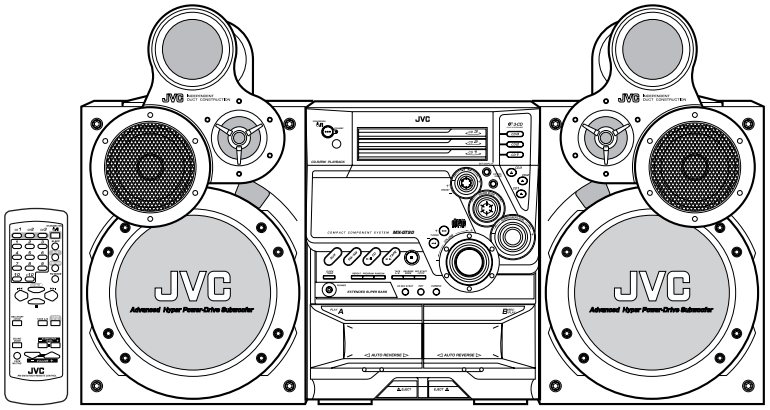
JVC

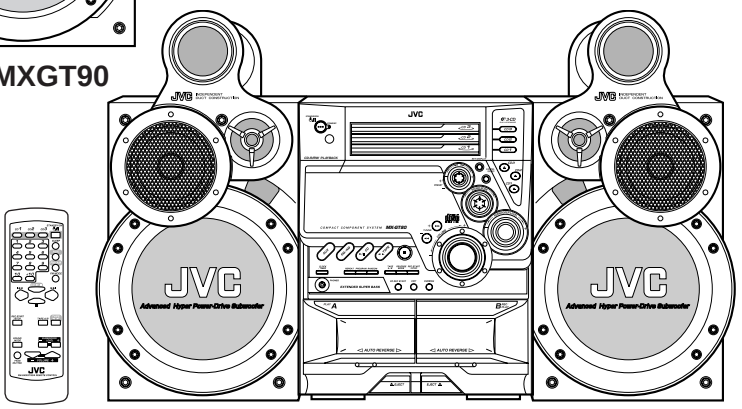
COMPACT COMPONENT SYSTEM

MX-GT90 — Consists of CA-MXGT90 and SP-MXGT90.
MX-GT80 — Consists of CA-MXGT80 and SP-MXGT80.
MX-G70 — Consists of CA-MXG70 and SP-MXG70.



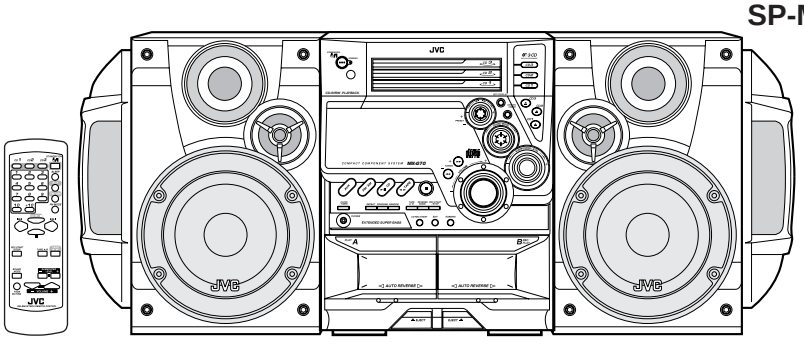
SP-MXGT90 CA-MXGT90 SP-MXGT90

COMPACT disc DIGITAL AUDIO



SP-MXGT80 CA-MXGT80 SP-MXGT80

COMPACT disc DIGITAL AUDIO



SP-MXG70 CA-MXG70 SP-MXG70

COMPACT disc DIGITAL AUDIO

INSTRUCTIONS

For Customer Use:

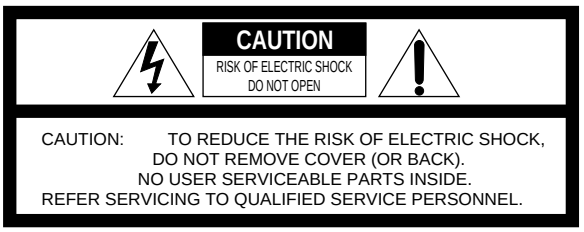
Enter below the Model No. and Serial No. which are located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

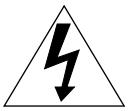
Model No. _____

Serial No. _____

GVT0052-001A
[J]

Warnings, Cautions and Others
Mises en garde, précautions et indications diverses





The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

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

CAUTION

To reduce the risk of electrical shocks, fire, etc.:

1. Do not remove screws, covers or cabinet.
2. Do not expose this appliance to rain or moisture.

ATTENTION

Afin d'éviter tout risque d'électrocution, d'incendie, etc.:

1. Ne pas enlever les vis ni les panneaux et ne pas ouvrir le coffret de l'appareil.
2. Ne pas exposer l'appareil à la pluie ni à l'humidité.

For U.S.A.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

Caution –– STANDBY/ON ⏻/I button!

Disconnect the mains plug to shut the power off completely. The STANDBY/ON ⏻/I button in any position does not disconnect the mains line. The power can be remote controlled.

Attention –– Commutateur STANDBY/ON ⏻/I button!

Déconnecter la fiche de secteur pour couper complètement le courant. Le commutateur STANDBY/ON ⏻/I ne coupe jamais complètement la ligne de secteur, quelle que soit sa position. Le courant peut être télécommandé.

For Canada/pour le Canada

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQUAU FOND.

1. CLASS 1 LASER PRODUCT
2. **DANGER**: Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. **CAUTION**: Do not open the top cover. There are no user serviceable parts inside the Unit; leave all servicing to qualified service personnel.

For Canada/pour le Canada

THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS AS SET OUT IN THE INTERFERENCE-CAUSING EQUIPMENT STANDARD ENTITLED "DIGITAL APPARATUS," ICES-003 OF THE DEPARTMENT OF COMMUNICATIONS.

CET APPAREIL NUMERIQUE RESPECTE LES LIMITES DE BRUITS RADIOELECTRIQUES APPLICABLES AUX APPAREILS NUMIRIQUES DE CLASSE B PRESCRITES DANS LA NORME SUR LE MATERIEL BROUILLEUR: "APPAREILS NUMERIQUES", NMB-003 EDICTEE PAR LE MINISTRE DES COMMUNICATIONS.

1. PRODUIT LASER CLASSE 1
2. **ATTENTION:** Radiation laser invisible quand l'appareil est ouvert ou que le verrouillage est en panne ou désactivé. Eviter une exposition directe au rayon.
3. **ATTENTION:** Ne pas ouvrir le couvercle du dessus. Il n'y a aucune pièce utilisable à l'intérieur. Laisser à un personnel qualifié le soin de réparer votre appareil.

Instructions for safe use

(Statement in accordance with the UL standards)

1) Read Instructions — Read carefully this instructions for your safe use before this appliance is installed, wire-connected, and operated.

2) Retain Instructions — For your future reference, retain this instruction.

3) Follow Instructions — Follow and obey all warnings, cautions and instructions marked on this appliance and this instruction.

4) Water and Moisture — Do not expose this appliance to rain, water and moisture, or operate it near water — for example near a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool, and the like.

5) Ventilation and Heat — This appliance should be situated so that its location does not interfere with its proper ventilation. For example, this appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings. This appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

6) Power sources — This appliance should be connected to a power supply only of the type as marked on this appliance.

7) Polarization — The precautions that should be taken so that the polarization means of this appliance is not defeated.

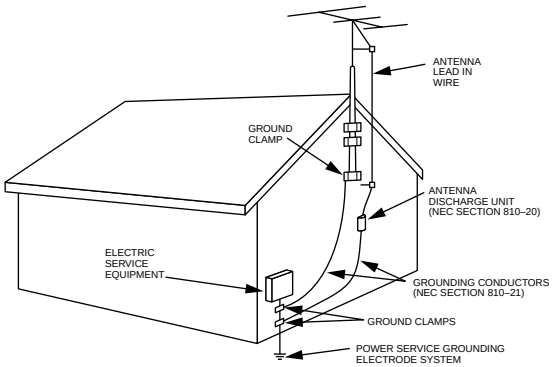
8) Power Cord Protection — Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

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

10) Power Lines — An outdoor antenna should be located away from power lines.

11) Outdoor Antenna Grounding — If this appliance is provided with means to connect the outdoor antenna and outside antenna is connected to this appliance, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/ NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. Example of antenna grounding is illustrated in here.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE



NEC — NATIONAL ELECTRICAL CODE

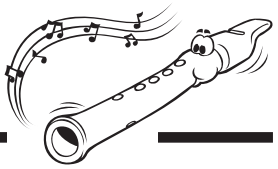
12) Nonuse Periods — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

13) Object and Liquid Entry — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

14) Damage Requiring Service — The appliance should be serviced by qualified service personnel when : (a) The power-supply cord or the plug has been damaged; or (b) Objects have fallen, or liquid has been spilled into the appliance; or (c) The appliance has been exposed to rain; or (d) The appliance does not appear to operate normally or exhibits a marked change in performance; or (e) The appliance has been dropped, or the enclosure damaged.

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

Introduction



We would like to thank you for purchasing one of our JVC products. Before operating this unit, read this manual carefully and thoroughly to obtain the best possible performance from your unit, and retain this manual for future reference.

About This Manual

This manual is organized as follows:

- **The manual mainly explains operations using the buttons and controls on the unit. You can also use the buttons on the remote control if they have the same or similar names (or marks) as those on the unit. If operation using the remote control is different from that using the unit, it is then explained.**
- Basic and common information that is the same for many functions is grouped in one place, and is not repeated in each procedure. For instance, we do not repeat the information about turning on/off the unit, setting the volume, changing the sound effects, and others, which are explained in the section “Common Operations” on pages 9 to 11.
- The following marks are used in this manual:

Gives you warnings and cautions to prevent from damage or risk of fire/electric shock. Also gives you information which is not good for obtaining the best possible performance from the unit.

Gives you information and hints you had better know.

Precautions

Installation

- Install in a place which is level, dry and neither too hot nor too cold — between 5˚C (41˚F) and 35˚C (95˚F).
- Install the unit in a location with adequate ventilation to prevent internal heat built-up in the unit.
- Leave sufficient distance between the unit and the TV.
- Keep the speakers away from the TV to avoid interference with TV.

DO NOT install the unit in a location near heat sources, or in a place subject to direct sunlight, excessive dust or vibration.

Power sources

- When unplugging from the wall outlet, always pull the plug, not the AC power cord.

DO NOT handle the AC power cord with wet hands.

Moisture condensation

Moisture may condense on the lens inside the unit in the following cases:

- After starting heating in the room
- In a damp room
- If the unit is brought directly from a cold to a warm place

Should this occur, the unit may malfunction. In this case, leave the unit turned on for a few hours until the moisture evaporates, unplug the AC power cord, and then plug it in again.

Others

- Should any metallic object or liquid fall into the unit, unplug the unit and consult your dealer before operating any further.
- If you are not going to operate the unit for an extended period of time, unplug the AC power cord from the wall outlet.

DO NOT disassemble the unit since there are no user serviceable parts inside.

If anything goes wrong, unplug the AC power cord and consult your dealer.

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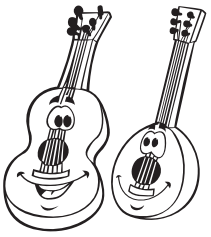

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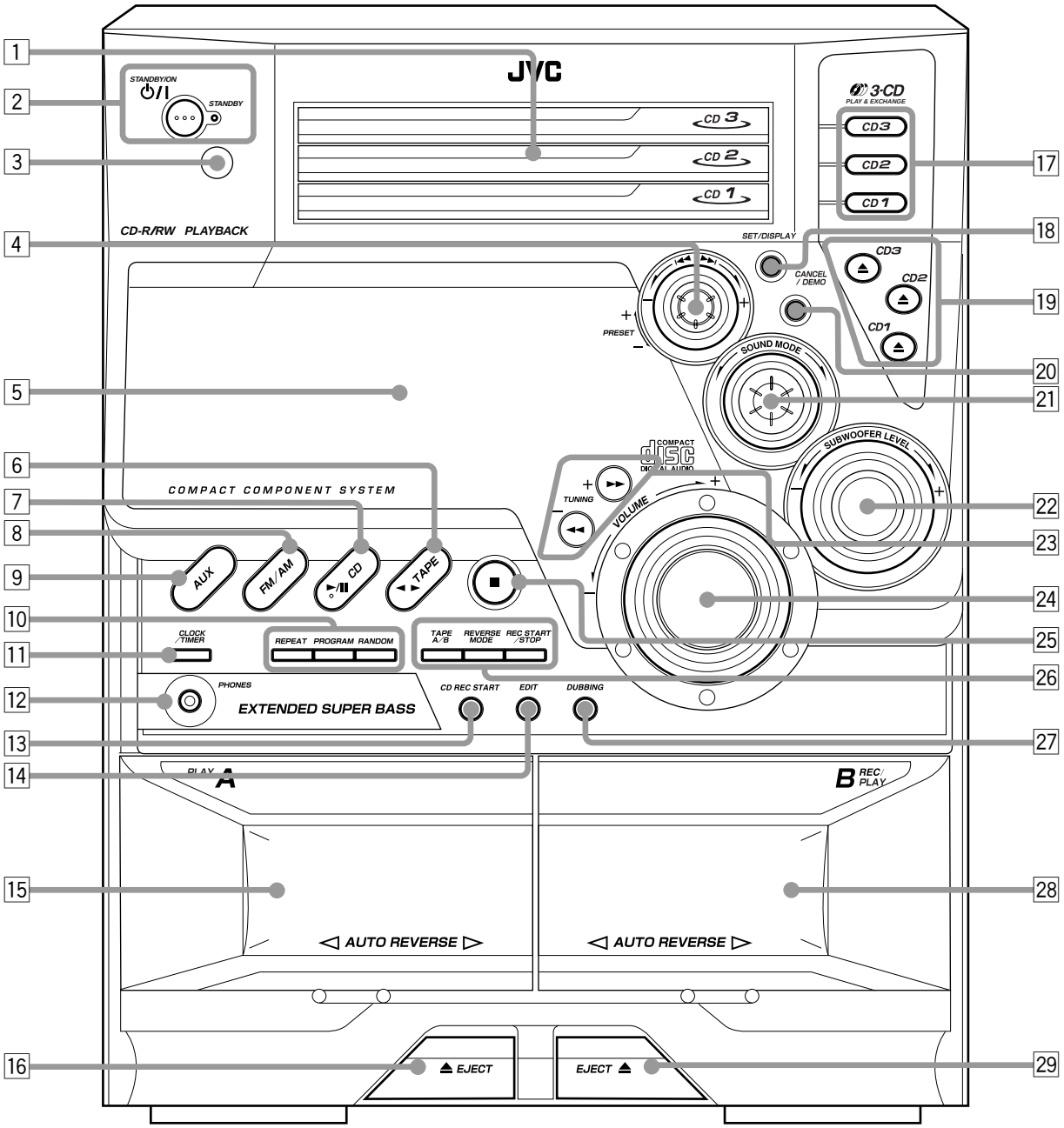
Location of the Buttons and Controls

