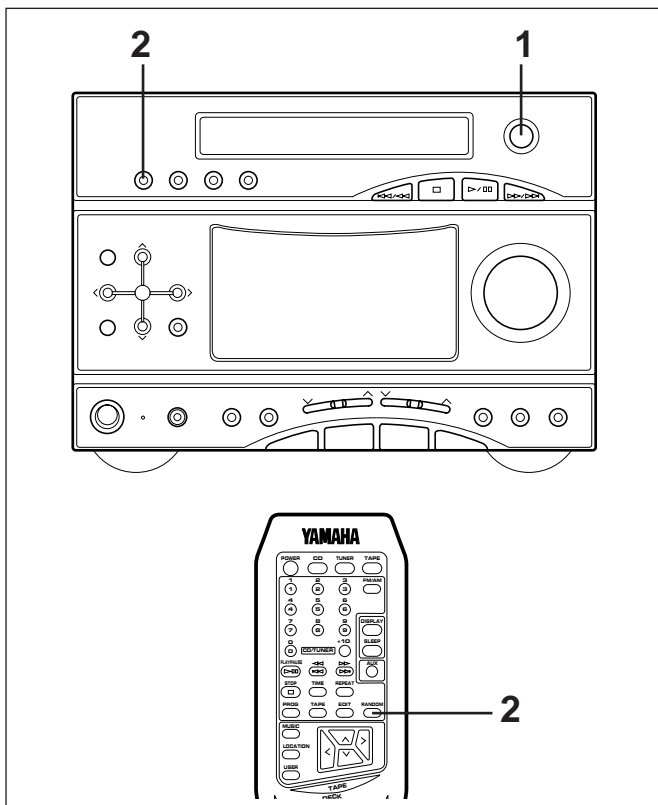
* In the random play mode, the disc is repeatedly played back, but the order of tracks is different every time.

To cancel the repeat play

Press the REPEAT button once or more so that the (SINGLE, FULL) REPEAT indicator goes out.



COMPACT DISC PLAYER OPERATION



Random play

Tracks on the disc can be played back in a random order.

- 1 Load a disc and close the disc table.
- 2 Press the RANDOM button to begin random play.
 - * The "RANDOM" indicator will light up.

To cancel the random play

Press the RANDOM button again. The "RANDOM" indicator will go out.

Note

In the program play mode, random play will be performed among programmed tracks.

Switching the time display

Each time the TIME button is pressed, the display will change as described below.

[Example]

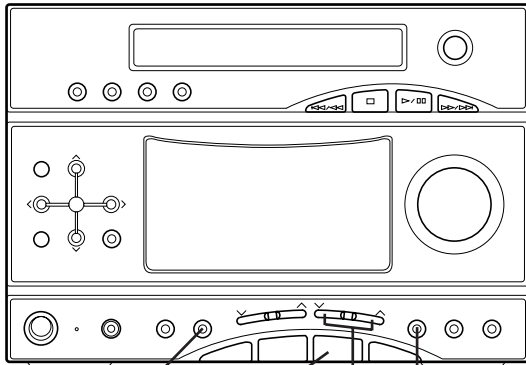
When the second track is being played back (Refer to the illustration on the left.)

- ① The elapsed play time for the track now playing back will be displayed.
 - * 8 seconds have passed since the beginning of the second track.
- ② The remaining play time for the current track will be displayed.
 - * 2 minutes and 58 seconds remain till the end of the second track.
- ③ The total remaining play time from the point being played at that time will be displayed.
 - * 41 minutes remain till the end of the disc.

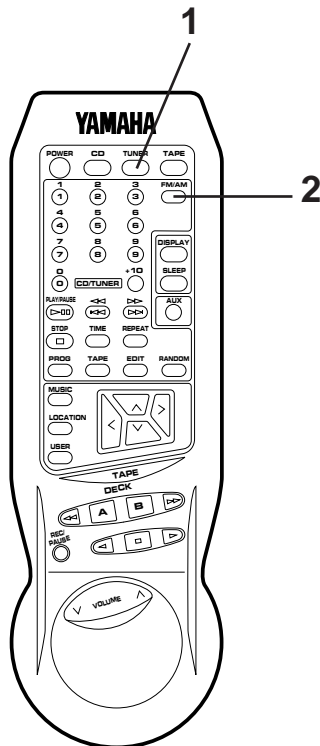
Notes

- During random play, the total remaining play time on the disc will not be displayed.
- During program play, the total remaining play time will not be displayed for track number 31 or higher.

TUNING OPERATION



2 1 4, 3 3, 2



Normally, if station signals are strong and there is no interference, quick automatic-search tuning (Automatic tuning) is possible. However, if signals of the station you want to select are weak, you must tune to it manually (Manual tuning).

Automatic tuning

- 1 Press the TUNER input selector button.
- 2 Select the reception band (FM or AM) by pressing the FM/AM button while watching the display.
- 3 Press the AUTO/MAN'L button so that "AUTO" appears on the display.
(In this mode, stations are received in stereo or monaural automatically.)
- 4 Press the TUNING ^ button to tune to a higher frequency, or press the TUNING v button to tune to a lower frequency.
(When tuned to a station, "TUNED" will light up on the display.)
- 5 If the station where tuning search stopped is not the desired one, follow step 4 again.

- * If the tuning search does not stop at the desired station, change to the Manual tuning method as described below.
- * STEREO indicator will light up when an FM stereo broadcast with sufficient signal strength is received.

Manual tuning

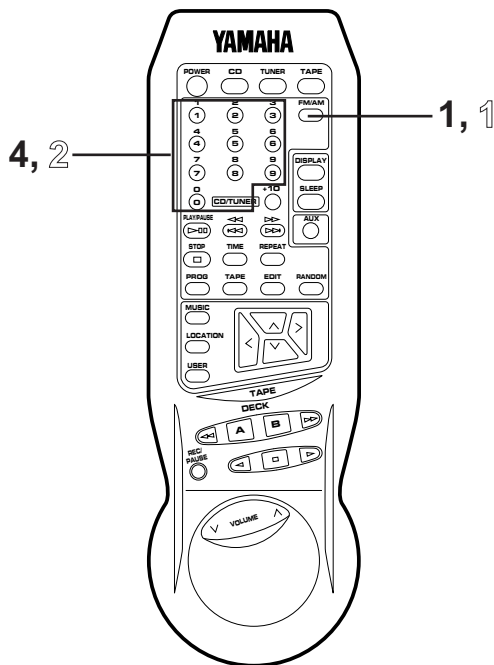
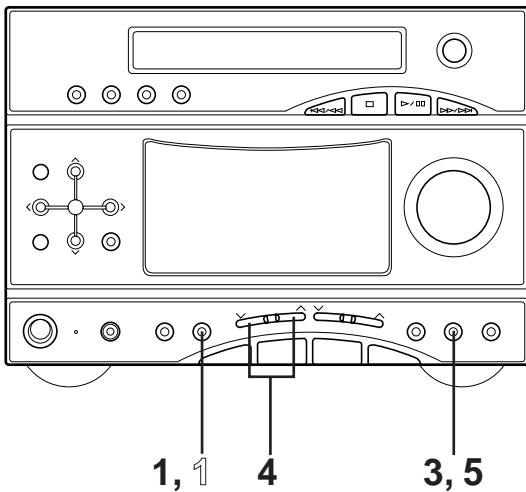
- 1 Follow steps 1 and 2 of the Automatic tuning method.
- 2 Press the AUTO/MAN'L button so that "AUTO" disappears from the display.
(In this mode, stations are received in monaural.)
- 3 Press and hold the TUNING ^ button to tune to a higher frequency, or press and hold the TUNING v button to tune to a lower frequency.
Release it just before reaching the desired frequency, and then press it repeatedly until the desired frequency appears.
(When tuned to a station, "TUNED" will light up on the display.)

Note

If you tune to an FM station manually, it is received in monaural automatically to increase the signal quality.



TUNING OPERATION



Preset tuning

This unit can store station frequencies selected by tuning operation. With this function, you can select any desired station by only calling the corresponding preset station number.

Up to 20 stations (10 FM and 10 AM stations) can be stored by using the 10 preset station numbers. (One preset station number can be stored with one FM station and one AM station separately by switching the reception band.)

To store stations

(Example: To store a FM station to the preset station number 1)

- 1** Select the reception band [FM or AM] by pressing the FM/AM button while watching the display.
(In this case, select "FM".)
- 2** Tune to a desired station.
(Refer to the previous page for tuning procedure.)
- 3** Press the tuner MEMORY button.
* The MEMORY indicator will flash for about 10 seconds.
- 4** Select a preset station number to which you will store the selected station by pressing the corresponding preset station number button on the remote control transmitter before the MEMORY indicator goes out.
(In this case, select "1".)
* "P1" will appear on the information display area.
* Preset station number can also be selected by pressing the PRESET (∨ / ∧) buttons on the front panel repeatedly.
- 5** Within about 10 seconds, press the tuner MEMORY button again.
* The MEMORY indicator will stop flashing and light up. It shows the displayed station frequency has been programmed to the preset station number 1.

In the same way, program other FM stations to the preset station number 2 to 10.

Note

The preset station number 10 is shown by "0" on the display.

Store desired AM stations in the same way

AM stations can also be stored to the preset station numbers 1 to 10 in the same procedure described above.

TUNING OPERATION

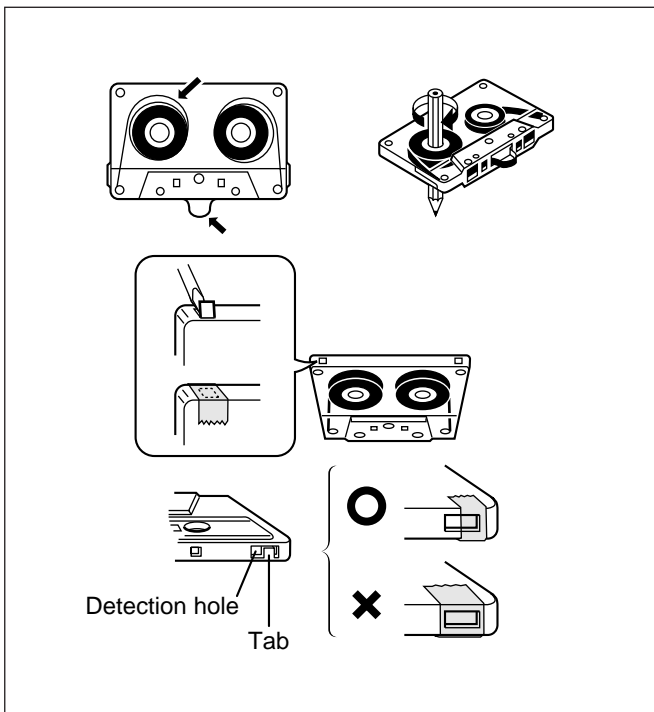
To recall a preset station

- 1 Select the reception band (FM or AM) of the station you want to recall by pressing the FM/AM button while watching the display.
- 2 Select the preset station number to which the station is stored by pressing the preset station number buttons on the remote control transmitter or the PRESET \vee / \wedge buttons on the front panel.

Notes

- A new setting can be stored in place of the former one of the same reception band.
- If the AC supply lead is disconnected from the AC outlet or the power is cut due to temporary power failure, the memory may be erased. If so, it can be re-programmed by simply following the Preset tuning steps.