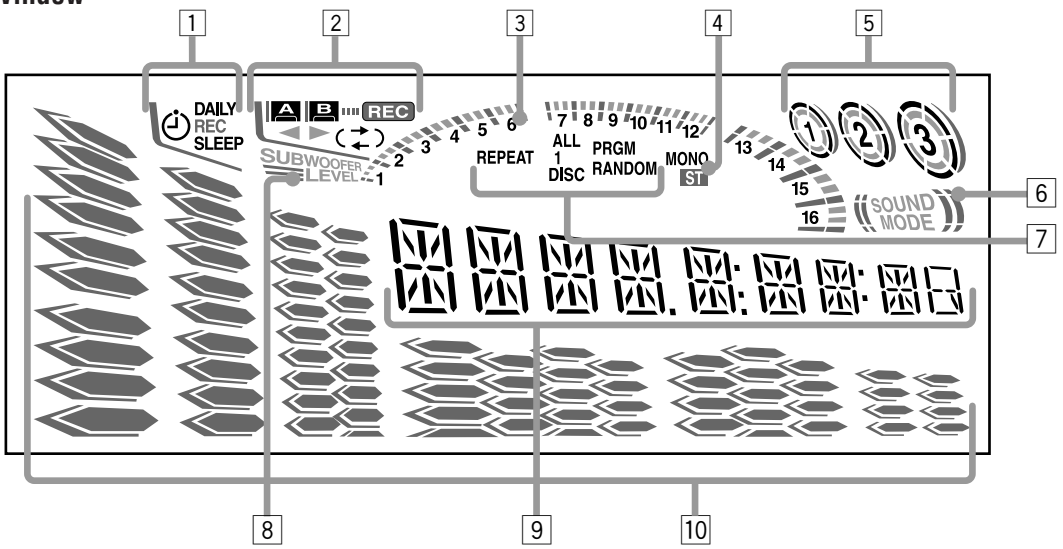
Become familiar with the buttons and controls on your unit.

Front Panel

Front Panel



Display Window



See pages in the parentheses for details.

Front Panel

1 Disc trays
2 STANDBY/ON ⏻/I button and STANDBY lamp (9, 22, 23)
3 Remote sensor
4 PRESET + / – control (12)
I◄◄ / ►►I (reverse search/forward search) control (9, 11, 14 – 16, 20 – 23)
5 Display window
6 TAPE ◄ ► button and lamp (9, 17 – 19)
Pressing this button also turns on the unit.
7 CD ►/II (play/pause) button and lamp (9, 14 – 16, 20)
Pressing this button also turns on the unit.
8 FM/AM button and lamp (9, 12)
Pressing this button also turns on the unit.
9 AUX button and lamp (9)
Pressing this button also turns on the unit.
10 CD play mode buttons
- REPEAT button (16)
- PROGRAM button (15)
- RANDOM button (16)

11 CLOCK/TIMER button (9, 21 – 24)
12 PHONES jack (10)
13 CD REC START button (19, 20)
14 EDIT button (20)
15 Deck A cassette holder (17)
16 ⏏ EJECT button for deck A (17)
17 Disc number buttons and lamps (CD1, CD2, and CD3) (14, 15, 19, 20)
Pressing one of these buttons also turns on the unit.
18 SET/DISPLAY button (9, 11, 12, 15, 20 – 24)
19 ⏏ (Disc tray open/close) (CD1, CD2, and CD3) buttons (13, 14, 16)
Pressing one of these buttons also turns on the unit.
20 CANCEL/DEMO button (8, 9, 16, 20 – 24)
21 SOUND MODE control (10)
22 SUBWOOFER LEVEL + / – control (10)
23 TUNING + / – buttons (12)
◄◄ / ►► (fast left/fast right) buttons (11, 14, 17)
24 VOLUME + / – control (10)
25 ■ (stop) button (14 – 20, 23)
26 Tape operation buttons
- TAPE A/B button (17)
- REVERSE MODE button (17, 19, 20)
- REC START/STOP button (18 – 20, 23)

27 DUBBING button (19)
28 Deck B cassette holder (17 – 20, 23)
29 EJECT ⏏ button for deck B (17, 18)

Display Window

1 Timer indicators
- ⏲ (Timer), DAILY (Daily Timer), REC (Recording Timer), and SLEEP (Sleeping Timer) indicators

2 Tape operation indicators
- A/B (operating deck), REC (recording), ◄ ► (tape direction), and (⇄) (reverse mode) indicators

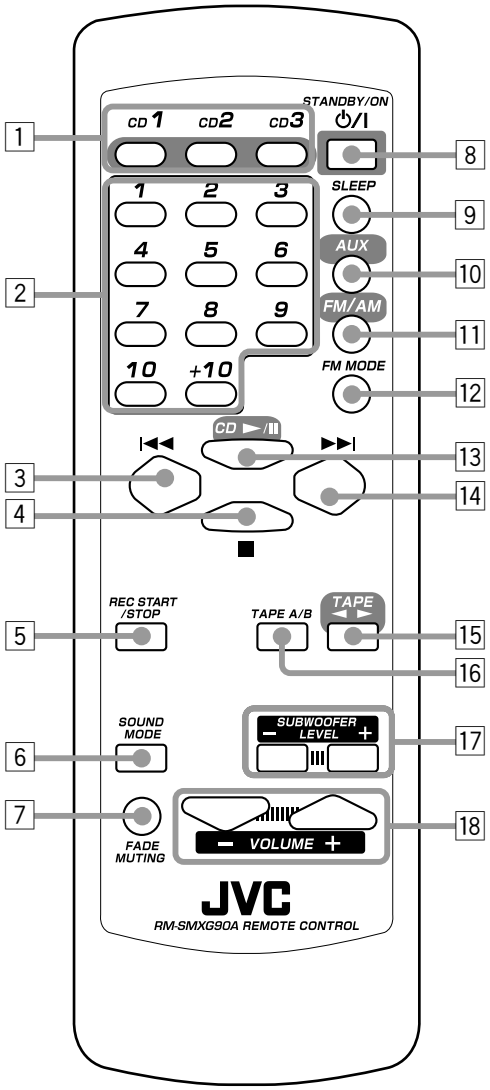
3 CD track number (1 – 16) indicators
4 Tuner operation indicators
- MONO and ST (stereo) indicators

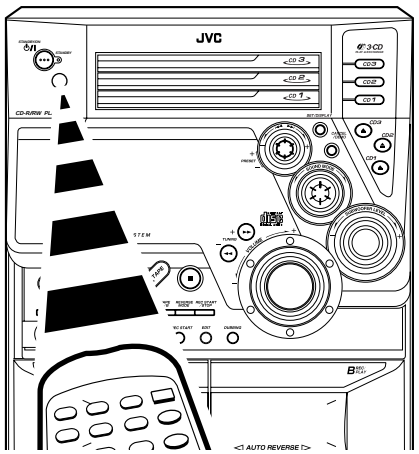
5 Disc indicators
6 SOUND MODE indicator
7 CD play mode indicators
- REPEAT (ALL/1/DISC), PRGM (program), and RANDOM indicators

8 SUBWOOFER LEVEL indicator
9 Main display
- Shows the source name, frequency, etc.

10 Audio level indicator

Remote Control





When using the remote control, point it at the remote sensor on the front panel.

Remote Control

1 Disc number buttons (CD1, CD2, and CD3) (14, 15)
Pressing one of these buttons also turns on the unit.
2 Number buttons (12, 14, 15)
3 I◄◄ (reverse search) button (12, 14, 15, 17)
4 ■ (stop) button (14 – 18, 20, 23)
5 REC START/STOP button (18 – 20)
6 SOUND MODE button (10)
7 FADE MUTING button (10)
8 STANDBY/ON ⏻/I button (9)
9 SLEEP button (24)
10 AUX button (9)
Pressing this button also turns on the unit.
11 FM/AM button (9, 12)
Pressing this button also turns on the unit.
12 FM MODE button (12)
13 CD ►/II button (9, 14 – 16)
Pressing this button also turns on the unit.
14 ►►I (forward search) button (12, 14 – 17)
15 TAPE ◄ ► button (9, 17, 18)
Pressing this button also turns on the unit.
16 TAPE A/B button (17)
17 SUBWOOFER LEVEL + / – buttons (10)
18 VOLUME + / – buttons (10)

Getting Started

Continued

Supplied Accessories

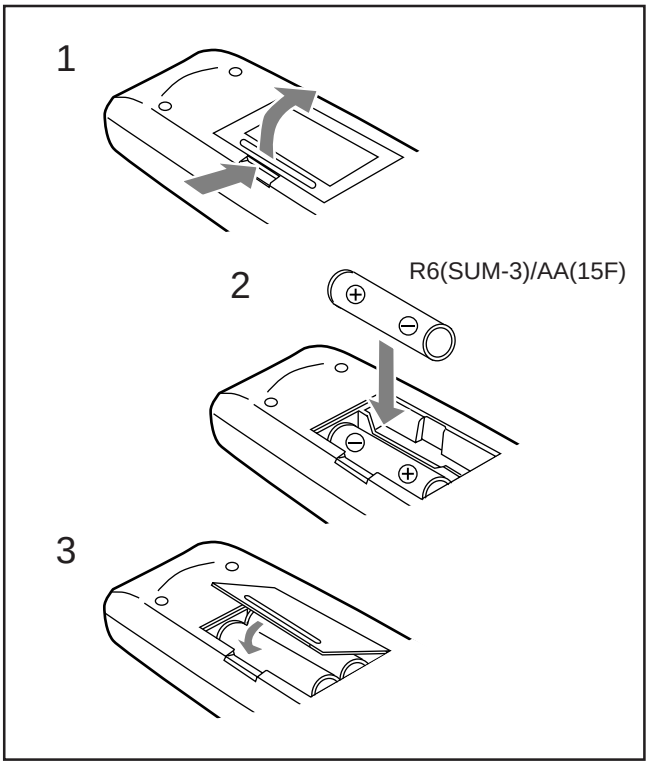
Make sure that you have all the following items.
The number in the parentheses indicates the quantity of the pieces supplied.

- AM loop antenna (1)
- FM antenna (1)
- Remote control (1)
- Batteries (2)

If anything is missing, consult your dealer immediately.

Putting the Batteries into the Remote Control

Insert the batteries — R6(SUM-3)/AA(15F) — into the remote control, by matching the polarity (+ and –) on the batteries with the + and – markings on the battery compartment.
When the remote control can no longer operate the unit, replace both batteries at the same time.

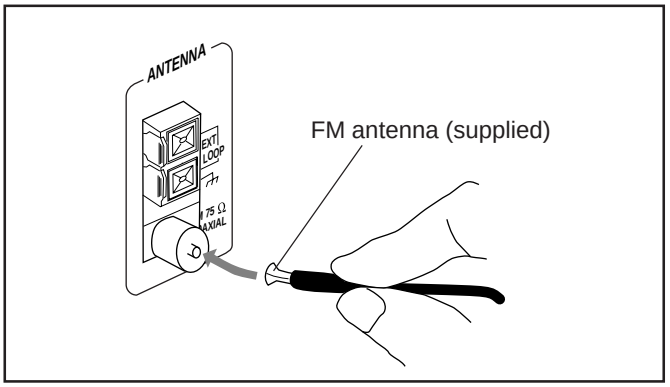


STOP!

- DO NOT use an old battery together with a new one.
- DO NOT use different types of batteries together.
- DO NOT expose batteries to heat or flame.
- DO NOT leave the batteries in the battery compartment when you are not going to use the remote control for an extended period of time. Otherwise, it will be damaged from battery leakage.

Connecting Antennas

FM antenna



1 **Attach the FM antenna to the FM 75 Ω COAXIAL terminal.**

2 **Extend the FM antenna.**

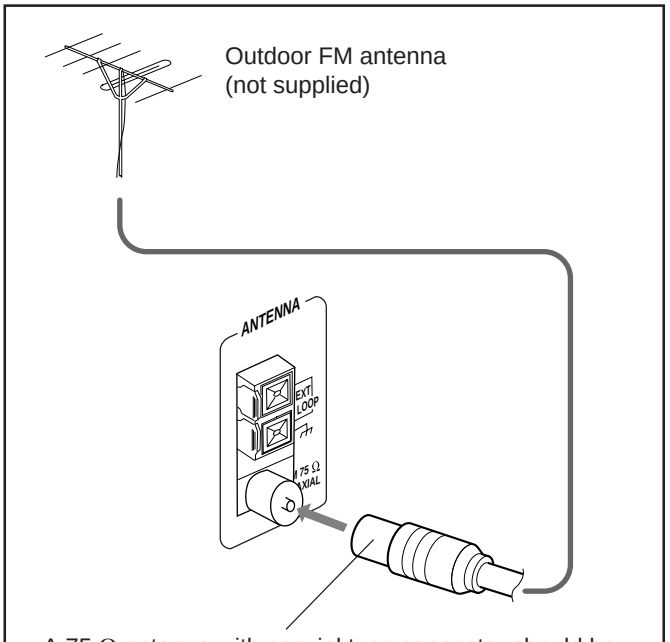
3 **Fasten it up in the position which gives you the best reception, then fix it on the wall, etc.**

notes **About the supplied FM antenna**

The FM antenna supplied with this unit can be used as temporary measure. If reception is poor, you can connect an outdoor FM antenna.

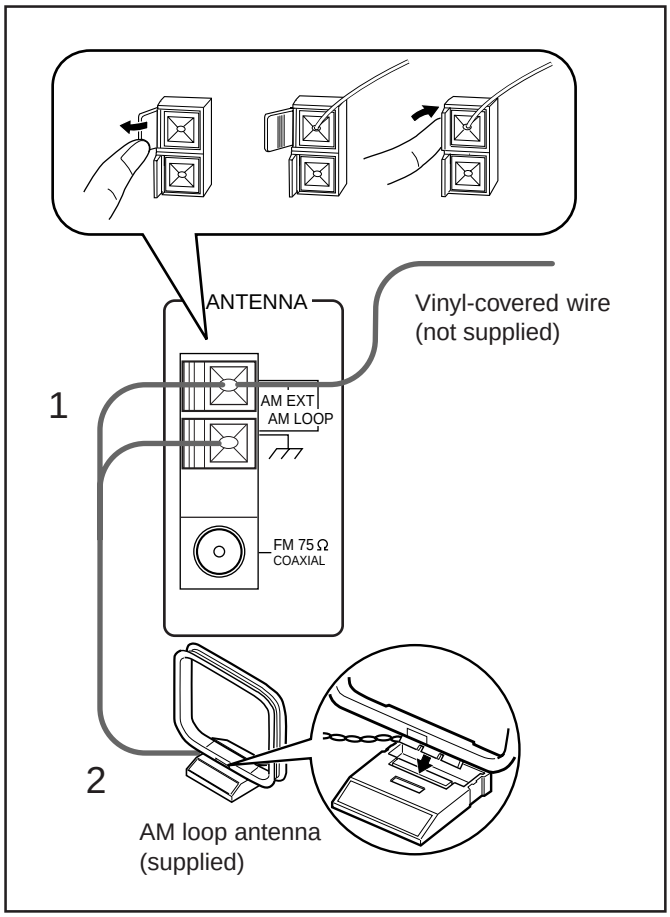
To connect an outdoor FM antenna

Before connecting it, disconnect the supplied FM antenna.



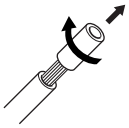
A 75 Ω antenna with coaxial type connector should be used.

AM antenna



1 Connect the AM loop antenna to the AM LOOP terminals as illustrated.

- If the AM loop antenna wire is covered with vinyl, remove the vinyl by twisting it as shown in the diagram.



2 Turn the AM loop antenna until you have the best reception.

To connect an outdoor AM antenna

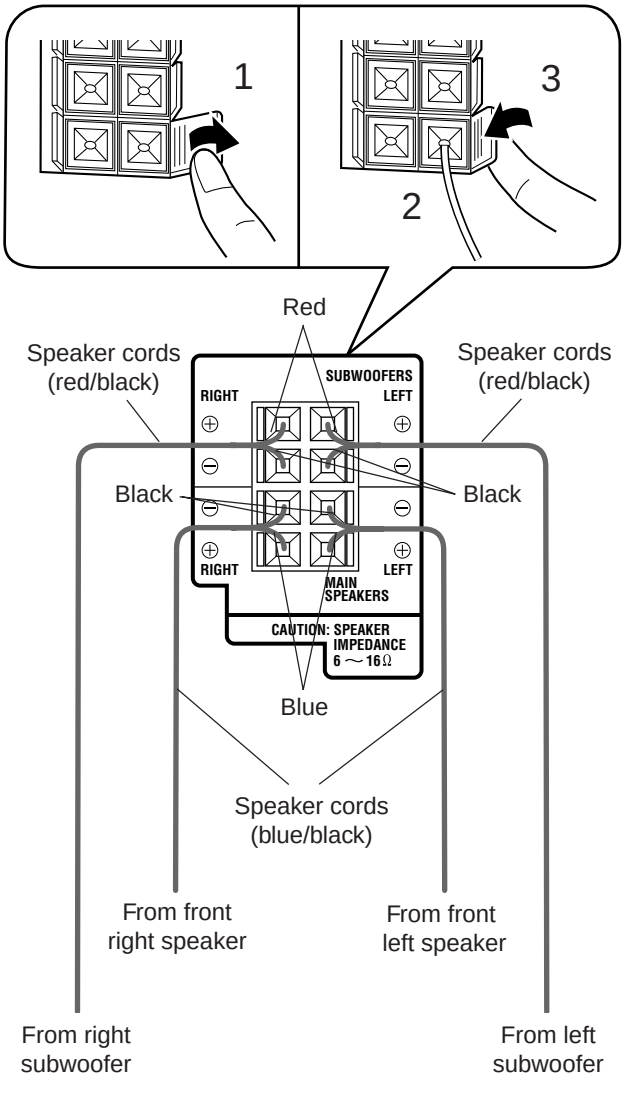
When reception is poor, connect a single vinyl-covered wire to the AM EXT terminal and extend it horizontally. (The AM loop antenna must remain connected.)

notes **For better reception of both FM and AM**

- Make sure the antenna conductors do not touch any other terminals and connecting cords.
- Keep the antennas away from metallic parts of the unit, connecting cords, and the AC power cord.

Connecting Speakers

STOP! For MX-GT90 and MX-GT80:
DO NOT carry the speaker by holding the duct tube (on the top of the speaker).



1 **Open the speaker terminals on the rear of the unit.**

2 **Insert the end of the speaker cord into the terminal.**
Match the polarity (colors) of the speaker terminals: Red (+) to red (+) and black (–) to black (–); Blue (+) to blue (+) and black (–) to black (–).

3 **Close the speaker terminals.**

IMPORTANT: Use only speakers with the same speaker impedance as indicated by the speaker terminals on the rear of the unit.

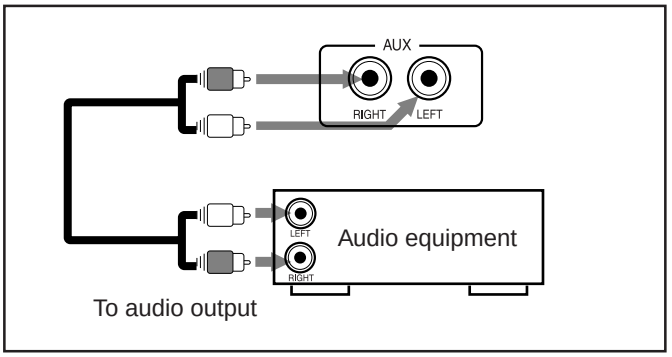
Connecting Other Equipment

You can connect both analog and digital equipment.

STOP!
- DO NOT connect any equipment while the power is on.
- DO NOT plug in any equipment until all connections are complete.

To connect an analog component

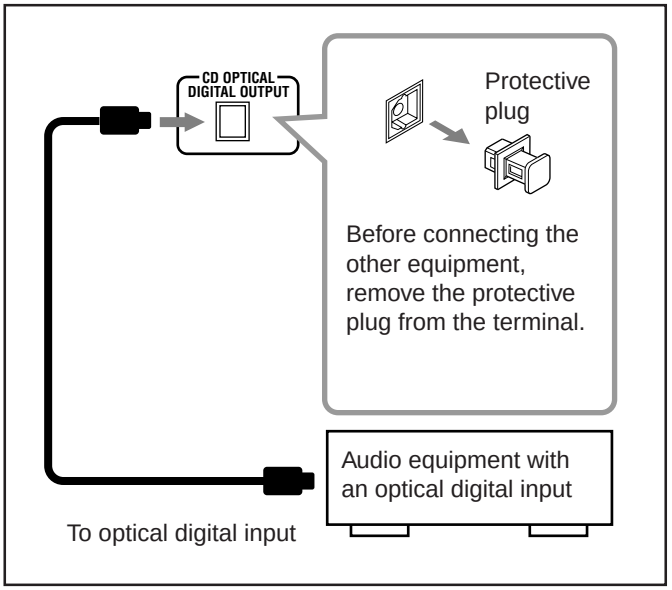
Be sure that the plugs of the audio cords are colored: White plugs and jacks are for left audio signals, and red ones for right audio signals.



For playing the other equipment through this unit, connect between the audio output jacks on the other equipment and AUX jacks by using audio cords (not supplied).

To connect audio equipment with an optical digital input terminal

You can record CD sound onto the connected digital equipment.



Connect an optical digital cord (not supplied) between the optical digital input terminal on the other equipment and the CD OPTICAL DIGITAL OUTPUT terminal.

Now, you can plug the AC power cord.

When connecting the AC power cord into a wall outlet, the unit automatically starts display demonstration.

IMPORTANT: Be sure to check all connections to be done before plugging the AC power cord into a wall outlet.

Canceling the display demonstration

On the unit ONLY:

To cancel the display demonstration, press CANCEL/DEMO until "DEMO OFF" appears on the display.

notes **When you press other buttons**

The display demonstration stops temporarily. It will start automatically again (if no operation is done for 2 minutes) until you cancel it by pressing CANCEL/DEMO.

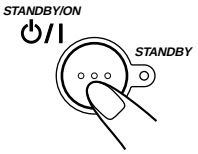
To start the display demonstration manually

Press and hold CANCEL/DEMO again for more than 1 second.

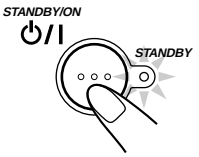
Common Operations

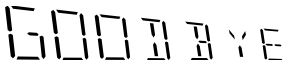
Turning On or Off the Power

To turn on the unit, press STANDBY/ON ⏻/I so that the STANDBY lamp goes off.



To turn off the unit (on standby), press STANDBY/ON ⏻/I again so that the STANDBY lamp lights up.





A little power is always consumed even while the unit is on standby.

To switch off the power supply completely, unplug the AC power cord from the AC outlet.

When you unplug the AC power cord or if a power failure occurs

The clock is reset to "AM 12:00" right away, while the tuner preset stations (see page 12) will be erased in a few days.

Setting the Clock

Before operating the unit any further, first set the clock built in this unit.
You can set the clock whether the unit is on or off.

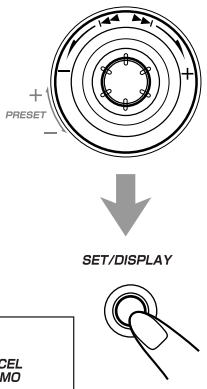
On the unit ONLY:

1 Press CLOCK/TIMER.

The hour digits start flashing on the display.

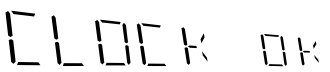
2 Turn ⏮ / ⏭ to adjust the hour, then press SET/DISPLAY.

The minute digits start flashing on the display.



If you want to correct the hour after pressing SET/DISPLAY, press CANCEL/DEMO. The hour digits start flashing again.

3 Turn ⏮ / ⏭ to adjust the minute, then press SET/DISPLAY.



To check the clock time

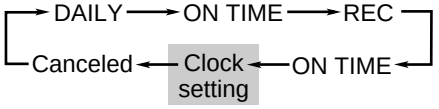
Press and hold SET/DISPLAY while playing any source.

- Each time you press and hold the button, the source indication and the clock time alternate on the display.

To adjust the clock again

If you have adjusted the clock before, you need to press CLOCK/TIMER repeatedly until the clock setting mode is selected.

- Each time you press the button, the clock/timer setting modes change as follows:



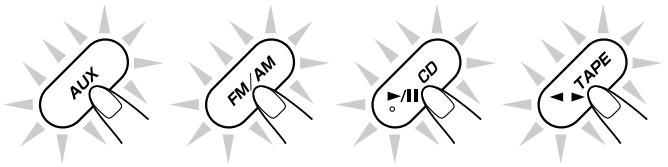
(The hour digits start flashing.)