TAPE DECK OPERATION



General information

- Do not use C-120 tapes or poor-quality tapes, since they can cause malfunctions.
- Before loading a tape into the cassette compartment, tighten the tape slack with a pen or pencil.
- Tapes have removable tabs which prevent accidental recording or erasing from taking place. Removing the tab on the top left protects the side facing you from erasure. Cover the tab holes with adhesive tape to erase or record again.
- This deck is a Double Cassette Deck with Automatic Reverse Function.
DECK A: Playback only.
DECK B: Playback or recording.
- This deck features an auto tape selector. Just load the tape, and the tape formula being used will be sensed automatically.
- This unit can play back metal tapes as well as normal or chrome tapes, and recording can also be done on metal tapes.
- When covering erasure prevention tab holes, do not cover the chrome and metal detection holes. Otherwise, the deck will treat tape as normal tape.
- Do not press the EJECT button during playback or recording.



TAPE DECK OPERATION

Tape A or tape B playback

- 1 Press the TAPE input selector button.
- 2 Open the DECK A or DECK B cassette compartment by pressing the EJECT button.
- 3 Load the tape into the DECK A or DECK B cassette compartment, and close the lid panel completely by pressing the panel until it clicks.
- 4 Press the DOLBY B NR button so that the indicator over the button lights up, if the tape has been recorded with Dolby noise reduction.
 - * To cancel using the Dolby noise reduction, press the DOLBY B NR button again so that the indicator over the button goes out.
 - * For details on the Dolby noise reduction, refer to the "Dolby NR (Noise Reduction) system" on page 20.
- 5 If necessary, switch the reverse mode to the desired one by pressing the reverse MODE selector button so that the corresponding indicator lights up.

The reverse MODE selector button can be operated before or during playback, and changes tape playback as follows:

	Side A only	Side A → Side B (Continuous) Starts from side A.
	Side B only	Side A → Side B (Continuous) Starts from side B. (Side A is not played at the first time.)

- 6 Select the DECK A or B in which the tape you want to play back is loaded by pressing the DECK A/B button so that the corresponding indicator lights up.
- 7 Press the play button to listen to side A, or the play button for side B.

To stop playback

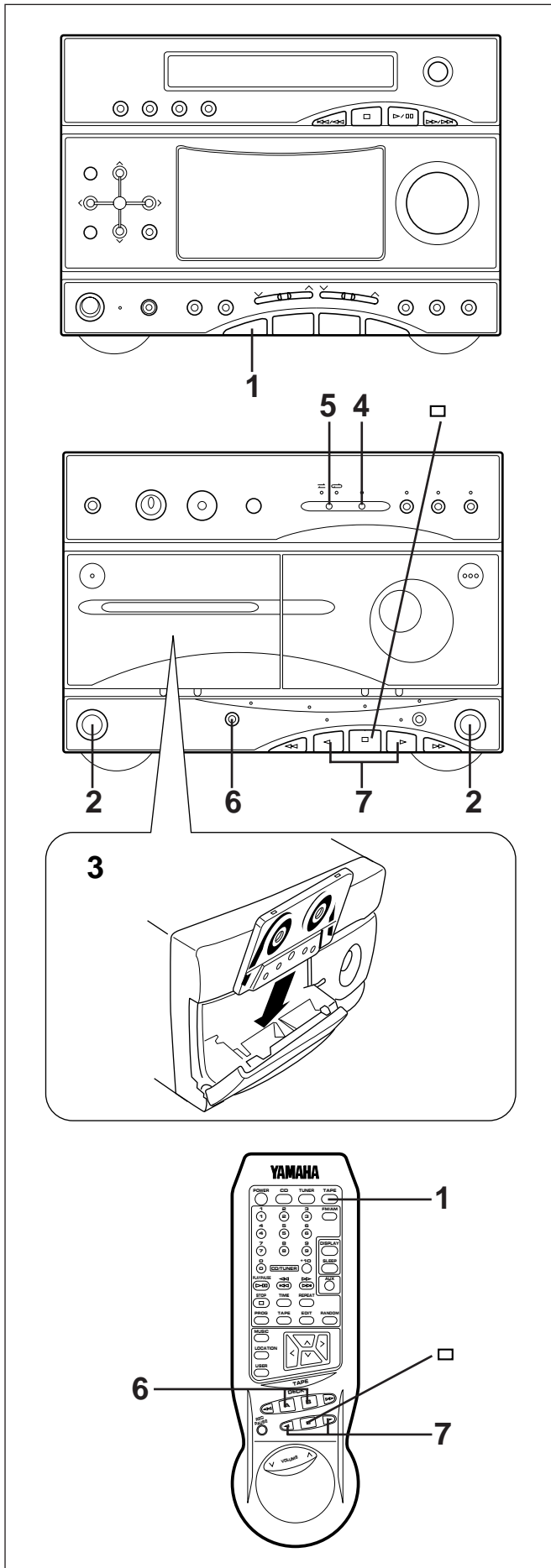
Press the stop button.

Notes

- Switching the tape by pressing the DECK A/B button will not stop the running (or fast running) of the tape to which the selection has been canceled. Before switching the tape, be sure to stop the running of the currently selected tape.
- When removing the tape, stop the tape if it is running, and then open the cassette compartment.

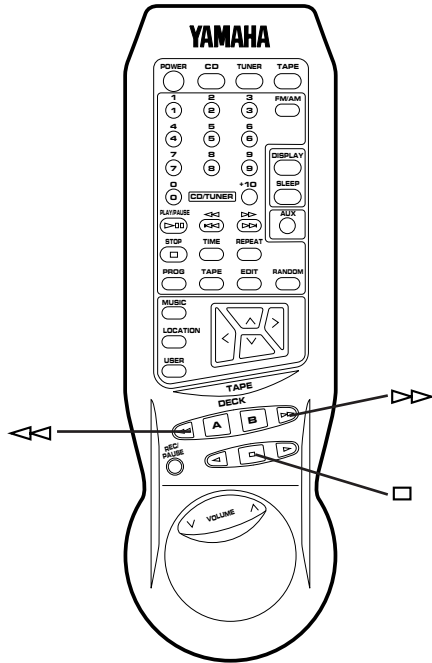
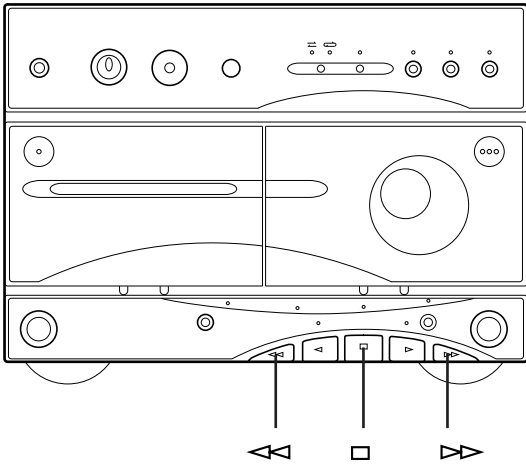
Direct operation

Even if an input source other than tape deck is selected, pressing the play button (or the fast wind button) will start playback (or fast winding) directly.









TAPE DECK OPERATION







Winding the tape

- 1 If during playback, first press the stop  button.
 - 2 Next press the fast wind  or fast wind  button to wind the tape.
 - 3 Press the stop  button to stop.
- * While winding the tape, the corresponding play direction indicator flashes.





Searching for the beginning of a desired selection

Carry out the following operation during playback to find the beginning of a desired selection on the tape.

To listen to the same selection

Press the  button if the direction of the current playback is  .
Press the  button if the direction of the current playback is  .

To listen to the next selection

Press the  button if the direction of the current playback is  .
Press the  button if the direction of the current playback is  .

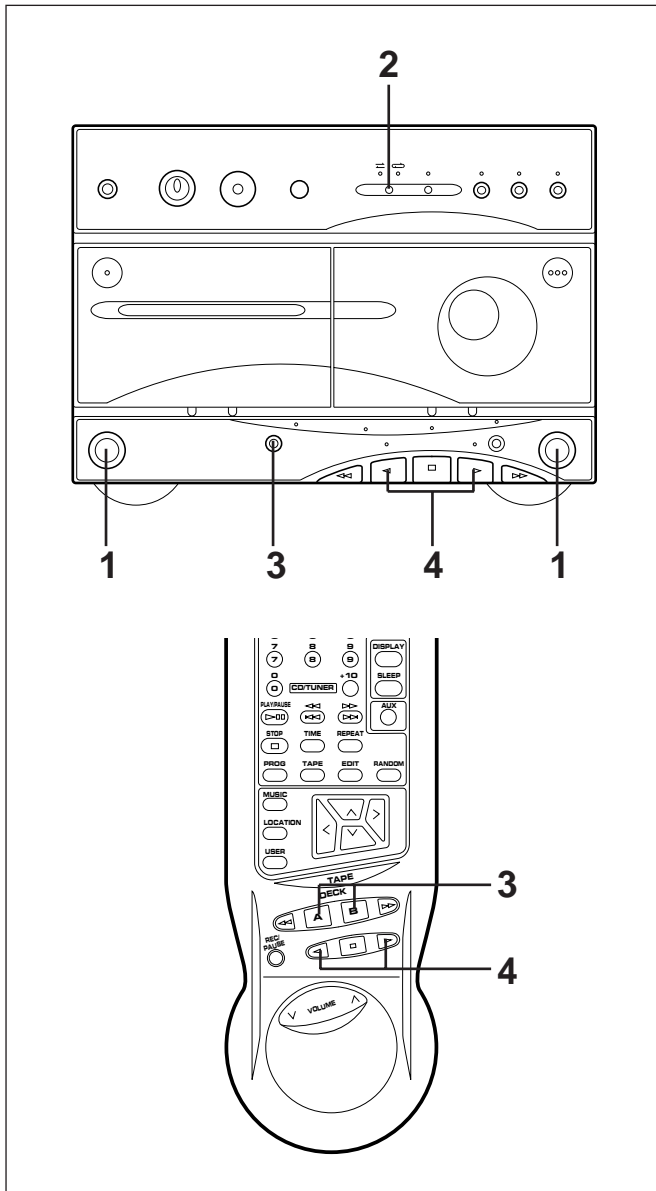
* While searching, the corresponding play direction indicator flashes.

Notes

- This function may not work for tapes with
 - * Material with long pauses or quiet passages.
 - * Low recording levels or excessive noise.
 - * Pauses of less than 4 seconds between selections.
- If searching is carried out at the first or the last part of a selection, the desired selection may not be found.



TAPE DECK OPERATION



Continuous playback

- 1 Load the tapes into the DECK A and DECK B cassette compartments.
- 2 If the reverse mode “↺” is not selected, press the reverse MODE selector button to select it.

The reverse MODE selector button can be operated before or during playback, and changes tape playback as follows:

<Tape A> 	Tape A Side A → B → Tape B Side A → B (Continuous) Starts from Tape A Side A.
<Tape A> 	Tape A Side A → B → Tape B Side A → B (Continuous) Starts from Tape A Side B. (Tape A Side A is not played at the first time.)

- 3 Select the tape to be played back first by pressing the DECK A/B button.
- 4 Press the play ▷ button to listen to side A, or the play ◁ button for side B.