When you unplug the AC power cord or if a power failure occurs

The clock loses the setting and is reset to "AM 12:00." You need to set the clock again.

Selecting the Sources

To listen to the FM/AM broadcasts, press FM/AM. (See page 12.)
To play back CDs, press CD ►/II. (See pages 13 – 16.)
To play back tapes, press TAPE ◄ ►. (See page 17.)
To select the external equipment as the source, press AUX.



When you press the play button for a particular source (FM/AM, CD ►/II, TAPE ◄ ►, and AUX), the unit turns on (and the unit starts playing the source if it is ready — COMPU PLAY CONTROL).

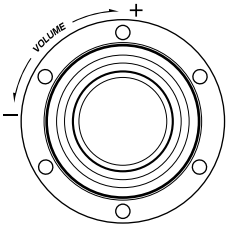
About the audio level indicator

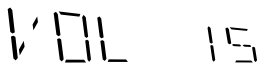
All the audio level indicators light up when no signals come in.

Adjusting the Volume

You can adjust the volume level only while the unit is turned on. The volume level can be adjusted in 32 steps (VOL MIN, VOL 01 — VOL 30, and VOL MAX).

Turn VOLUME + / – clockwise (+) to increase the volume or counterclockwise (–) to decrease it.





When using the remote control, press VOLUME + to increase the volume or press VOLUME – to decrease it.

For private listening

Connect a pair of headphones to the PHONES jack. No sound comes out of the speakers. Be sure to turn down the volume before connecting or putting on headphones.

DO NOT turn off (on standby) the unit with the volume set to an extremely high level; otherwise, a sudden blast of sound can damage your hearing, speakers and/or headphones when you turn on the unit or start playing any source next time. REMEMBER you cannot adjust the volume level while the unit is on standby.

To turn down the volume level temporarily

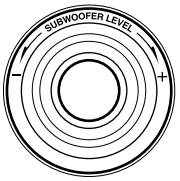
Press FADE MUTING on the remote control. The volume level gradually decreases to "VOL MIN."

To restore the sound, press the button again.

Reinforcing the Bass Sound

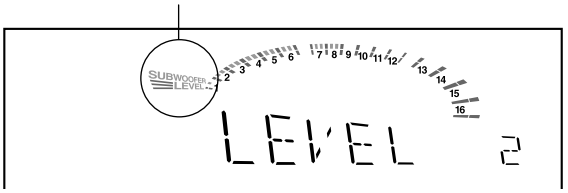
You can select one of the 4 subwoofer levels. This function only affects the playback sound, but does not affect your recording. The subwoofer level can be adjusted in 4 steps — LEVEL 1, LEVEL 2, LEVEL 3, and LEVEL 4 (MAX LEVEL).

Turn SUBWOOFER LEVEL + / – clockwise (+) to increase the subwoofer sound or counterclockwise (–) to decrease it.



When using the remote control, press SUBWOOFER LEVEL + to increase the subwoofer volume or press SUBWOOFER LEVEL – to decrease it.

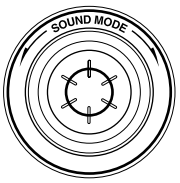
SUBWOOFER indicator always lights up when the unit is on.



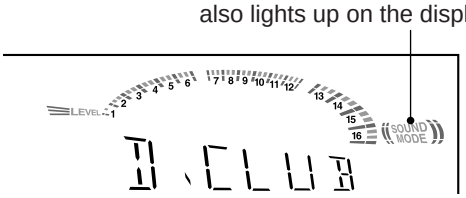
Selecting the Sound Modes

You can select one of the 6 preset sound modes (3 surround modes and 3 SEA — Sound Effect Amplifier — modes). This function only affects the playback sound, but does not affect your recording.

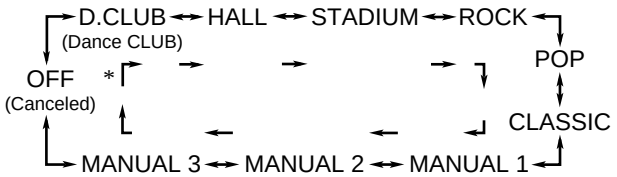
To select the sound modes, turn SOUND MODE (or press SOUND MODE on the remote control) until the sound mode you want appears on the display.



The SOUND MODE indicator also lights up on the display.



- The sound modes change as follows:



* When using the remote control, the sound mode changes in only one way.

Surround modes **:

D.CLUB: Increases resonance and bass.
HALL: Adds depth and brilliance to the sound.
STADIUM: Adds clarity and spreads the sound, like in an outdoor stadium.

SEA (Sound Effect Amplifier) modes:

ROCK: Boosts low and high frequency. Good for acoustic music.
POP: Good for vocal music.
CLASSIC: Good for classical music.

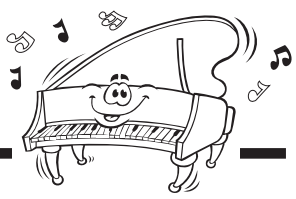
Manual modes:

MANUAL 1/2/3: Your individual mode stored in memory. See "Creating Your Own Sound Mode — Manual Mode."

OFF: Cancels the sound mode. The SOUND MODE indicator goes off from the display.

** Surround elements are added to the SEA elements to create a being-there feeling in your room.
When one of these modes is selected, the SOUND MODE indicator lights up as — SOUND MODE

While one of the SEA modes including manual modes (SEA elements without surround elements) is selected, the SOUND MODE indicator lights up as — SOUND MODE



Creating Your Own Sound Mode — Manual Mode

You can change SEA pattern to suit your preference. These changed settings can be stored in the MANUAL 1, MANUAL 2, and MANUAL 3 modes.

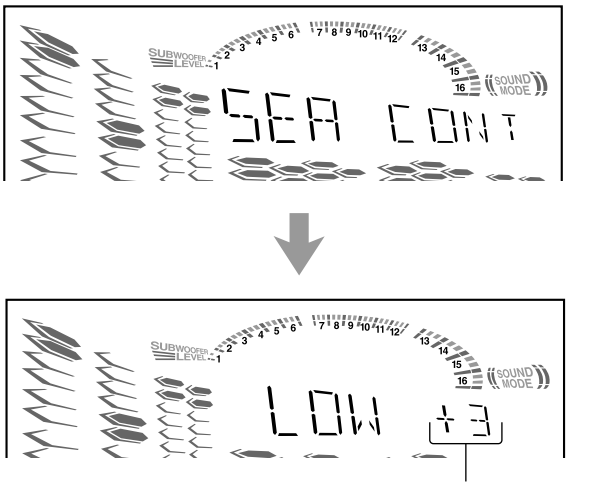
- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

On the unit ONLY:

1 Select one of the preset sound modes.

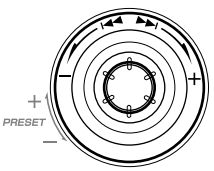
- **If you want to add the surround elements in your SEA pattern,** select one of the surround modes (D.CLUB, HALL, or STADIUM) before starting the procedure below. (See "Selecting the Sound Modes" on page 10.)

2 Press and hold SET/DISPLAY until "SEA CONT" appears on the display.

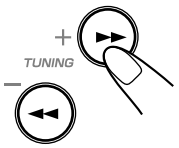


3 Adjust the SEA pattern.

1) **Turn I◄◄ / ►►I to select the frequency range to adjust (LOW, MID, HIGH).**

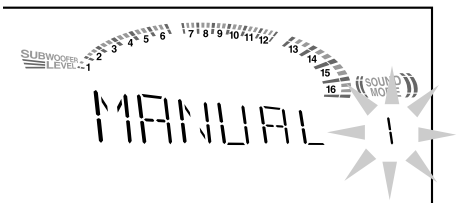


2) **Press ◄◄ or ►► to adjust the level (–3 to +3) of the selected frequency range.**

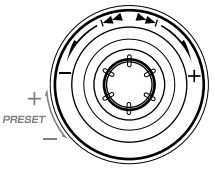


3) **Repeat steps 1) and 2) to adjust the level of the other frequency ranges.**

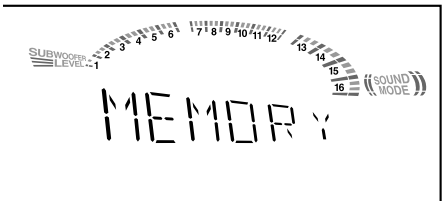
4 Press SET/DISPLAY again.



5 Turn I◄◄ / ►►I to select one of the MANUAL 1, 2, and 3 modes into which you want to store the SEA pattern.



6 Press SET/DISPLAY again.



The SEA pattern you have created are stored into the MANUAL mode selected in the above step.

To use your own sound mode

Select MANUAL 1, MANUAL 2, or MANUAL 3 mode when using the sound modes. See "Selecting the Sound Modes" on page 10.

When you unplug the AC power cord or if a power failure occurs

The setting will be erased in a few days. If this happens, set the manual sound modes again.

Listening to FM and AM Broadcasts

Tuning in a Station

1 Press FM/AM.

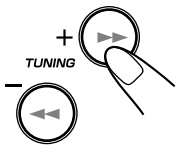
The unit automatically turns on and tunes in the previously tuned station (either FM or AM).

- Each time you press the button, the band alternates between FM and AM.

2 Start searching for stations.

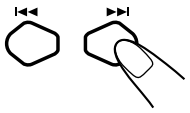
<u>On the unit:</u>

Press and hold TUNING + or TUNING – for more than 1 second.



<u>On the remote control:</u>

Press and hold ►►I or I◄◄ for more than 1 second.



The unit starts searching for stations and stops when a station of sufficient signal strength is tuned in.

- If a program is broadcast in stereo, the ST (stereo) indicator lights up.

To stop searching, press TUNING + or TUNING – (or ►►I / I◄◄ on the remote control).

When you press TUNING + or TUNING – (or ►►I / I◄◄ on the remote control) briefly and repeatedly

The frequency changes step by step.

To change the FM reception mode

When an FM stereo broadcast is hard to receive or noisy, press FM MODE on the remote control so that the MONO indicator lights up on the display. Reception improves.

To restore the stereo effect, press FM MODE again so that the MONO indicator goes off. In this stereo mode, you can hear stereo sounds when a program is broadcasted.

Presetting Stations

You can preset 30 FM and 15 AM stations.

In some cases, test frequencies have been already memorized for the tuner since the factory examined the tuner preset function before shipment. This is not a malfunction. You can preset the stations you want into memory by following the presetting method.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

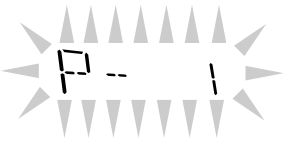
<u>On the unit ONLY:</u>

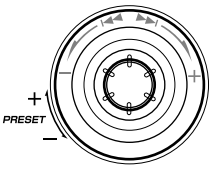
1 Tune in the station you want to preset.

- See "Tuning in a Station."

2 Press SET/DISPLAY.

3 Turn PRESET + / – to select a preset number.





4 Press SET/DISPLAY again.

The tuned station in step 1 is stored in the preset number selected in step 3.

- Storing a new station on a used number erases the previously stored one.

When you unplug the AC power cord or if a power failure occurs

The preset stations will be erased in a few days. If this happens, preset the stations again.

Tuning in a Preset Station

1 Press FM/AM.

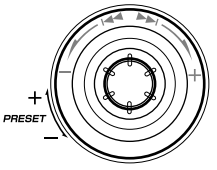
The unit automatically turns on and tunes in the previously tuned station (either FM or AM).

- Each time you press the button, the band alternates between FM and AM.

2 Select a preset number.

<u>On the unit:</u>

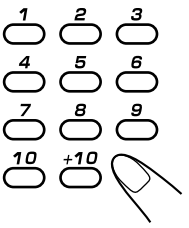
Turn PRESET + / –.



<u>On the remote control:</u>

Press the number buttons.

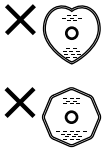
Ex.: For preset number 5, press 5.
For preset number 15, press +10 then 5.
For preset number 20, press +10, then 10.
For preset number 25, press +10, +10, then 5.
For preset number 30, press +10, +10, then 10.



Playing Back CDs (CD/CD-R/CD-RW)

This unit has been designed to playback the following CDs:
- CD (Audio CD)
- CD-R (CD-Recordable)
- CD-RW (CD-ReWritable)

Continued use of irregular shape CDs (heart-shape, octagonal, etc.) can damage the System.



General Notes

In general, you will have the best performance by keeping your CDs and the mechanism clean.
- Store CDs in their cases, and keep them in cabinets or on shelves.
- Keep the system's disc trays closed when not in use.

When playing a CD-R or CD-RW

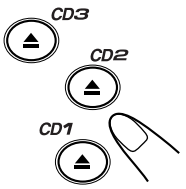
User-edited CD-Rs (CD-Recordable) and CD-RWs (CD-ReWritable) can be played back only if they are already "finalized."
- You can play back your original CD-Rs or CD-RWs recorded in music CD format. (However, they may not be played back depending on their characteristics or recording conditions.)
- Before playing back CD-Rs or CD-RWs, read their instructions or cautions carefully.
- Some CD-Rs or CD-RWs may not be played back on this unit because of their disc characteristics, damage or stain on them, or the player's lens is dirty.
- CD-RWs may require a longer readout time. This is caused by the fact that the reflectance of CD-RWs is lower than for regular CDs.

Loading CDs

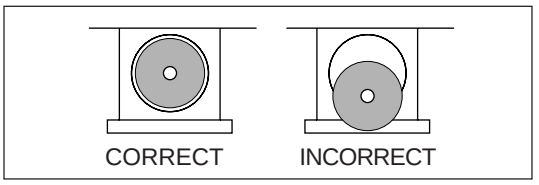
On the unit ONLY:

1 Press ⏏ for the disc tray (CD1, CD2, and CD3) you want to load a CD onto.

The unit automatically turns on and the disc tray comes out.



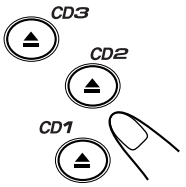
2 Place a disc correctly on the circle of the disc tray, with its label side up.



- When using a CD single (8 cm), place it on the inner circle of the disc tray.

3 Press the same ⏏ you have pressed in step 1.

The disc tray closes, and the corresponding disc number lamp and disc indicator light up on the display (CD1, CD2, and CD3).



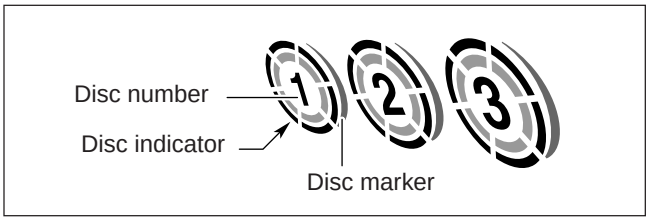
4 Repeat steps 1 to 3 to place other CDs.

When loading more than one CD continuously

When you press ⏏ for the next tray you want to place another CD onto, the first disc tray automatically closes and then the next tray comes out.

About the disc indicators and disc number lamps

Each disc indicator corresponds to the disc tray of the same number.

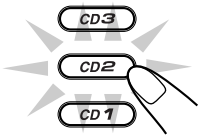


- The disc marker lights up for the disc number you have selected.
- The disc indicator flashes while the corresponding CD is being played.
- The disc indicators goes off when the unit has detected that there is no CD on the corresponding disc tray.

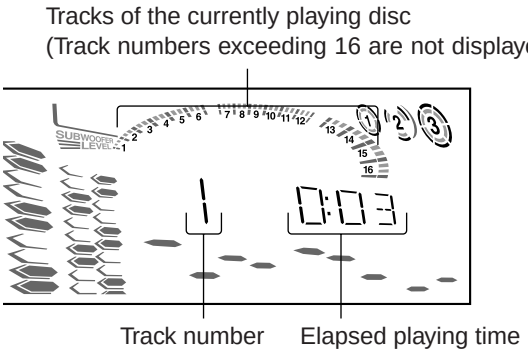
Playing Back the Entire Discs — Continuous Play

1 Load CDs.

2 Press one of the disc number buttons (CD1, CD2, and CD3) for the disc you want to play.



CD play starts from the first track of the selected disc and the disc number lamp starts flashing.



- Pressing CD ►/II instead of the disc number buttons starts playing back if a CD is on the trays.
- If no CD is placed on the selected disc tray, "NO DISC" appears on the display.

To stop playing, press ■.

To remove the disc, press ▲ for the corresponding disc tray.

notes **CD playback sequence**

When 3 CDs* are loaded on the disc trays, they are played in one of the following sequences.

- When CD1 is pressed: CD1 ⇨ CD2 ⇨ CD3 (then stops)
- When CD2 is pressed: CD2 ⇨ CD3 ⇨ CD1 (then stops)
- When CD3 is pressed: CD3 ⇨ CD1 ⇨ CD2 (then stops)

* When only 2 CDs are loaded, they are played in the same order, but the disc tray without a CD is skipped.

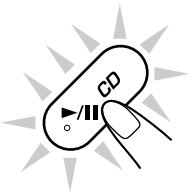
Basic CD Operations

While playing a CD, you can do the following operations.

To exchange CDs during playback of another

Press ▲ corresponding to a CD, not playing or selected currently, to eject and exchange the CD.
If you exchange CDs during play, the current play will not stop until all CDs you have exchanged are played.

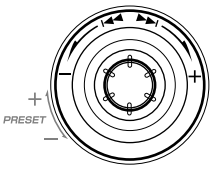
To stop play for a moment



Press CD ►/II.
While pausing, the elapsed playing time flashes on the display.

To resume playing, press CD ►/II.

To go to another track



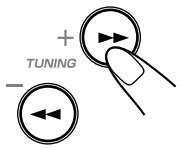
Turn I◄◄ / ►►I before or during playback (or press I◄◄ / ►►I on the remote control).

- I◄◄: Goes back to the beginning of the current or previous tracks.
- ►►I: Skips to the beginning of the next or succeeding tracks.

notes **If you turn I◄◄ / ►►I (or press I◄◄ / ►►I on the remote control) before playing**

You can change the tracks continuously.

To locate a particular point in a track



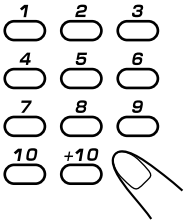
During play, press and hold ◄◄ or ►► (or I◄◄ / ►►I on the remote control).

- ◄◄ (or I◄◄): Fast reverses the disc.
- ►► (or ►►I): Fast forwards the disc.

To go to another track directly using the number buttons

Pressing the number button(s) on the remote control before or during play allows you to start playing the track number you want.

Ex.: For track number 5, press 5.
For track number 15, press +10, then 5.
For track number 20, press +10, then 10.
For track number 32, press +10, +10, +10, then 2.



Programming the Playing Order of the Tracks — Program Play

You can arrange the order in which tracks play before you start playing. **You can program up to 32 tracks.**

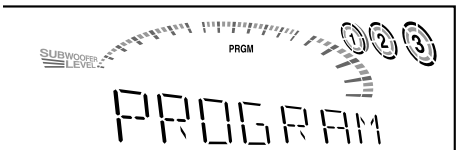
- To use Repeat play (see page 16) for Program play, press REPEAT after starting Program play.
- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 2 again.

1 Load CDs.

- If the current playing source is not the CD player, press CD ►/II, then ■ before going to the next step.

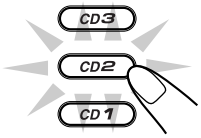
2 Press PROGRAM so that "PROGRAM" appears on the display.

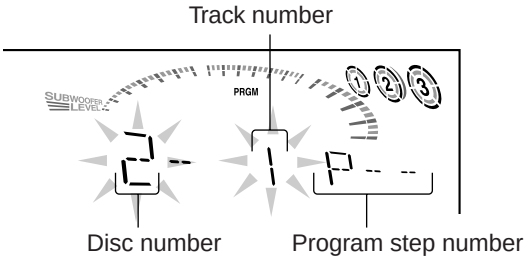
The PRGM (program) indicator also lights up on the display.



- If a program has been stored in memory, the program is called up.

3 Press one of the disc number buttons (CD1, CD2, and CD3) to select the disc number you want to play.

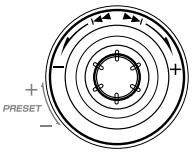


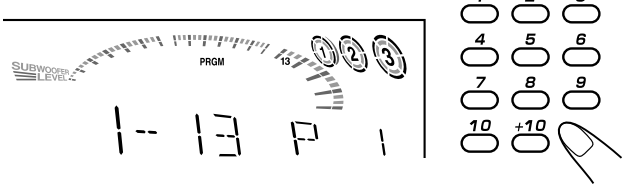


4 Select a track from the CD selected in the above step.

<u>On the unit:</u>
Turn I◄◄ / ►►I to select the track number and press SET/DISPLAY.
<u>On the remote control:</u>
Press the number buttons.

- For how to use the number buttons, see "To go to another track directly using the number buttons" on page 14.



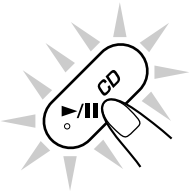


5 Program other tracks you want.

- To program tracks from the same disc, repeat step 4.
- To program tracks from a different disc, repeat steps 3 and 4.

6 Press CD ►/II.

The tracks are played in the order you have programed.



To stop playing, press ■.

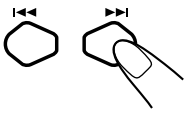
To exit from Program play mode, press PROGRAM again before or after play. The PRGM (program) indicator goes off. The program you have made is stored in memory.

notes

- **If you try to program the 33rd track**
  "FULL" will appear on the display.
- **If your entry is ignored**
  You have tried to program a track from an empty tray, or a track number that does not exist on the CD (for example, selecting track 14 on a CD that only has 12 tracks). Such entries are ignored.
- **If the total playing time is 100 minutes or more**
  "-- -- : -- --" will appear on the display.

To check the program contents

Before playing, you can check the program contents by pressing ►►I or I◄◄ on the remote control.



- ►►I : Shows the programed tracks in the programed order.
- I◄◄ : Shows them in the reverse order.

To modify the program

Before or after playing, you can erase the last programed tracks by pressing CANCEL/DEMO.

- Each time you press the button, the programed track shown on the display is erased from the program.
- Ejecting a CD will also erase the track numbers programmed from the ejected CD.

To add tracks in the program before playing, simply select the track numbers you want to add by following step 4 of the programming procedure on page 15.

To erase the entire program before or after playing, press ■. "PROGRAM" appears on the display.
The program you have made will be erased, when —

- You eject all the CDs.
- You unplug the AC power cord.
- A power failure occurs.

Playing at Random — Random Play

The tracks of all loaded CDs will play at random.
- To use Repeat play for Random play, press REPEAT after starting Random play.

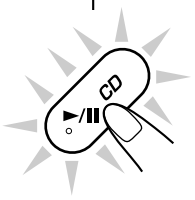
1 Load CDs.
- If the current playing source is not the CD player, press CD ►/II, then ■ before going to the next step.

2 Press RANDOM so that "RANDOM" appears on the display.

The RANDOM indicator also lights up on the display.

3 Press CD ►/II.

The tracks are played at random.
Random play ends when all the tracks are played once.



To skip the currently playing track, turn I◄◄ / ►►I to the right (or press ►►I on the remote control).

notes **Even if you turn I◄◄ / ►►I to the left (or press I◄◄ on the remote control)**
You cannot go back to the previous tracks during Random play.

To stop playing, press ■.
- Random play also stops when one of the disc trays is opened.

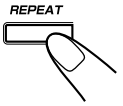
To exit from Random play mode, press RANDOM again before or after play.

Repeating Tracks or CDs — Repeat Play

You can have all the CDs, the program or the individual track currently playing repeat as many times as you like.

On the unit ONLY:

To repeat playing, press REPEAT during or before play. To use Repeat play for Program play and Random play, press the button after starting playback.



- Each time you press the button, Repeat play mode changes as follows, and the following indicator lights up on the display:

REPEAT ALL → REPEAT 1 DISC → REPEAT 1 → Canceled

REPEAT ALL: Repeats all the tracks on all the CDs (continuously or at random), or all the tracks in the program.
REPEAT 1 DISC : Repeats all the tracks on one CD.
- REPEAT 1 DISC is not used for Program play and Random play.

REPEAT 1: Repeats one track on one CD.

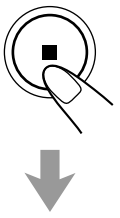
To cancel Repeat play, press REPEAT repeatedly until the REPEAT indicators go off from the display.
- Repeat play is also canceled when you select Program play or Random play.

Prohibiting Disc Ejection — Tray Lock

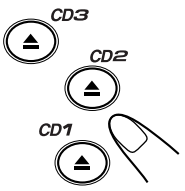
You can prohibit CD ejection from the unit and lock CDs.
- This operation is possible only when the source is the CD player.

On the unit ONLY:

To prohibit disc ejection, press ⏏ for any disc tray while holding down ■. (If there is any disc tray opened, close it first.)
"LOCKED" appears for a while, and the loaded CDs are locked.

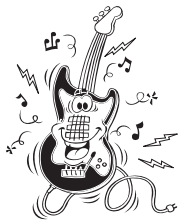


To cancel the prohibition and unlock the CDs, press ⏏ for any disc tray while holding down ■.
"UNLOCKED" appears for a while, and the loaded CDs are unlocked.



notes **If you try to eject CDs**
"LOCKED" appears to inform you that the Tray Lock is in use.

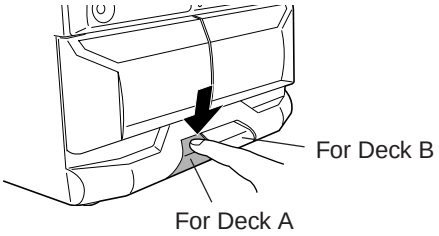
Playing Back Tapes



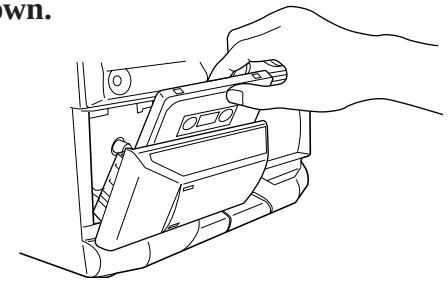
You can play back type I, type II, and type IV tapes without changing any settings.

Playing Back a Tape

1 Press EJECT (⏏) for the deck you want to use.



2 Put a cassette in with the exposed part of the tape down.



3 Close the cassette holder gently.

If you put cassettes in both decks A and B, the last deck you have put a cassette into is selected.
To select the other deck, press TAPE A/B.