Dolby NR (Noise Reduction) system

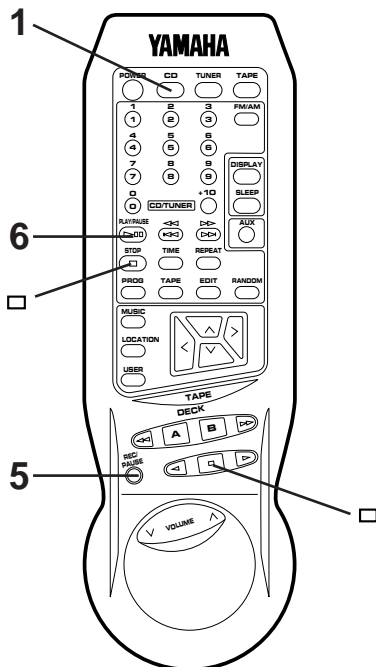
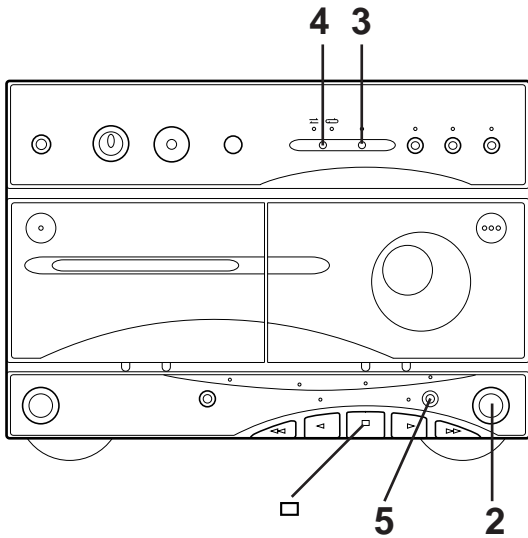
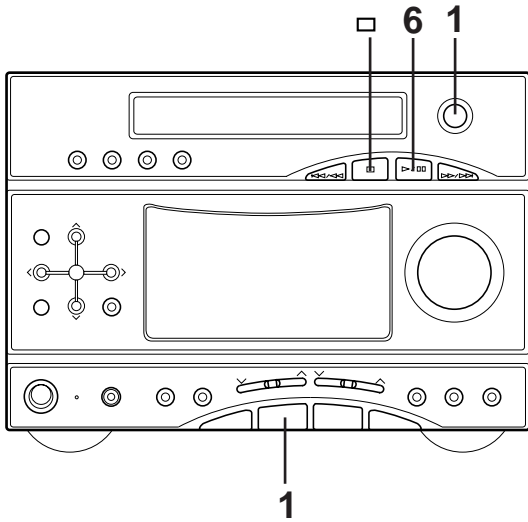
This unit employs the most popular Dolby B type noise reduction system.

If a tape recorded with a different type of Dolby noise reduction is played back on this system, a good sound quality will not be obtained.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. “DOLBY” and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.



RECORDING A COMPACT DISC



- When recording important selections, be sure to make a preliminary test to ensure that the desired source material is being properly recorded with good sound quality.
- The automatic recording level control circuit automatically controls the level of the input signal used for recording.
- Adjusting the VOLUME control and using the built-in graphic equalizer and sound field processor have no effect on the recorded sound.
- For the tape deck, the deck which can be used for recording is the DECK B only. When recording, be sure to load a tape into the DECK B cassette compartment.

CD synchronized recording

- 1 Press the CD input selector button and load the disc to be recorded.
- 2 Load a tape into the DECK B cassette compartment.
 - * Wind past the beginning part of the tape on which recording cannot be performed.
- 3 When recording with the Dolby NR system, press the Dolby B NR button so that the indicator over the button lights up. If not, set it off.
 - * For details on the Dolby noise reduction, refer to the "Dolby NR (Noise Reduction) system" on page 20.
- 4 If desired, switch the reverse mode by pressing the reverse MODE selector button.

When the tape is set so that side A faces you, recording will be done as follows automatically according to the selected reverse mode.

- ↔Side A only
- ↻Side A → Side B

- 5 Press the REC/PAUSE button.
 - * The indicator over the button will flash.
- 6 Start CD playback by pressing the play/pause button.

To stop recording

Press the stop button of the tape deck. (At this time, CD playback does not stop.)

Note

Even if the stop button of the CD player is pressed, recording will not stop.

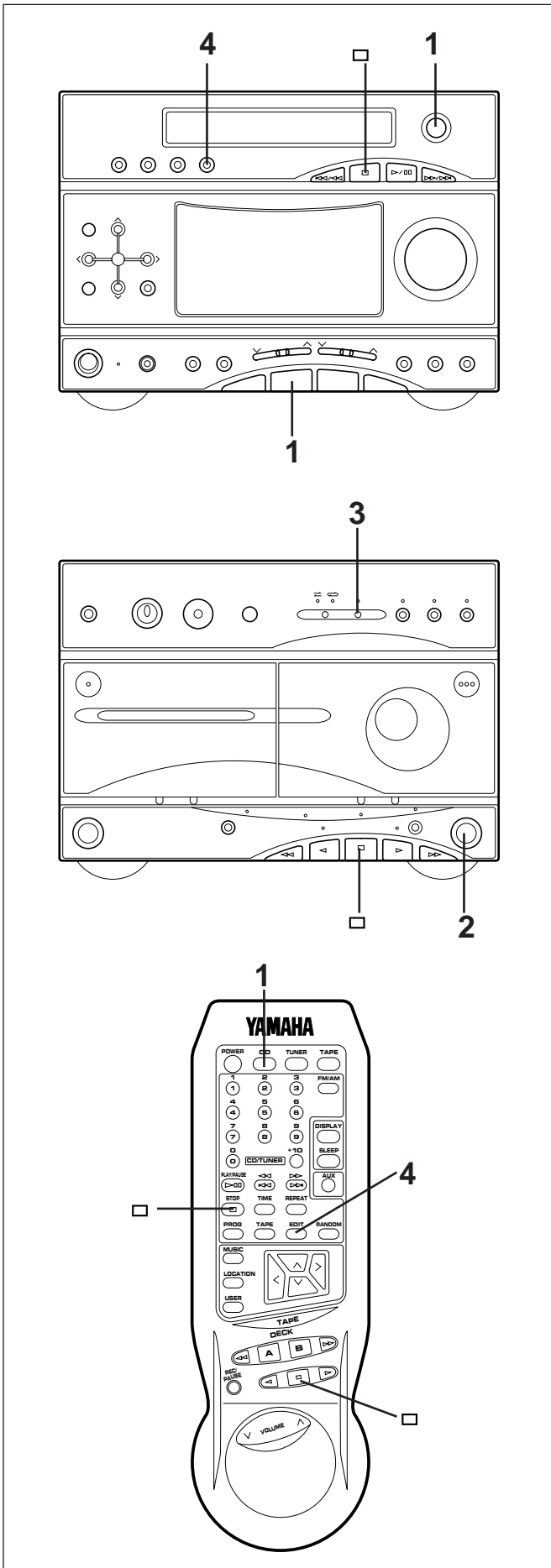
Recording programmed tracks

Programmed tracks can also be recorded in the same way.

- 1 Program desired tracks. (Refer to page 12 for the programming procedure.)
- 2 Follow steps 2–6 described above.



RECORDING A COMPACT DISC



Recording CD on both sides of a tape automatically

- 1** Press the CD input selector button and load the disc to be recorded.
- 2** Load a tape into the DECK B cassette compartment.
- 3** When recording with the Dolby NR system, press the Dolby B NR button so that the indicator over the button lights up. If not, set it off.
 - * For details on the Dolby noise reduction, refer to the "Dolby NR (Noise Reduction) system" on page 20.
- 4** Press the EDIT button. ("EDIT" appears on the display.) CD playback and recording starts. Recording is carried out on side A and B of the tape continuously.
 - * "A Q Q" (or "Q Q B") on the display shows the side of the tape on which recording is being carried out.
 - * When the recording on side A is finished while a track is being played back, the recording on side B starts from the beginning of the same track.

Recording programmed tracks

Programmed tracks can also be recorded in the same way.

- 1** Program desired tracks. (Refer to page 12 for the programming procedure.)
- 2** Follow steps 2–4 described above.

To cancel this function

Before recording, press the stop button of the CD player.

To stop recording

Press the stop button of the CD player.

(At this time, the tape deck automatically stops.)

* Pressing the stop button of the tape deck also stops recording. However, this method makes the unit accept no other operation for about 10 seconds after the stop button is pressed.

Note

During recording, pressing the TIME button cannot change the time display.



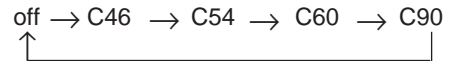
RECORDING A COMPACT DISC

Automatic tape-editing

This convenient feature can be used to program tracks on a disc for recording to tape. By only memorizing the tape's total possible recording time, the unit will automatically program tracks so they will fit onto the tape with the least amount of unrecorded space remaining at each end of the tape.

To record a disc with the order of tracks unchanged

- 1 Press the CD input selector button and load the disc to be recorded.
- 2 Load a tape into the DECK B cassette compartment.
* Rewind the tape to the full end of the supply reel.
- 3 When recording with the Dolby NR system, press the Dolby B NR button so that the indicator over the button lights up. If not, set it off.
* For details on the Dolby noise reduction, refer to the "Dolby NR (Noise Reduction) system" on page 20.
- 4 Press the TAPE button to select the length of the tape to be used. Whenever pressed, C46, C54, C60 and C90 appear on the display in turn, and next it returns to the normal display mode.

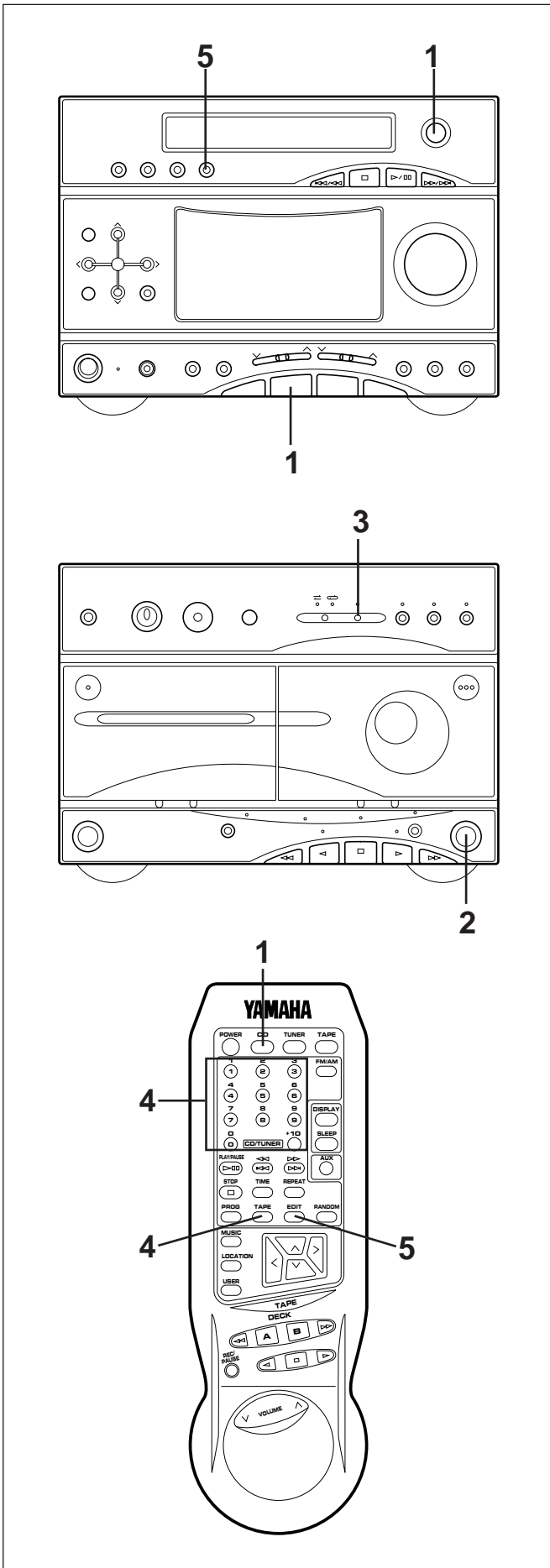


When using tapes other than C46, C54, C60 or C90

When C46, C54, C60 or C90 is appearing on the display, input the tape length by using the track number input buttons on the remote control transmitter (Examples)