4 Press TAPE ◄ ►.

The tape play starts and the tape direction indicator (► or ◄) starts flashing slowly to indicate the tape running direction.

- Each time you press the button, the tape direction changes.
  ► : plays the front side.
  ◄ : plays the reverse side.
- If no cassette is inserted, "NO TAPE" appears on the display.

When the tape plays to the end, the deck automatically stops if the Reverse Mode is not on. (See "To play both sides repeatedly — Reverse Mode.")

To stop playing, press ■.

To operate the other deck, press TAPE A/B, then TAPE ◄ ►.

To fast-wind to the left or to the right, press ◄◄ or ►► (I◄◄ or ►►I on the remote control) while the tape is not running.
The tape direction indicator (◄ or ►) starts flashing quickly on the display.

To remove the cassette, press ⏏ EJECT for deck A or EJECT ⏏ for deck B.

To play both sides repeatedly — Reverse Mode

Reverse Mode works for both decks at the same time. When it is in use, the tape automatically reverses at the end of a side and the unit starts playing for the other side of the tape, and repeats the same process.

To use Reverse Mode, press REVERSE MODE so that the Reverse Mode indicator on the display lights up like — (⇄).
To cancel Reverse Mode, press the button again so that the Reverse Mode indicator on the display lights up like — ⇄.

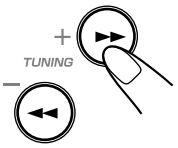
When Reverse Mode is on with cassettes in both decks A and B

After the reverse (◄) side of the tape finishes playing, the tape in the other deck starts playing.

Locating the Beginning of a Song — Music Scan

You can use Music Scan to locate the beginning of a song. Music Scan searches for blank portions that usually separate recorded songs, then plays the next song.

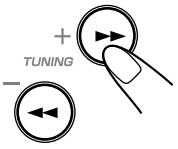
To find the beginning of the current song



During play, press ◄◄ or ►► (I◄◄ or ►►I on the remote control) in **the opposite direction** to the tape play.
The tape direction indicator of the opposite direction to the tape play starts flashing slowly.

Searching stops automatically at the beginning of the current song, and the current song starts automatically.

To find the beginning of the next song



During play, press ◄◄ or ►► (I◄◄ or ►►I on the remote control) in **the same direction** as the tape play.
The tape direction indicator of the same direction as the tape play starts flashing slowly and quickly alternately.

Searching stops automatically at the beginning of the next song, and the next song starts automatically.

Music Scan works by detecting a 4-second long blank between each song, so it will not work well in the following cases

- No blank at the beginning of a song.
- Noise (often caused by much use or poor quality dubbing) which fills the blank.
- Long, very soft passages or pauses in a song.

STOP! The use of the C-120 or thinner tape is not recommended, since characteristic deterioration may occur and this tape easily jams in the pinch-rollers and the capstans.

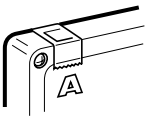
Recording

Continued

IMPORTANT:

- **It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic embodied therein.**
- The recording level is automatically set correctly, so it is not affected by the VOLUME, the SUBWOOFER LEVEL, and the SOUND MODE controls. Thus, during recording you can adjust the sound you are actually listening to without affecting the recording level.
- If recordings you have made have excessive noise or static, the unit may be too close to a TV. Increase the distance between the TV and the unit.
- You can use type I tape for recording.

To protect your recording



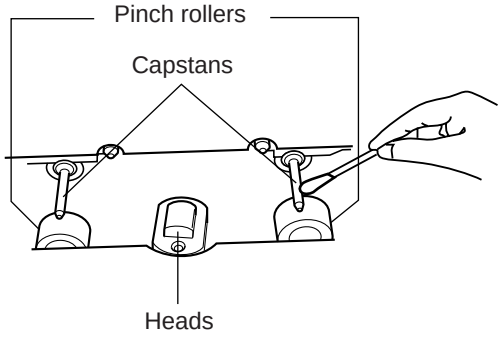
Cassettes have two small tabs on the back to protect from unexpected erasure or re-recording.
To protect your recording, remove these tabs.
To re-record on a protected tape, cover the holes with adhesive tape.

To keep the best recording and playback sound quality

If the heads, capstans, and pinch rollers of the cassette decks become dirty, the following will occur:

- Impaired sound quality
- Discontinuous sound
- Fading
- Incomplete erasure
- Difficulty in recording

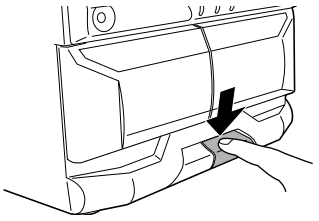
To clean the heads, capstans, and pinch rollers
Use a cotton swab moistened with alcohol.



To demagnetize the heads
Turn off the unit, and use a head demagnetizer (available at electronics and audio shops).

Recording a Tape on Deck B

1 Press EJECT ⏏ for the deck B.



2 Put a recordable cassette into deck B.

3 Close the cassette holder gently.

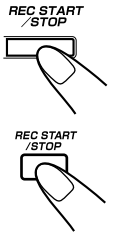
4 Check the tape direction of deck B.

- If the tape direction is not correct, press TAPE ◄ ► twice then ■ to change the tape direction.

5 Start playing the source — FM, AM, CD player, deck A, or auxiliary equipment connected to AUX jacks.

- When the source is CD, you can also use CD Direct Recording (see page 19) and Auto Edit Recording (see page 20).
- When the source is deck A, you can also use the dubbing method (see “Dubbing Tapes” on page 19).

6 Start recording.



<u>On the unit:</u>
Press REC START/STOP.
<u>On the remote control:</u>
Press and hold REC START/STOP for more than 1 second.
The REC (recording) indicator lights up on the display and recording starts.

- If no cassette is inserted, “NO TAPE” appears on the display. If a protected tape is inserted, “NO REC” appears on the display.

To stop recording immediately, press ■.

To remove the cassette, press EJECT ⏏ for deck B.

To record on both sides — Reverse Mode

Press REVERSE MODE so that the Reverse Mode indicator lights up like — (⇄).

- When using the Reverse Mode for recording, start recording in the forward (►) direction first. Otherwise, recording will stop when recording is done only on one side (reverse) of the tape.

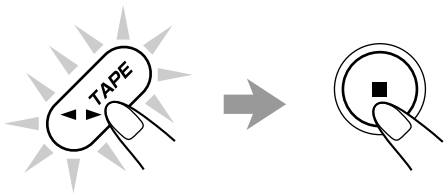
To cancel Reverse Mode, press the button again so that the Reverse Mode indicator lights up like — ⇄.

Dubbing Tapes

You can record from one tape to another.

On the unit ONLY:

1 Press TAPE ◄ ►, then ■.



2 Put the source cassette in deck A, and a recordable cassette into deck B.

- Put the cassettes in both decks so that the tapes will run in the forward (►) direction.

3 Press DUBBING.

The REC (recording) indicator lights up on the display and dubbing starts.

To stop dubbing, press ■ so that both decks (A and B) stop.

To record on both sides — Reverse Mode

Press REVERSE MODE so that the Reverse Mode indicator lights up like — (⇄).

To cancel Reverse Mode, press the button again so that the Reverse Mode indicator lights up like — ⇄.

CD Direct Recording

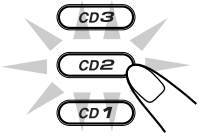
Everything on the CD goes onto the tape in the order it is on the CD, or according to the order you have made for Program play.

On the unit ONLY:

1 Put a recordable cassette into deck B.

2 Load CDs.

3 Press one of the disc number buttons (CD1, CD2, and CD3) to select the disc, then ■.



- If you want to make a program, perform steps 2 to 5 on page 15. After making a program, go to the next step.

4 Press CD REC START.

"CD REC" appears, and the REC (recording) indicator lights up on the display.
Deck B starts recording and the CD player starts playing. When the recording is done, "CD REC FINISHED" appears on the display, and the CD player and deck B stop.

To stop recording, press REC START/STOP or ■. So that a 4-second blank portion is created on the recording tape. (Remember a 4-second blank is important when using Music Scan — see page 17.)

To record on both sides — Reverse Mode

Press REVERSE MODE so that the Reverse Mode indicator lights up like — (⇄).

- When using the Reverse Mode for CD Direct Recording, start recording in the forward (►) direction first. When the tape reaches its end while recording a song in the forward direction (►), the last song will be re-recorded at the beginning of the reverse side (◄).

  If you start recording on the reverse side (◄), recording will stop when recording is done only on one side (reverse) of the tape.

To cancel Reverse Mode, press the button again so that the Reverse Mode indicator lights up like — ⇄.

Auto Edit Recording

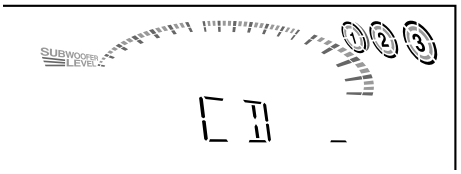
By using Auto Edit Recording, you can record the CD tracks to fit the tape. Auto Edit Recording makes a program by selecting the CD tracks in numerical order. However, to prevent the end of the last track on the front side from being cut off, the last track is selected so as to fit on the remaining tape length.

On the unit ONLY:

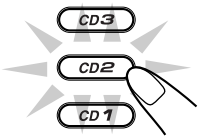
1 Load CDs.

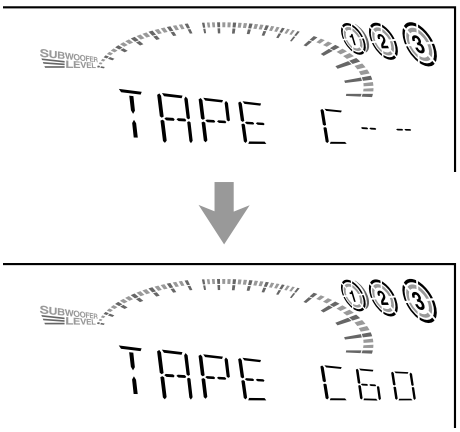
- If the current playing source is not the CD player, press CD ►/II, then ■ before going to the next step.

2 Press EDIT.



3 Press the disc number button (CD1, CD2, and CD3) for the disc you want to record from.





The optimum tape length for the disc appears.

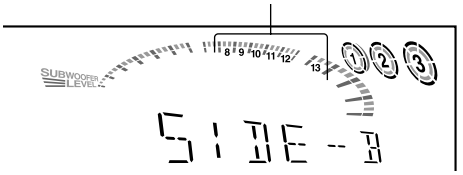
To change the tape length manually

If the tape length selected is not satisfactory, you can change the tape length by turning I◄◄ / ►►I on the unit. You can select the tape length among the following — 40, 46, 50, 54, 60, 64, 70, 74, 80, 84, and 90.

4 Press SET/DISPLAY.

- Each time you press the button, the tracks to be recorded on the front side ("SIDE-A") and on the reverse side ("SIDE-B") alternate.

Tracks to be recorded on the reverse side (SIDE-B) appear.

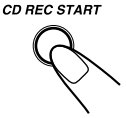


5 Put a recordable cassette of appropriate length into deck B.

6 Press REVERSE MODE so that the Reverse Mode indicator lights up like (⇄).

- Without turning on the Reverse Mode ((⇄)), recording will stop when the front side of the tape is recorded.

7 Press CD REC START.



"TAPE SIDE-A STAND-BY" appears, and the REC (recording) indicator lights up on the display.

Deck B starts recording then, about 10 seconds later, the CD player starts playing.

When the recording is done, "CD REC FINISHED" appears on the display, and the CD player and deck B stop.

- If a tape has not been rewound, deck B will rewind the tape before it starts recording.
- A 10-second blank portion is automatically created at the beginning of each side of the tape.

To stop during Auto Edit Recording

Press REC START/STOP or ■. So that a 4-second blank portion is created on the recording tape. (Remember a 4-second blank is important when using Music Scan — see page 17.)

To cancel Auto Edit Recording

Press CANCEL/DEMO or ■ before or after play.

Using the Timers

There are three timers available — Daily Timer, Recording Timer, and Sleep Timer.

Before using the timers, you need to set the clock built in the unit. (See page 9.)

Using Daily Timer

With Daily Timer, you can wake to your favorite music or radio program. You can set the timer whether the unit is on or off.

How Daily Timer actually works

The unit automatically turns on, set the volume level to the preset level, and starts playing the specified source when the on-time comes (the ⏲ indicator flashes just before the on-time, and continues flashing while the timer is operating). Then, when the off-time comes ("OFF" flashes just before the off-time), the unit automatically turns off (on standby).
The Daily timer works everyday automatically.
If you do not want to use the Daily timer, turn off the Daily timer. (See "To turn on or off Daily Timer after its setting is done" on page 22.)
The timer setting remains in memory until you change it.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.
- To correct a mis-entry while setting the timer, press CANCEL/DEMO.

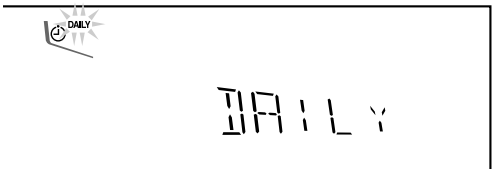
Before you start...

- *When using the tuner as the source to play —*
  – Make sure to select a desired station.
- *When using a CD as the source to play —*
  – Make sure there is a CD on the selected disc number tray.
- *When using a tape as the source to play —*
  – Make sure that a tape is in the deck whose deck indicator (A or B) is lit on the display.
  – Make sure that the tape direction is correct.
- *When using the external component as the source to play —*
  – Set the timer equipped on the external component at the same time.

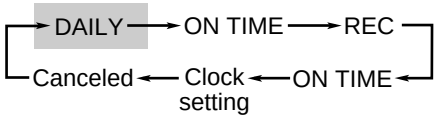
On the unit ONLY:

1 Press CLOCK/TIMER repeatedly until "DAILY" appears on the display.

⏲ indicator lights up and DAILY (Daily Timer) indicator also starts flashing on the display.



- Each time you press the button, the timer setting modes change as follows:

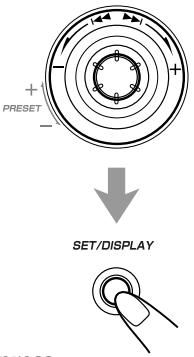


(See page 9.)

2 Press CLOCK/TIMER again.

"ON TIME" appears for 2 seconds, then the unit enters on-time setting mode.

3 Set the on-time you want the unit to turn on at.



1) Turn ⏮ / ⏭ to set the hour, then press SET/DISPLAY.
2) Turn ⏮ / ⏭ to set the minute, then press SET/DISPLAY.
"OFF TIME" appears for 2 seconds on the display, then the unit enters off-time setting mode.

4 Set the off-time you want the unit to turn off (on standby) at.

1) Turn ⏮ / ⏭ to set the hour, then press SET/DISPLAY.
2) Turn ⏮ / ⏭ to set the minute, then press SET/DISPLAY.
The unit enters source selecting mode.

5 Turn I◄◄ / ►►I to select the source to play, then press SET/DISPLAY.

• The source changes as follows:

TUNER FM ⟷ TUNER AM
AUX ⟷ TAPE ⟷ – CD – –

TUNER FM: tunes into a specified preset FM station. → **go to step 6.**
TUNER AM: tunes into a specified preset AM station. → **go to step 6.**
– CD – –: plays a disc from a specified track of a specified disc. → **go to step 6.**
TAPE: plays a tape in deck A or B. → **go to step 7.**
AUX: plays an external source. → **go to step 7.**

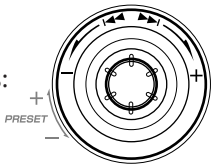
6 When selecting "TUNER FM" or "TUNER AM"

Turn I◄◄ / ►►I to select the preset station number, then press SET/DISPLAY.
The unit enters volume setting mode.

When selecting "– CD – –"

1) Turn I◄◄ / ►►I to select the disc number, then press SET/DISPLAY.
2) Turn I◄◄ / ►►I to set the track number, then press SET/DISPLAY.
The unit enters volume setting mode.

7 Turn I◄◄ / ►►I to set the volume level.



• The volume level changes as follows:

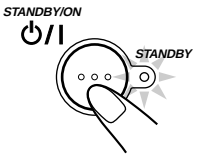
VOL – – ⟷ VOL 05
VOL 15 ⟷ VOL 10

• If you select " VOL – –," the volume is set to the last level when the unit has been turned off.

8 Press SET/DISPLAY to complete the Daily Timer setting.

The DAILY (Daily Timer) indicator stops flashing and remains lit. The settings you have done are shown on the display in sequence.

9 Press STANDBY/ON ⏻/I to turn off the unit (on standby) if you have set the Daily Timer with the unit turned on.



notes **If the unit is turned on when the on-time comes**
Daily Timer does not work.

notes **Even if you unplug the AC power cord or if a power failure occurs**
Once you set the timer, the timer setting may remain stored in memory in a few days. In this case, check whether the timer setting still remains or not.

To turn on or off Daily Timer after its setting is done

1 Press CLOCK/TIMER repeatedly until "DAILY" appears on the display.

2 To turn off the Daily Timer, press CANCEL/DEMO.
⏲ indicator and the DAILY (Daily Timer) indicator go off from the display ("OFF" appears for a while).
The Daily Timer is canceled, but the setting for the Daily Timer remains in memory.

To turn on the Daily Timer, press SET/DISPLAY.
⏲ indicator and the DAILY (Daily Timer) indicator light up on the display. The settings you have done are shown on the display in sequence for your confirmation.

Using Recording Timer

With Recording Timer, you can make a tape of a radio broadcast automatically. You can set the timer whether the system is on or off.

How Recording Timer actually works

The unit automatically turns on, tunes into the specified station, sets the volume level to "MIN," and starts recording when the on-time comes (the ⏲ indicator flashes just before the on-time, and continues flashing while the timer is operating). Then, when the off-time comes ("OFF" appears just before the off-time), the unit automatically turns off (on standby).

The timer setting remains in memory until you change it.

- There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.
- To correct a mis-entry while setting the timer, press CANCEL/DEMO.

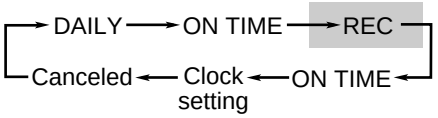
On the unit ONLY:

1 Put a recordable cassette into deck B.

2 Press CLOCK/TIMER repeatedly until "REC" appears on the display.

The REC (Recording Timer) indicator also starts flashing on the display.

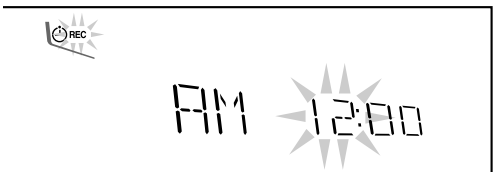
- Each time you press the button, the timer setting modes change as follows:



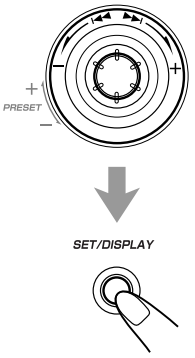
(See page 9.)

3 Press CLOCK/TIMER again.

"ON TIME" appears for 2 seconds, then the unit enters on-time setting mode.



4 Set the on-time you want the unit to turn on at.



1) Turn I◄◄ / ►►I to set the hour, then press SET/DISPLAY.
2) Turn I◄◄ / ►►I to set the minute, then press SET/DISPLAY.
"OFF TIME" appears for 2 seconds, then the unit enters off-time setting mode.

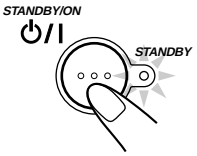
5 Set the off-time you want the unit to turn off (on standby) at.

1) Turn I◄◄ / ►►I to set the hour, then press SET/DISPLAY.
2) Turn I◄◄ / ►►I to set the minute, then press SET/DISPLAY.
The unit enters preset station selecting mode.

6 Select the preset station.

1) Turn I◄◄ / ►►I to select the band ("TUNER FM" or "TUNER AM"), then press SET/DISPLAY.
2) Turn I◄◄ / ►►I to select a preset channel number, then press SET/DISPLAY.
The REC (Recording Timer) indicator stops flashing and remains lit. The settings you have done are shown on the display in sequence.

7 Press STANDBY/ON ⏻/I to turn off the unit (on standby) if necessary.



If you want to listen to another source while recording

Press REC START/STOP or ■ to stop recording. Without stopping it, you cannot change the source.

Even if you unplug the AC power cord or if a power failure occurs

Once you set the timer, the timer setting may remain stored in memory in a few days. In this case, check whether the timer setting still remains or not.

To turn on or off Recording Timer after its setting is done

1 **Press CLOCK/TIMER repeatedly until "REC" appears on the display.**

2 **To turn off the Recording Timer, press CANCEL/DEMO.**
The REC (Recording Timer) indicator goes off from the display.
The Recording Timer is canceled, but the setting for the Recording Timer remains in memory.

To turn on the Recording Timer, press SET/DISPLAY.
The REC (Recording Timer) indicator lights up on the display. The settings you have done are shown on the display in sequence for your confirmation.

Using Sleep Timer

With Sleep Timer, you can fall asleep to music.
You can set Sleep Timer only while the unit is turned on.

How Sleep Timer actually works

The unit automatically turns off after the specified time length passes.

On the remote control ONLY:

1 Press SLEEP.

The time length until the shut-off time appears and the SLEEP indicator starts flashing on the display.

- Each time you press the button, the time length changes as follows:

SLEEP10 → SLEEP20 → SLEEP30 → SLEEP60 → SLEEP90 → SLEEP120 → Canceled → SLEEP10

2 Wait for about 5 seconds after specifying the time length.
The SLEEP indicator stops flashing and remains lit.

To check the remaining time until the shut-off time, press SLEEP once so that the remaining time until the shut-off time appears for about 5 seconds.

To change the shut-off time, press SLEEP repeatedly until the desired time length appears on the display.

To cancel the setting, press SLEEP repeatedly unitil the SLEEP indicator goes off.

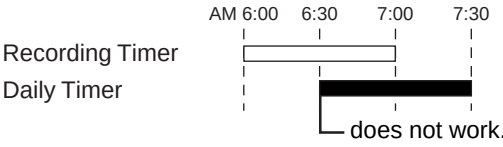
- Sleep Timer is also canceled when you turn off the unit.

Timer Priority

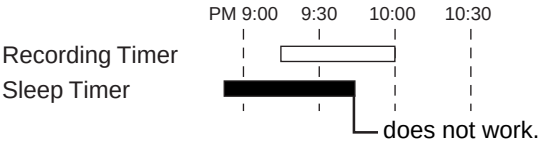
Since each timer can be set separately, you may wonder what happens if the setting for these timers overlaps.
Here are examples.

Recording Timer has priority over Daily Timer and Sleep Timer.

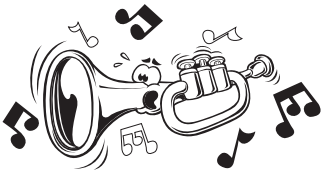
- If Daily Timer is set to come on while Recording Timer is operating, Daily Timer will not come on at all.



- If Recording Timer is set to come on while Sleep Timer is operating, Sleep Timer will not work (the SLEEP indicator does not go off).



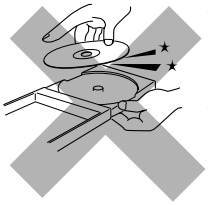
Maintenance



To get the best performance of the unit, keep your discs, tapes, and mechanism clean.

Handling discs

- Remove the disc from its case by holding it at the edge while pressing the center hole lightly.
- Do not touch the shiny surface of the disc, or bend the disc.
- Put the disc back in its case after use to prevent warping.

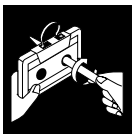


- Be careful not to scratch the surface of the disc when placing it back in its case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.

To clean the disc
Wipe the disc with a soft cloth in a straight line from center to edge.

STOP! DO NOT use any solvent — such as conventional record cleaner, spray, thinner, or benzine — to clean the disc.

Handling cassette tapes



- If the tape is loose in its cassette, take up the slack by inserting a pencil in one of the reels and rotating.
- If the tape is loose, it may get stretched, cut, or caught in the cassette.

- Be careful not to touch the tape surface.

- Avoid the following places to store the tape:
  — In dusty places
  — In direct sunlight or heat
  — In moist areas
  — Near a magnet

Cleaning the unit

- **Stains on the unit**
  Should be wiped off with a soft cloth. If the unit is heavily stained, wipe it with a cloth soaked in water diluted neutral detergent and wrung well, then wipe clean with a dry cloth.

- **Since the unit may deteriorate in quality, become damaged or get its paint peeled off, be careful about the followings.**
  — DO NOT wipe it with a hard cloth.
  — DO NOT wipe it strong.
  — DO NOT wipe it with thinner or benzine.
  — DO NOT apply any volatile substance such as insecticides to it.
  — DO NOT allow any rubber or plastic to remain in contact with it for a long time.

Troubleshooting

If you are having a problem with your unit, check this list for a possible solution before calling for service.
If you cannot solve the problem from the hints given here, or the unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Cause	Action
Unable to cancel the display demonstration.	Other buttons will pressed to cancel the display demonstration.	Press CANCEL/DEMO on the unit. (See page 8.)
No sound is heard.	Connections are incorrect or loose.	Check all connections and make corrections. (See pages 6 to 8.)
Hard to listen to broadcasts because of noise.	• Antennas are disconnected. • The AM loop antenna is too close to the unit. • The FM antenna is not properly extended and positioned.	• Reconnect the antennas correctly and securely. • Change the position and direction of the AM loop antenna. • Extend the FM antenna at the best position.
The disc sound is discontinuous.	The disc is scratched or dirty.	Clean or replace the disc. (See above.)
The disc tray does not open or close.	• The AC power cord is not plugged in. • Trays are locked.	• Plug the AC power cord. • Unlock the trays. (See page 16.)
The disc does not play.	The disc is placed upside down.	Place the disc with the label side up.
The cassette holders cannot be opened.	Power supply from the AC power cord has been cut off while the tape was running.	Turn on the unit.
Impossible to record.	Small tabs on the back of the cassette are removed.	Cover the holes with adhesive tape.
Operations are disabled.	The built-in microprocessor may malfunction due to external electrical interference.	Unplug the AC power cord and then plug it back in.
Unable to operate the unit from the remote control.	• The path between the remote control and the remote sensor on the unit is blocked. • The batteries are exhausted.	• Remove the obstruction. • Replace the batteries.

Specifications

Design and specifications are subject to change without notice.