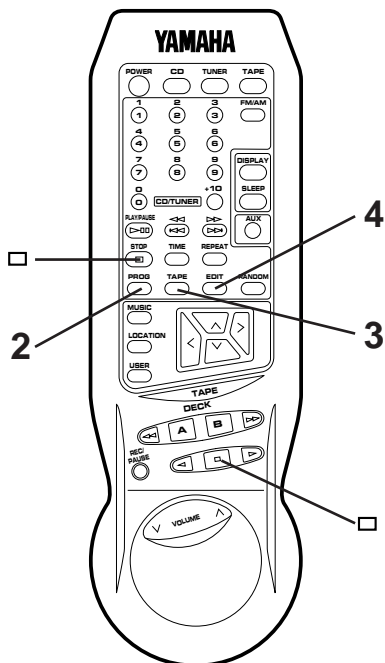
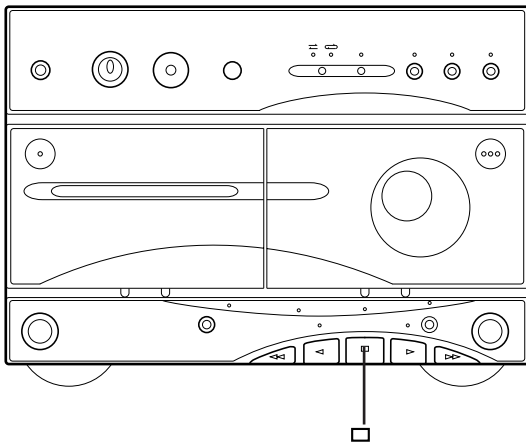
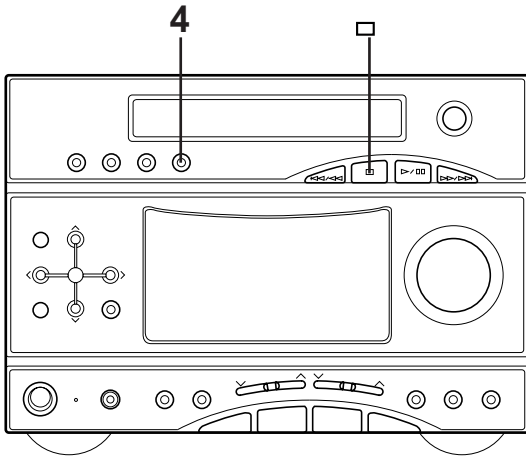
- C62: Press "6" and then "2".
- C30: Press "3" and then "0".

- 5 Press the EDIT button. ("EDIT" appears on the display.) CD playback and recording starts. Recording is carried out on both side A and B of the tape.
* While recording on side A, track numbers selected for side A and "A O O" are illuminated on the display. The track number being recorded flashes and the number which has been already recorded is turned off. For side B, display information is as the same as side A except that "O O B" is illuminated in place of "A O O".






RECORDING A COMPACT DISC






To cancel tape-editing function

Before recording, press the stop  button of the CD player.

To stop recording

Press the stop  button of the tape deck.
(At this time, CD playback automatically stops.)

To make this unit program tracks on a disc automatically so that the least amount of unrecorded space remains on the tape

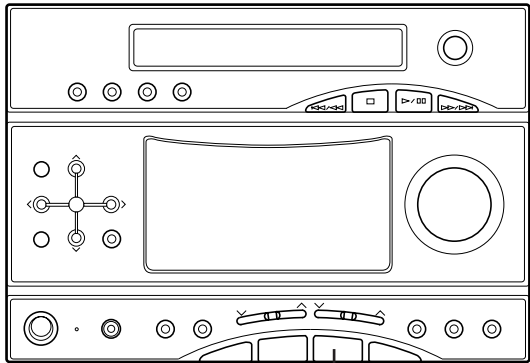
- 1 Follow steps 1–4 on the previous page.
- 2 Press the PROG button.
 - * “AP A>” will light up for 3 seconds during programming for side A, and “AP B>” will light up for 3 seconds during programming for side B. Then the display will show the total number and the total time of programmed tracks.
- 3 If you press the TAPE button repeatedly, you can check the results of programming listed below for each side of the tape in turn.
 - All track numbers to be recorded
 - The number of tracks to be recorded
 - The total recording time
- 4 Press the EDIT button. (“EDIT” appears on the display.) CD playback and recording starts. Recording is carried out on both side A and B of the tape.
 - * While recording on side A, track numbers selected for side A and “A  ” are illuminated on the display. The track number being recorded flashes and the number which has been already recorded is turned off. For side B, display information is as the same as side A except that “ B” is illuminated in place of “A  ”.

Notes on automatic tape-editing

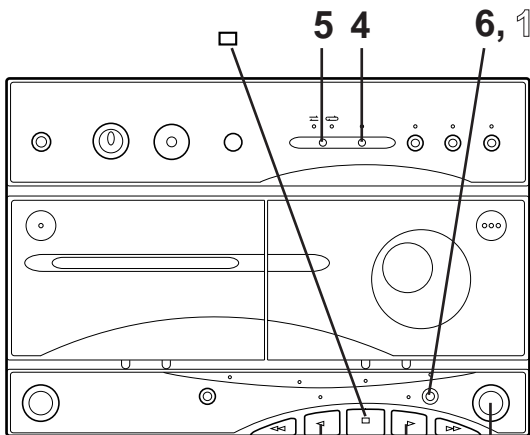
- This function may not be able to program tracks properly if the tape length shorter than 15 minutes is input.
- This function can be used to program up to track number 30. If the disc has more than 30 tracks, track number 31 and thereafter will not be programmed.
- If an wrong tape length is input to this unit or recording is started without rewinding the tape to the full end of the supply reel, recording will be stopped in a little while after the recording on side A is finished.
- During recording, pressing the TIME button cannot change the time display.



OTHER RECORDINGS

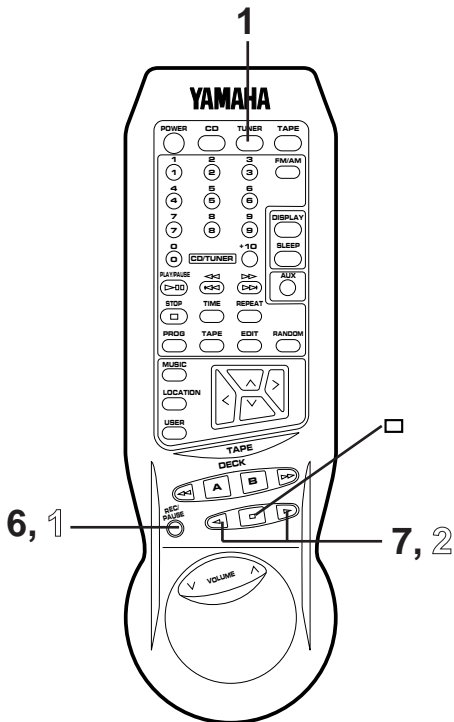


1



5 4 6, 1

7, 2 3



1

6, 1

7, 2

- When recording important selections, be sure to make a preliminary test to ensure that the desired source material is being properly recorded with good sound quality.
- The automatic recording level control circuit automatically controls the level of the input signal used for recording.
- Adjusting the VOLUME control and using the built-in graphic equalizer and sound field processor have no effect on the recorded sound.
- For the tape deck, the deck which can be used for recording is the DECK B only. When recording, be sure to load a tape into the DECK B cassette compartment.

Recording from the built-in tuner

- 1 Press the TUNER input selector button.
- 2 Tune to the desired station. (Refer to the "TUNING OPERATION" on page 15 and 16.)
- 3 Load a tape into the DECK B cassette compartment.
- 4 When recording with the Dolby NR system, press the Dolby B NR button so that the indicator over the button lights up. If not, set it off.
 - * For details on the Dolby noise reduction, refer to the "Dolby NR (Noise Reduction) system" on page 20.
- 5 Select the reverse mode "↔" to record on only one side, or "∞" for continuous recording on both sides by pressing the reverse MODE selector button.
- 6 Press the REC/PAUSE button.
 - * The indicator over the button will light up and the play direction indicators will flash.
- 7 Press the play ▷ button to record on side A, or the play ◁ button to record on side B.
 - * For continuous recording on both sides, begin on side A. Recording stops automatically at the end of side B.

To stop recording temporarily

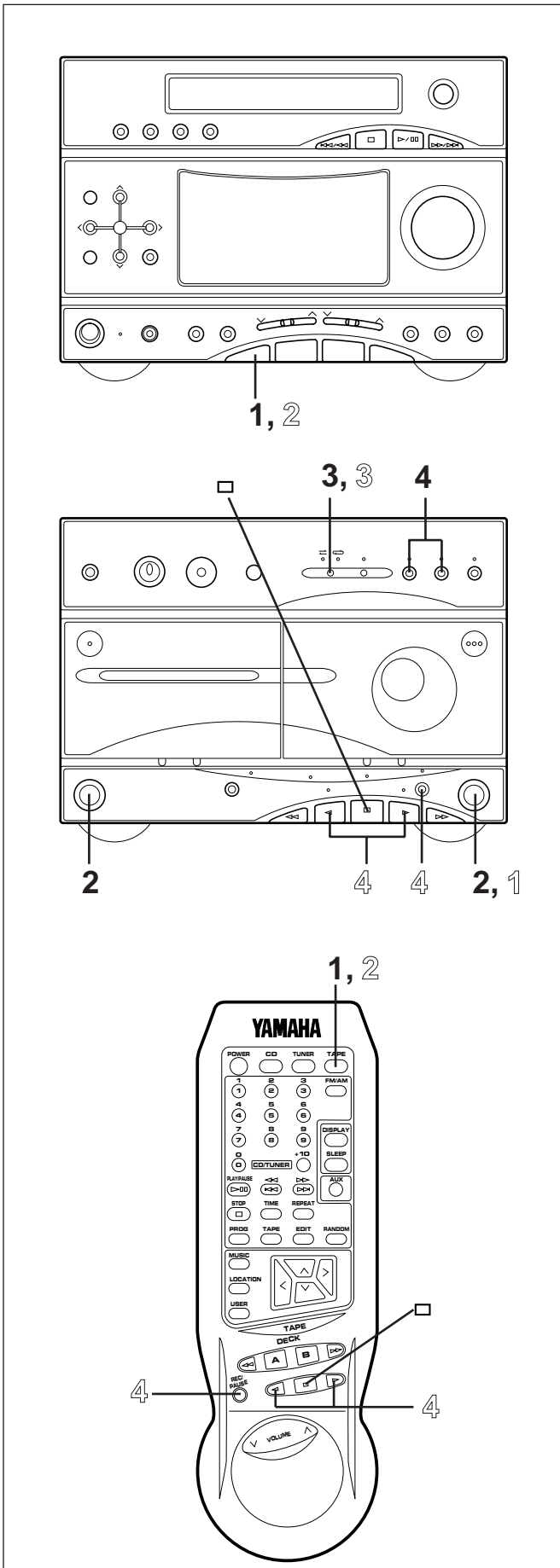
- 1 Press the REC/PAUSE button.
- 2 To resume recording, press the play button whose indicator is flashing.

To stop recording

Press the stop □ button.



OTHER RECORDINGS



Dubbing

- During dubbing, adjusting the VOLUME control and using the built-in graphic equalizer and sound field processor have no effect on the recorded sound.
- Try to use the same tape formula and length for the recording tape as for the master tape.

- 1 Press the TAPE input selector button.
- 2 Load a prerecorded tape into the DECK A cassette compartment. Insert a blank tape into the DECK B cassette compartment.
- 3 Select the reverse mode “↔” to record on only one side, or “↻” for continuous recording on both sides by pressing the reverse MODE selector button.
- 4 Press the DUBBING button.
 - * Press “NORMAL” to dub at normal speed, and “HIGH” to dub at about twice the normal speed.
 - * Dubbing will begin from side A regardless of the side now selected.

To stop dubbing

Press the stop □ button.

- * Tape A and tape B will stop at the same time.

Note

Only tapes originally encoded with Dolby NR will be dubbed onto tapes with Dolby NR encoding. The use of Dolby NR will have no effect on the recording of tape B during dubbing. However, the playback tonal quality of tape A will change according as Dolby NR is used or not.

Erasing recorded tapes

- 1 Load the tape to be erased into the DECK B cassette compartment.
- 2 Press the TAPE input selector button.
- 3 Select the reverse mode “↔” to erase only one side or “↻” to erase both sides by pressing the reverse MODE selector button.
- 4 Press the REC/PAUSE button, then press the play ▶ button to erase side A of the tape, or the play ◀ button to erase side B.

GRAPHIC EQUALIZER/SOUND FIELD PROCESSOR CONTROL

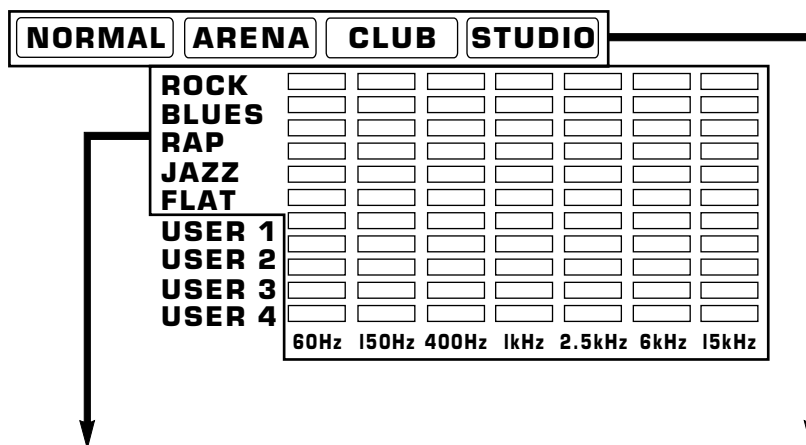
The built-in graphic equalizer and sound field processor present you with the pleasure of listening to music with various sound effects.

This system provides 4 preset equalizer modes and 3 sound field modes as listed below.

You can enjoy listening to music with a desired sound effect by selecting one of these modes, or you can also enjoy various sound effect combinations by selecting an equalizer mode and a sound field mode at the same time.

The built-in 7 band graphic equalizer allows you to adjust the equalizer pattern to create an effect to your desired sound taste. (The sound field processor cannot be adjusted, however.)

Furthermore, an adjusted equalizer pattern can be stored in this system as a user program. (Up to 4 user programs can be stored at the same time.)

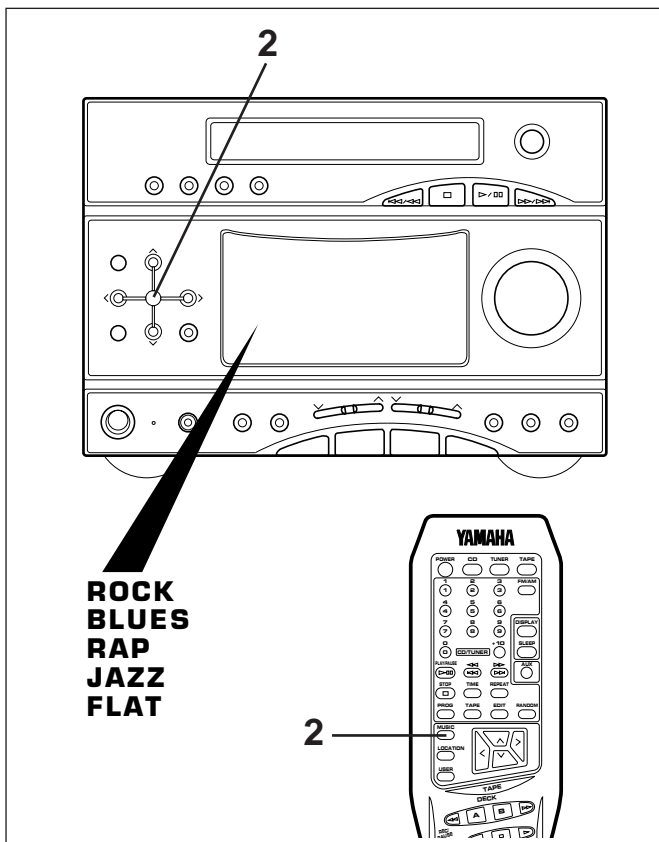


Preset graphic equalizer modes (MUSIC)

Mode	Feature
ROCK	High and low frequencies are emphasized. This mode is suitable for reproducing dynamic and powerful sounds of rock music etc.
BLUES	Low and medium frequencies are moderately emphasized. This mode is suitable for music with a blue feeling.
RAP	Low and mid-high frequencies are emphasized so that vocals become well-modulated. This mode is suitable for rap music etc.
JAZZ	Medium frequencies for vocals, piano, sax, etc. are emphasized. High and low frequencies are also emphasized moderately.
FLAT	This is the mode with no equalizer effect applied.

Sound field modes (LOCATION)

Mode	Feature
NORMAL	This is the mode with no sound field processing applied.
ARENA	This mode simulates the sound environment of a big hall with long reverberation time and many reflections of high frequencies.
CLUB	This mode simulates the sound environment of a jazz live house. Sounds are close and intimate.
STUDIO	This mode simulates the sound environment of a recording studio. Sounds are very close.



Listening to the music with a preset equalizer effect

- 1 Playback a source. (For source playback, refer to the sections beginning on page 9.)
- 2 Press the MUSIC button once or more so that the name of a desired mode appears on the preset equalizer mode indicators.
* Whenever you press the MUSIC button, the preset mode changes and is displayed as follows.



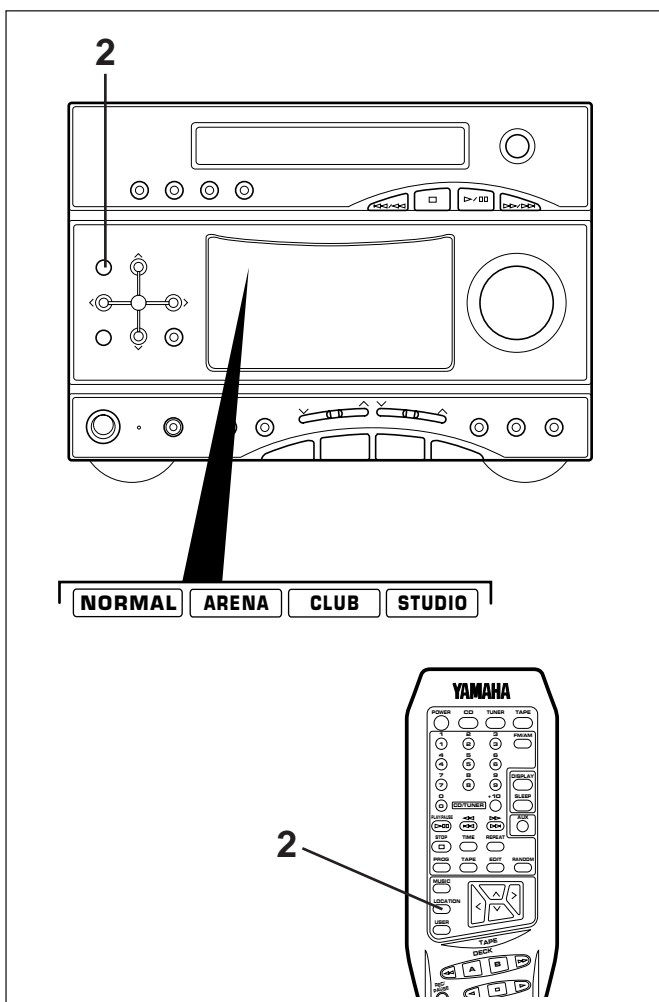
* The equalizer pattern of the selected mode is shown on the graphic equalizer level indicators.

To cancel the use of the graphic equalizer

Press the MUSIC button once or more so that "FLAT" lights up on the preset equalizer mode indicators.

Note

An equalizer effect cannot be recorded along with a source.



Listening to the music with a sound field effect

- 1 Playback a source. (For source playback, refer to the sections beginning on page 9.)
- 2 Press the LOCATION button once or more so that the name of a desired mode appears on the sound field mode indicators.
* Whenever you press the LOCATION button, the mode changes and is displayed as follows.



To cancel the use of the sound field processor

Press the LOCATION button once or more so that "NORMAL" lights up on the preset sound field mode indicators.

Note

Sound field effect cannot be recorded along with a source.