MX-GT90

Amplifier section — CA-MXGT90

Output Power

SUBWOOFERS: **160 W per channel, min. RMS, driven into 6 Ω at 63 Hz with no more than 10% total harmonic distortion.**

MAIN SPEAKERS: **70 W per channel, min. RMS, driven into 6 Ω at 1 kHz with no more than 10% total harmonic distortion.**

Audio input sensitivity/Impedance
(at 1 kHz, measured at tape recording signal 300 mV)
AUX: 390 mV/50 kΩ

Digital output: CD OPTICAL DIGITAL OUTPUT
Signal wave length: 660 nm
Output level: –15 dBm to –12 dBm

Speakers/Impedance:
SUBWOOFERS: 6 Ω – 16 Ω
MAIN SPEAKERS: 6 Ω – 16 Ω

Tuner

FM tuning range: 87.5 MHz – 108.0 MHz
AM tuning range: 530 kHz – 1 710 kHz

CD player

CD capacity: 3 CDs
Dynamic range: 85 dB
Signal-to-noise ratio: 90 dB
Wow and flutter: Immeasurable

Cassette deck

Frequency response
Normal (type I): 50 Hz – 14 000 Hz
Wow and flutter
0.15% (WRMS)

General

Power requirement: AC 120 V ∿, 60 Hz
Power consumption: 175 W/220 VA (at operation)
22 W (on standby)
Dimensions (approx.): 265 mm x 335 mm x 401 mm (W/H/D)
(10 7/16 in. x 13 1/4 in. x 15 13/16 in.)
Mass (approx.): 10.0 kg (22.1 lbs)

Supplied accessories

See page 6.

Speaker section — SP-MXGT90

Type: 3-Way 3-Speaker Bass-Reflex Type
Dual Giga-Tube Band-Pass Subwoofers
Speaker units: Subwoofer: 20 cm (7 7/8 in.) cone x1
Woofer: 10 cm (3 15/16 in.) cone x1
Tweeter: 5 cm (2 in.) dome x1
Power handling capacity:
Subwoofer: 160 W
Main speaker: 70 W
Impedance: Subwoofer: 6 Ω
Main speaker: 6 Ω
Frequency range: Subwoofer: 25 Hz – 250 Hz
Main speaker: 75 Hz – 32 000 Hz
Sound pressure level: Subwoofer: 77 dB/W•m
Main speaker: 84 dB/W•m
Dimensions (approx.): 255 mm x 449 mm x 389 mm (W/H/D)
(10 1/16 in. x 17 11/16 in. x 15 3/8 in.)
Mass (approx.): 8.5 kg (18.8 lbs) each

MX-GT80

Amplifier section — CA-MXGT80

Output Power

SUBWOOFERS: **130 W per channel, min. RMS, driven into 6 Ω at 63 Hz with no more than 10% total harmonic distortion.**

MAIN SPEAKERS: **55 W per channel, min. RMS, driven into 6 Ω at 1 kHz with no more than 10% total harmonic distortion.**

Audio input sensitivity/Impedance
(at 1 kHz, measured at tape recording signal 300 mV)
AUX: 390 mV/50 kΩ

Digital output: CD OPTICAL DIGITAL OUTPUT
Signal wave length: 660 nm
Output level: –15 dBm to –12 dBm

Speakers/Impedance:
SUBWOOFERS: 6 Ω – 16 Ω
MAIN SPEAKERS: 6 Ω – 16 Ω

Tuner

FM tuning range: 87.5 MHz – 108.0 MHz
AM tuning range: 530 kHz – 1 710 kHz

CD player

CD capacity: 3 CDs
Dynamic range: 85 dB
Signal-to-noise ratio: 90 dB
Wow and flutter: Immeasurable

Cassette deck

Frequency response
Normal (type I): 50 Hz – 14 000 Hz
Wow and flutter
0.15% (WRMS)

General

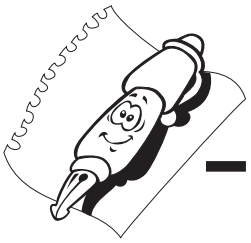
Power requirement: AC 120 V ∿, 60 Hz
Power consumption: 165 W/210 VA (at operation)
20 W (on standby)
Dimensions (approx.): 265 mm x 335 mm x 401 mm (W/H/D)
(10 7/16 in. x 13 1/4 in. x 15 13/16 in.)
Mass (approx.): 10.0 kg (22.1 lbs)

Supplied accessories

See page 6.

Speaker section — SP-MXGT80

Type: 3-Way 3-Speaker Bass-Reflex Type
Dual Giga-Tube Band-Pass Subwoofers
Speaker units: Subwoofer: 16 cm (6 5/16 in.) cone x1
Woofer: 10 cm (3 15/16 in.) cone x1
Tweeter: 5 cm (2 in.) dome x1
Power handling capacity:
Subwoofer: 130 W
Main speaker: 55 W
Impedance: Subwoofer: 6 Ω
Main speaker: 6 Ω
Frequency range: Subwoofer: 30 Hz – 120 Hz
Main speaker: 75 Hz – 29 000 Hz
Sound pressure level: Subwoofer: 78 dB/W•m
Main speaker: 85 dB/W•m
Dimensions (approx.): 230 mm x 439 mm x 340 mm (W/H/D)
(9 1/16 in. x 17 5/16 in. x 13 7/16 in.)
Mass (approx.): 7.2 kg (15.9 lbs) each



MX-G70

Amplifier section — CA-MXG70

Output Power

SUBWOOFERS: **110 W per channel, min. RMS, driven into 6 Ω at 63 Hz with no more than 10% total harmonic distortion.**

MAIN SPEAKERS: **55 W per channel, min. RMS, driven into 6 Ω at 1 kHz with no more than 10% total harmonic distortion.**

Audio input sensitivity/Impedance
(at 1 kHz, measured at tape recording signal 300 mV)
AUX: 390 mV/50 kΩ

Digital output: CD OPTICAL DIGITAL OUTPUT
Signal wave length: 660 nm
Output level: –15 dBm to –12 dBm

Speakers/Impedance:
SUBWOOFERS: 6 Ω – 16 Ω
MAIN SPEAKERS: 6 Ω – 16 Ω

Tuner

FM tuning range: 87.5 MHz – 108.0 MHz
AM tuning range: 530 kHz – 1 710 kHz

CD player

CD capacity: 3 CDs
Dynamic range: 85 dB
Signal-to-noise ratio: 90 dB
Wow and flutter: Immeasurable

Cassette deck

Frequency response
Normal (type I): 50 Hz – 14 000 Hz
Wow and flutter
0.15% (WRMS)

General

Power requirement: AC 120 V ∿, 60 Hz
Power consumption: 160 W/205 VA (at operation)
20 W (on standby)
Dimensions (approx.): 265 mm x 335 mm x 401 mm (W/H/D)
(10 7/16 in. x 13 1/4 in. x 15 13/16 in.)
Mass (approx.): 10.0 kg (22.1 lbs)

Supplied accessories

See page 6.

Speaker section — SP-MXG70

Type: 3-Way 3-Speaker Bass-Reflex type
Twin Hyper Power-Drive Subwoofer
Speaker units: Subwoofer: 14 cm (5 9/16 in.) cone x1
Woofer: 16 cm (6 5/16 in.) cone x1
Tweeter: 5 cm (2 in.) dome x1
Power handling capacity:
Subwoofer: 110 W
Main speaker: 55 W
Impedance: Subwoofer: 6 Ω
Main speaker: 6 Ω
Frequency range: Subwoofer: 29 Hz – 310 Hz
Main speaker: 70 Hz – 29 000 Hz
Sound pressure level: Subwoofer: 76 dB/W•m
Main speaker: 87 dB/W•m
Dimensions (approx.): 286 mm x 335 mm x 365 mm (W/H/D)
(11 5/16 in. x 13 1/4 in. x 14 3/8 in.)
Mass (approx.): 6.3 kg (13.9 lbs) each

QUALITY JVC SERVICE

HOW TO LOCATE YOUR JVC SERVICE CENTER

TOLL FREE : 1-800-537-5722
http://www.jvcservice.com

Dear customer:
In order to receive the most satisfaction from your purchase, read the instruction booklet before operating the unit. In the event that repair is necessary, or for the address nearest your location, please refer to the factory service center list below or within the Continental United States, Call 1-800-537-5722 for your authorized servicer. Remember to retain your Bill of Sale for Warranty Service.

—JVC

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

FACTORY SERVICE CENTER LOCATIONS

10 New Maple Avenue
Pine Brook, NJ 07058-9641
(973) 396-1000

1500 Lakes Parkway
Lawrenceville, GA 30243-5857
(770) 339-2582

705 Enterprise Street
Aurora, IL 60504-8149
(630) 851-7855

5665 Corporate Avenue
Cypress, CA 90630-0024
(714) 229-8011

2969 Mapunapuna Place
Honolulu, HI 96819-2040
(808) 833-5828

10700 Hammerly, Suite 110
Houston, TX 77043
(713) 935-9331

13 Cummings Park
Woburn, MA 01801
(781) 376-9100

8192 State Road 84
Davie, FL 33324
(954) 472-1960

890 Dubuque Avenue
South San Francisco, CA 94080-1804
(650) 871-2666

Sophisticated electronic products may require occasional service. Just as quality is a keyword in the engineering and production of the wide array of JVC products, service is the key to maintaining the high level of performance for which JVC is world famous. The JVC service and engineering organization stands behind our products.

NATIONAL HEADQUARTERS
JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF JVC AMERICAS CORP.
1700 Valley Road
Wayne, NJ 07470

If you ship the product • • •

Pack your JVC unit in the original carton or one of equivalent size and strength. Enclose, with the unit, a letter stating the problem or symptom that exists and also a copy of the receipt or bill of sale you received when you purchased your JVC unit. Print your home return address on the outside and the inside of the carton. Send to the appropriate JVC Factory Service Center as listed above.

Don't service it yourself.

CAUTION

To prevent electrical shock, do not open the cabinet. No user serviceable parts inside.
Refer servicing to qualified service personnel.

ACCESSORIES

To purchase accessories for your JVC product, you may contact your local JVC Dealer.
Or from the 48 Continental United States call toll free : 800-882-2345

LIMITED WARRANTY AUDIO-1

JVC COMPANY OF AMERICA warrants this product and all parts thereof, except as set forth below ONLY TO THE ORIGINAL PURCHASER AT RETAIL to be FREE FROM DEFECTIVE MATERIAL AND WORKMANSHIP from the date of original retail purchase for the period as shown below. ("The Warranty Period.")

PARTS	LABOR
1YR	1YR

THIS LIMITED WARRANTY IS VALID ONLY IN THE FIFTY(50) UNITED STATES, THE DISTRICT OF COLUMBIA AND IN COMMONWEALTH OF PUERTO RICO.

WHAT WE WILL DO:

If this product is found to be defective, JVC will repair or replace defective parts at no charge to the original owner. Such repair and replacement services shall be rendered by JVC during normal business hours at JVC authorized service centers. Parts used for replacement are warranted only for the remainder of the Warranty Period. All products and parts thereof may be brought to a JVC authorized service center on a carry-in basis except for Television sets having a screen size 25 inches and above which are covered on an in-home basis.

WHAT YOU MUST DO FOR WARRANTY SERVICE:

Return your product to a JVC authorized service center with a copy of your bill of sale. For your nearest JVC authorized service center, please call toll free: (800)537-5722.
If service is not available locally, box the product carefully, preferably in the original carton, and ship, insured, with a copy of your bill of sale plus and letter of explanation of the problem to the nearest JVC Factory Service Center, the name and location of which will be given to you by the toll-free number.
If you have any questions concerning your JVC Product, please contact our Customer Relations Department.

WHAT IS NOT COVERED:

This limited warranty provided by JVC does not cover:

1. Products which have been subject to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, or if repaired or serviced by anyone other than a service facility authorized by JVC to render such service, or if affixed to any attachment not provided with the products, or if the model number or serial number has been altered, tampered with, defaced or removed;
2. Initial installation and installation and removal for repair;
3. Operational adjustments covered in the Owner's Manual, normal maintenance, video and audio head cleaning;
4. Damage that occurs in shipment, due to act of God, and cosmetic damage;
5. Signal reception problems and failures due to line power surge;
6. Video Pick-up Tubes/CCD Image Sensor, Cartridge, Stylus(Needle) are covered for 90 days from the date of purchase;
7. Accessories;
8. Batteries (except the Rechargeable Batteries are covered for 90 days from the date of purchase);

There are no express warranties except as listed above.

THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

JVC SHALL NOT BE LIABLE FOR THE LOSS OF USE OF THE PRODUCT, INCONVENIENCE, LOSS OR ANY OTHER DAMAGES, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS) RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion of incidental or consequential damages or limitations on how long an implied warranty last, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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1700 Valley Road
Wayne, NJ 07470

REFURBISHED PRODUCTS CARRY A SEPARATE WARRANTY, THIS WARRANTY DOES NOT APPLY. FOR DETAILS OF REFURBISHED PRO DUCT WARRANTY, PLEASE REFER TO THE REFURBISHED PRODUCT WARRANTY INFORMATION PACKAGED WITH EACH REFURBISHED PRODUCT.

For customer use:

Enter below the Model No. and Serial No. which is located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No.: _____ Serial No.: _____

Purchase date: _____ Name of dealer: _____

JVC

VICTOR COMPANY OF JAPAN, LIMITED