Adjusting the graphic equalizer for your desired sound taste

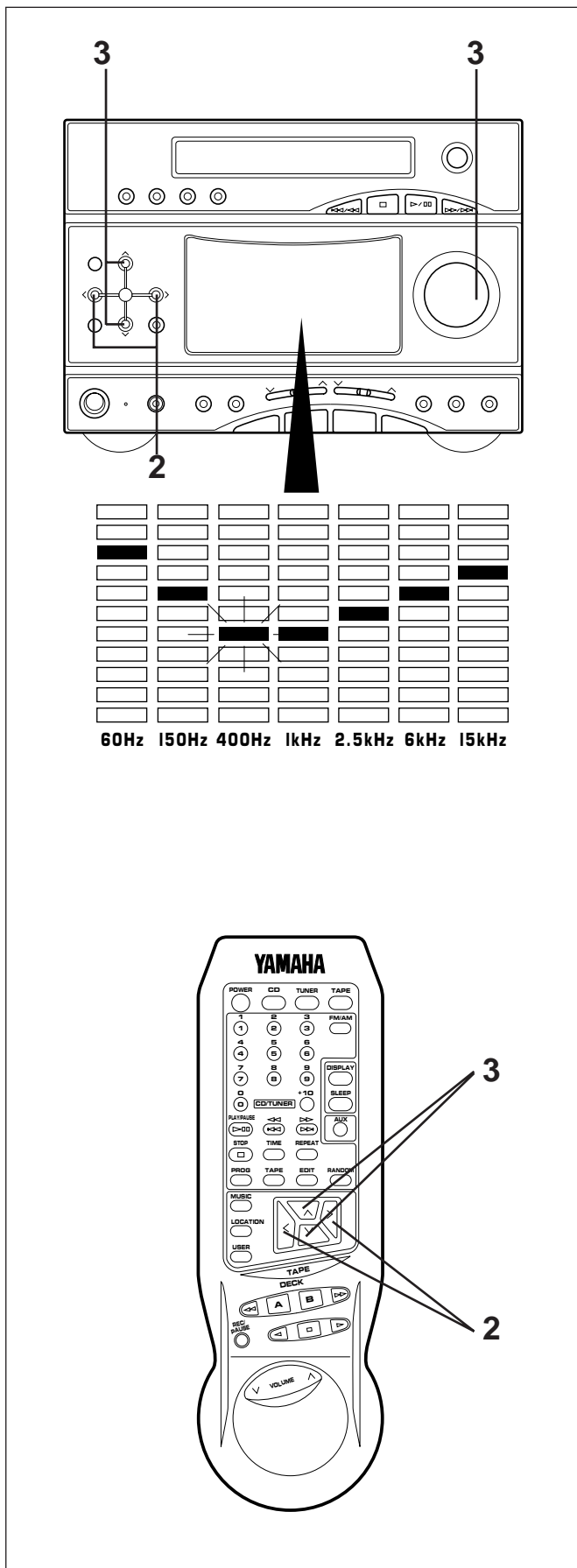
The 7 band graphic equalizer allows you to adjust the level for each frequency band.

* Make adjustment by monitoring the equalizer level indicators on the display.

- 1 Playback a source. (For source playback, refer to the sections beginning on page 9.)
- 2 Press the equalizer control < or > button once or more to select the frequency band to which you will adjust the level.
 - * The scale bar of the selected frequency band on the graphic equalizer level indicators will flash.
- 3 Press the equalizer control ^ or v button once or more to adjust the level.
 - * The VOLUME control on the front panel can also be used to adjust the level.
- 4 In the same way, make adjustment for other frequency band.

Note

Adjusted equalizer pattern will be cancelled when another equalizer mode is selected.

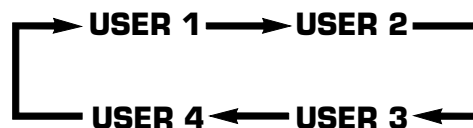


Storing your own programs

You can store an equalizer pattern of your own adjusting. Up to 4 patterns can be stored as desired.

To store

- 1** Adjust the equalizer as you prefer by using the equalizer control buttons.
- 2** Press the user program MEMORY button.
* "USER 1" will flash on the user program number indicators for about 5 seconds.
- 3** Select the user program number (USER 1, 2, 3 or 4) to which you will store the equalizer pattern by pressing the USER button once or more before "USER 1" stops flashing.
* Whenever you press the USER button, the user program number changes and is displayed as follows.



- 4** Press the user program MEMORY button before the number selected in step 3 stops flashing.

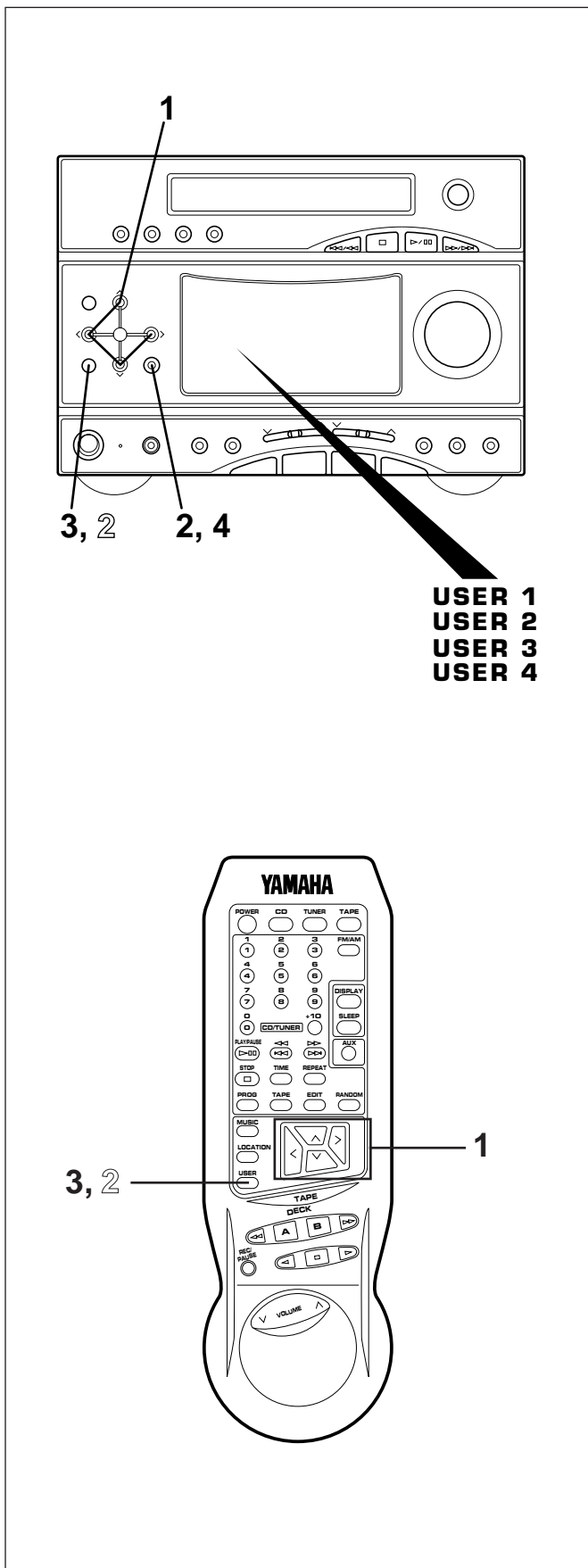
* In the same way, store other patterns to other three user positions.

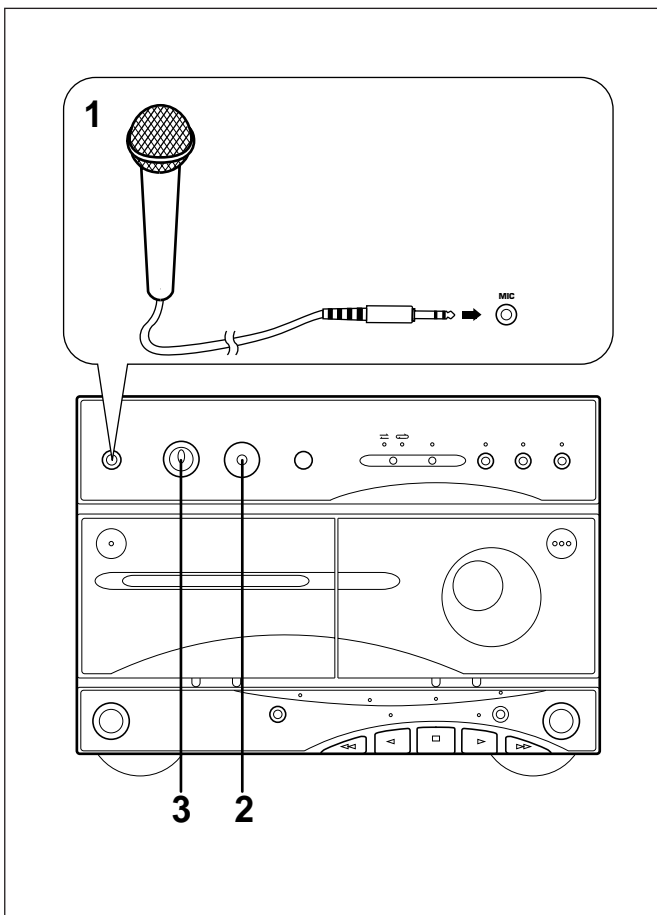
Notes

- A new program can be stored in place of the former one.
- In step 3 or 4, if the user program number indicator stops flashing before operation, return to step 2.

To recall a user program

- 1** Playback a source. (For source playback, refer to the sections beginning on page 9.)
- 2** Press the USER button once or more so that the user program number you want to recall lights up.





Singing karaoke

This system allows you to enjoy singing karaoke by using not only a karaoke source without vocals but also any normal audio source with vocals.

- 1** Connect the microphone to the MIC jack on the front panel.
- 2** Playback a source. (For source playback, refer to the sections beginning on page 9.)

When using a normal audio source with vocals

Press the KARAOKE button. ("KARAOKE" appears on the display.) The sound level of vocals is automatically attenuated.

- 3** While singing, adjust the mixing level of singing voice by turning the MIC MIXING level control.

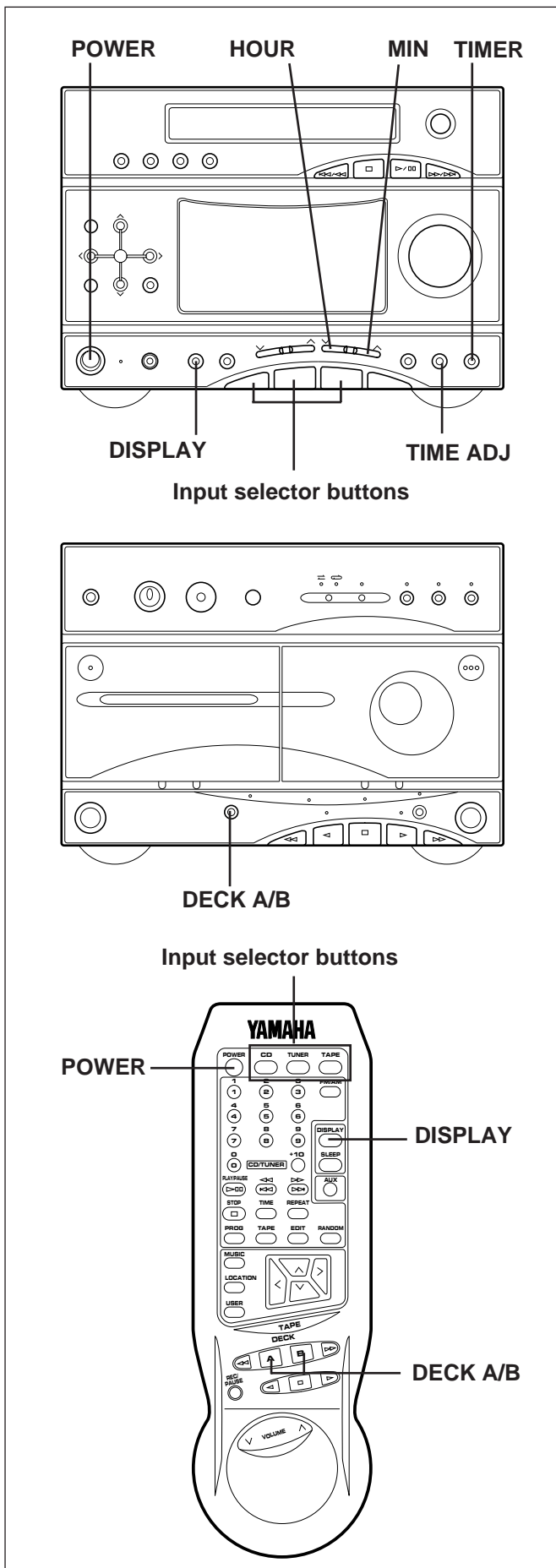
To restore the attenuated vocal sound level

Press the KARAOKE button again so that "KARAOKE" disappears from the display.

Notes

- There may be a case that vocals cannot be attenuated effectively according to a source (monaural source etc.).
- You can enjoy singing karaoke with a sound field effect applied if you select any sound field mode by pressing the LOCATION button.

HOW TO USE THE BUILT-IN TIMER



Timer play

By using the built-in timer, you can set the time when the unit turns on and a source begins playing automatically, and the time when the unit turns off automatically.

- 1 Prepare the source to be played.

For tuner:

Tune in to the station you will listen to.

For tape deck:

Load a tape into the cassette compartment, and select the tape by pressing the DECK A/B button so that the corresponding indicator lights up.

For CD player:

Load a disc on the disc table.

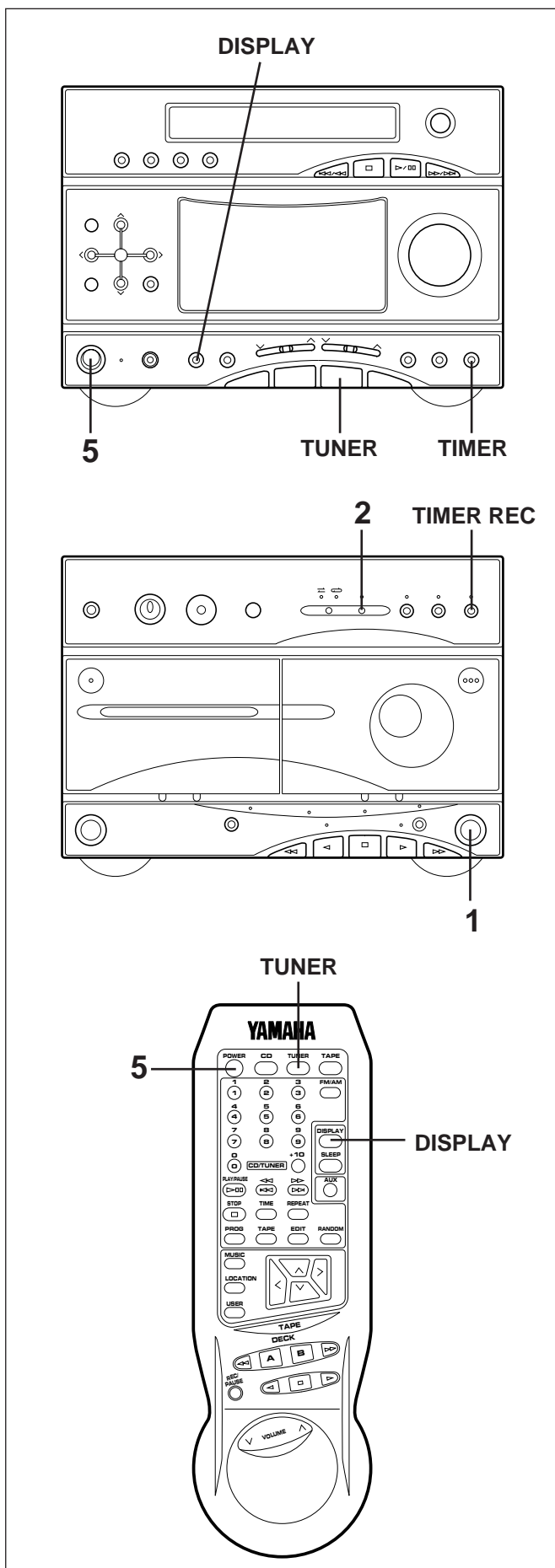
- 2 Press the DISPLAY button. Whenever the DISPLAY button is pressed, the display mode changes as follows. At each mode, make a setting for the timer play, referring to the setting procedure described below.

- ① **Frequency display**
(Only when the tuner is selected)
- ↓
- ② **Current time**
Check to be sure that the current time is correct.
- ↓
- ③ **Source selecting mode (CD, TAPE, TUNER SELECT)**
Select the source (TAPE, TUNER or CD) to be played by pressing the corresponding input selector button.
- ↓
- ④ **Time setting mode (ON TIME)**
Set to the time when you want to begin the timer play by pressing the HOUR button and the MIN button with the TIME ADJ button kept being pressed.
- ↓
- ⑤ **Time setting mode (OFF TIME)**
Set to the time when you want to finish the timer play (to turn this unit off) by pressing the HOUR button and the MIN button with the TIME ADJ button kept being pressed. Even if you do not set the time, it has already been set so that the timer play finishes after 1 hour.

* The display mode will be changed to the display of a normal source listening mode after about 8 seconds elapse automatically. If the mode is changed before the setting is completed, call the mode again by pressing the DISPLAY button once or more.

- 3 Press the TIMER button so that "TIMER" appears on the display.
- 4 If you will not use this unit until the timer play begins, turn the power off by pressing the POWER switch.

HOW TO USE THE BUILT-IN TIMER



Note

If a timer play setting is made and the power is not turned off, the source set for the timer play will begin playing when the time comes in place of the source played at that time.

To cancel the timer play setting

While the power is on, press the TIMER button so that "TIMER" goes out from the display.

- * If it is not canceled, the system will be turned on at the same time every day, so it can be used as an alarm. However, if you will be out at that time, cancel the timer play setting.
- * If the AC supply lead is unplugged or there is a power failure, the time set on the timer will be cleared.

Timer recording (To record a tuner program)

- 1 Load a blank tape into the DECK B cassette compartment.
- 2 If desired, change the setting of the reverse mode and the Dolby NR.
- 3 Press the TUNER input selector button and tune to the station of which program you want to record.
- 4 Follow step 2 of the "Timer play" on page 32.

- * In step ③, press the TUNER input selector button.
- * In step ④, set the time when you want to begin the timer recording.
- * In step ⑤, set the time when you want to finish the timer recording.

Next, before the display is changed from time setting mode to another mode, press the TIMER button so that "TIMER" appears on the display, and then press the TIMER REC button so that the indicator over the button lights up.

(Note: The TIMER REC button will function only when the display shows the time setting mode.)

- 5 If you will not use this unit until the timer recording begins, turn the power off by pressing the POWER switch.

To confirm the timer time setting

Press the DISPLAY button.

To cancel the setting of timer recording

Press the TIMER button.

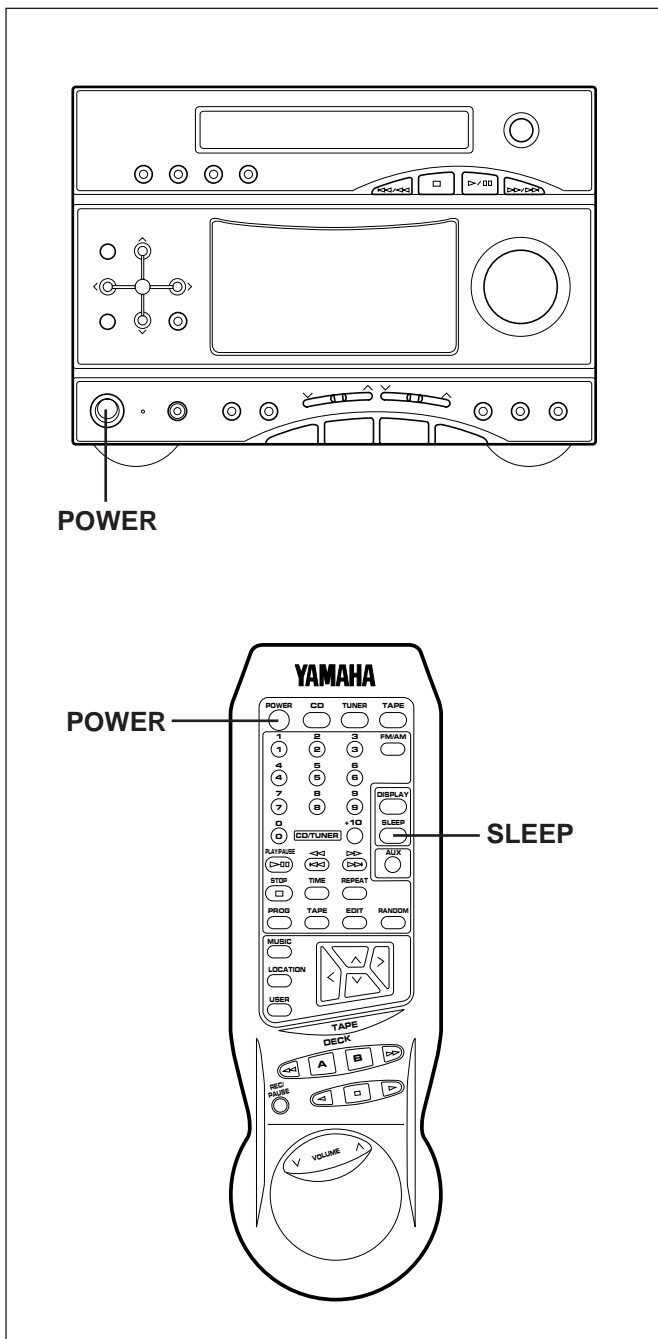
("TIMER" will disappear from the display.)

- * If the AC supply lead is unplugged or there is a power failure, the time set on the timer will be cleared.

Note

When the timer recording is finished, the timer setting is automatically canceled to avoid repeating timer recording of the same setting.

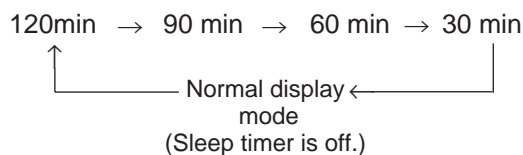
HOW TO USE THE BUILT-IN TIMER



Sleep timer operation

This unit can be turned off automatically.

- 1 Play the desired sound source.
- 2 Press the SLEEP button. "SLEEP: 120min" appears on the display.
- 3 Press the SLEEP button repeatedly until the desired sleep time appears on the display. The display will change as described below. (Time is displayed by the minute.)



- * A normal display mode will resume about 4 seconds after the selection is made.
 - * The SLEEP indicator will light up to indicate that the sleep timer is on.
- 4 The unit will turn off automatically when the selected sleep time has passed.

To confirm the sleep time setting

Press the SLEEP button once. The remaining time of the selected sleep time will be displayed.

To change the sleep time

While the SLEEP indicator is being illuminated, press the SLEEP button repeatedly until the desired time appears.

To stop the sleep timer operation

Press the POWER switch, or press the SLEEP button repeatedly until a normal display mode is restored. (The SLEEP indicator will go out.)

Using the timer and the sleep timer at the same time

- 1 Prepare timer play. (See page 32.)
 - * Do not turn the power of this unit off after the timer setting is finished.

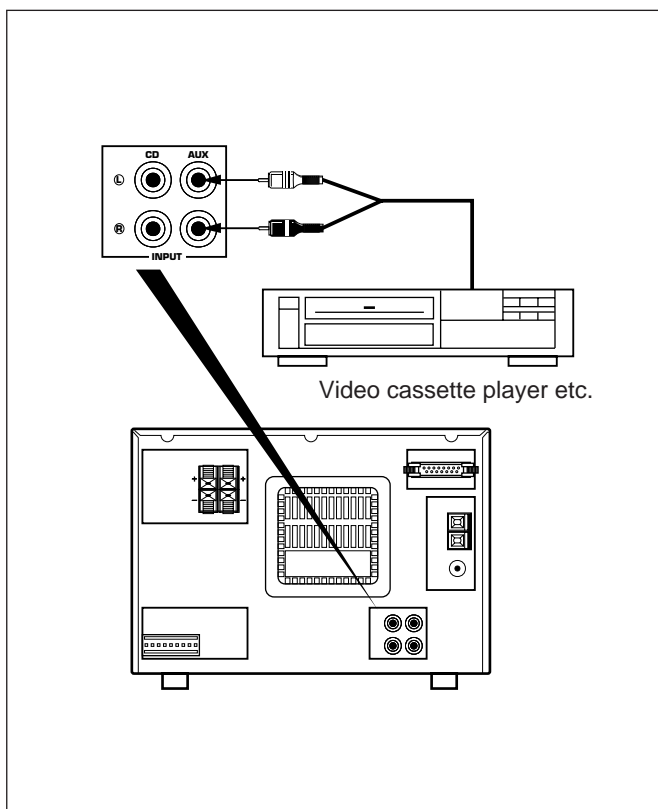
- 2 Press the SLEEP button and set the sleep time.

When the sleep timer operation finishes, the timer will function to turn the source on at the preset time.

Note

Do not make the timer time setting so that the timer will start during sleep timer operation. (Since sleep timer operation has priority, the timer will not operate.)

CONNECTING EXTERNAL UNITS



Other audio units

This system has auxiliary input (AUX) terminals to allow you to connect an external unit such as a video cassette player, LD player, etc. to this system.

To connect an external unit to the AUX terminals

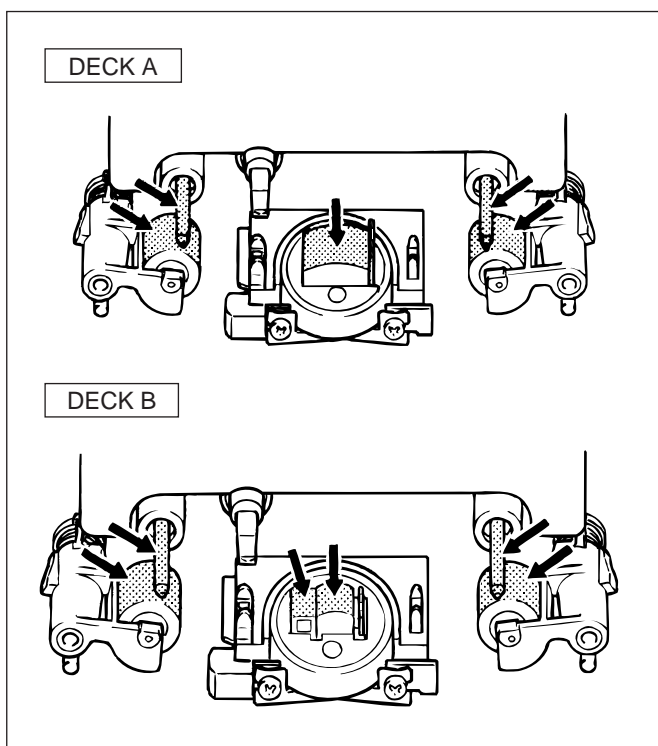
Connect the audio output cords of the external unit to the AUX terminals on the rear of this system. Make connections correctly so that the "L" (left) channel is connected to "L" and the "R" channel to "R".

To listen to the source sound from the unit connected to the AUX terminals

- 1 Press the AUX input selector button.
- 2 Operate the unit connected to the AUX terminals.

* Its audio source can be recorded by this system's tape deck.

MAINTENANCE



Internal care

- Dirty heads, capstans and pinch rollers can cause poor sound and tape jams. Clean these parts with a cotton swab moistened with commercially available head/pinch roller cleaner or isopropyl alcohol, or with a commercially available cleaning tape.
- After long use, the deck's heads and capstans may become magnetized, causing poor sound. Demagnetize these parts once every 30 hours of playing/recording time by using a commercial tape head demagnetizer. Read the demagnetizer's instructions carefully before use.

External care

- Periodically clean the surfaces of this system, especially the rear of KMA-GX3 to prevent the ventilation openings from being blocked with dust etc.
- Do not use chemically treated cleaning cloths or other chemicals. (See "Precautions".)

SPECIFICATIONS

As a part of policy of continuous improvement, YAMAHA reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units.

■ TCD-GX3 (CD player/pre-amplifier/tuner)

Power Supply AC 110-120/220-240V, 60/50 Hz
Power consumption 70 W
Input sensitivity and input impedance AUX; 300 mV/47 kohms
(OUTPUT; 25W)
Load impedance Headphones; 16 – 50 ohms
(recommended; 32 ohms)
Dimensions Width; 240 mm (9-7/16")
Height; 171.5 mm (6-3/4")
Depth; 260 mm (10-1/4")
Weight 5.6 kg (12 lbs. 5 oz.)

(Tuner)

Frequency range
FM 87.5 – 108.0 MHz
AM 530 – 1,710 kHz
531 – 1,611 kHz

(Compact disc player)

Type Compact disc player
Signal readout Non-contact, 3-beam semi-conductor
laser pick-up
Rotation speed 200 – 500 rpm CLV, Approx.
Error correction CIRC (Cross Interleave Reed-Solomon Code)
D/A converter 16-bit
Frequency response 20 – 20,000 Hz
Wow and flutter Unmeasurable (less than 0.001% W. peak)

■ KMA-GX3 (Tape deck/power amplifier)

Power source DC supplies from CD player/pre-amplifier/tuner unit.

Continuous power output 2 x 35W, 1 kHz, 8 ohms, 10% T.H.D.
2 x 25W, 1 kHz, 8 ohms, 0.1% T.H.D.
Load impedance Speakers; 8 ohms
Dimensions Width; 240 mm (9-7/16")
Height; 171.5 mm (6-3/4")
Depth; 291 mm (11-7/16")
Weight 3.7 kg (8 lbs. 2 oz.)

(Tape deck)

Tape Compact cassette tape
Frequency response (Playback) 30 – 13,000 Hz (Normal tape)
30 – 14,000 Hz (CrO₂ tape)
30 – 16,000 Hz (Metal tape)
Signal/noise ratio 64 dB (Dolby NR ON)
Dolby NR effect; 10 dB
(at over 5 kHz)

■ NX-GX3 (Speakers)

Type Active Servo Processing type
Speakers 13 cm (5-1/8") woofer
5 cm (2") tweeter
Frequency range 40 – 20,000 Hz
Rated power 30W
Maximum power handling capacity 50W
Impedance 8 ohms
Dimensions Width; 180 mm (7-1/16")
Height; 343 mm (13-1/2")
Depth; 220 mm (8-11/16")
Weight 3.5 kg (7 lbs. 11 oz./each)

TROUBLESHOOTING

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

Should be SERVICE required, the servicer will need both two pieces (TCD-GX3 and KMA-GX3).

	SYMPTOM	CAUSE	REMEDY
AMPLIFIER/TUNER	No power even if the POWER switch is pressed.	AC supply lead is not plugged in.	Plug in the AC supply lead.
	No sound from one speaker	Loose speaker connections.	Connect properly.
	No sound from speakers.	Internal protection circuit is functioning.	Unplug the AC supply lead from the wall AC outlet, and then plug in again.
	Excessive static in FM broadcasts.	Interference from starting motor of nearby car.	Position the FM antenna as high and as far away from nearby roads as possible. Connect using a coaxial cable.
		Interference from thermostat of nearby electrical appliance.	
	Noise increases during stereo broadcasts.	Antenna input is too weak due to obstructions or excessive distance from broadcasting station.	Check antenna connections.
			Install a multi-element type FM antenna if possible.
	Stereo broadcasts are noisy and STEREO indicator blinks on and off.	Insufficient antenna input.	Install an antenna appropriate for the electric field strength of your area.
	Cannot select preset stations.	Preset memory has been erased.	Reprogram memory presets.
	Buzzing or static during AM broadcasts.	Interference from source such as lightning, fluorescent lights, electric motors or thermostat of nearby electrical appliance.	Problem is difficult to eliminate but can be lessened by grounding AM loop antenna.
		TV or microprocessor is being used nearby.	Move away from TV or microprocessor.
	AM broadcast sensitivity is poor.	Radio signal is weak or antenna is not properly connected.	Properly connect AM loop antenna.
Change orientation of AM loop antenna.			
Install an external AM antenna.			
Can't set timer.	Current time is not set.	Set current time.	
This unit will not operate properly.	The internal microcomputer has been frozen by an external electric shock (lightning, excessive static electricity, etc.) or power supply with low voltage.	Unplug the AC supply lead from the wall AC outlet, and then plug in again after about one minute.	
CD PLAYER	Play does not begin even if disc is loaded.	Disc is upside down.	Load disc label side up.
		Disc is dirty.	Clean disc.
	No sound.	Input selector setting is incorrect.	Select the CD input selector button.
	Sound stops suddenly (always at same spot).	Disc is dirty.	Clean disc.
Volume set too high.		Lower volume.	
TAPE DECK	Tape won't move during playback or recording.	Slack tape wrapped around pinch roller.	Take up slack with a pencil before using.
	Can't record.	Erasure prevention tab is broken off.	Replace tape or cover erasure prevention hole with cellophane tape.
		Head is dirty.	Clean heads.
	Sound is distorted or fades out.	Head is dirty.	Clean heads.
		Head has become magnetized.	Demagnetize heads with head eraser.
		Tape is worn.	Replace tape.
	Poor sound quality.	Dolby NR is off when playing back a tape which has been recorded with Dolby NR on.	Press the Dolby B NR button to set it on.
	Stereo balance is poor.	Head is dirty.	Clean heads.
	Excessive noise.	Head is dirty.	Clean heads.
		Head has become magnetized.	Demagnetize heads with head eraser.
		Tape is worn.	Replace tape.
	Tape travel stops in middle of playback or recording.	Slack tape coming out of cassette shell.	Take up slack by turning reels with a pencil.
Tape is creased or torn.		Replace with new tape.	
Endless tape is being used.		Don't use endless tapes.	
Can't find the beginning of desired selections on tape.	Silent gaps between selections are too short.	The function of searching for the beginning of desired selections won't operate unless the silent gaps between selections are at least four seconds long.	
	Excessively soft passages in middle of selections.		
	Conversation etc. is recorded.		
REMOTE CONTROL	Remote control doesn't work.	Batteries are dead.	Replace batteries.
		Remote control is too far away or is being used at incorrect angle.	Use within 6 m and 60° radius.
		Direct sunlight or lighting (of an inverter type of fluorescent lamp etc.) is striking the remote control sensor of the main unit.	Change position of the main unit.
	TV functions strangely when the remote control is used.	Remote control is being used near TV set with a remote control sensor.	Relocate this unit away from the TV or cover TV's remote control sensor.

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