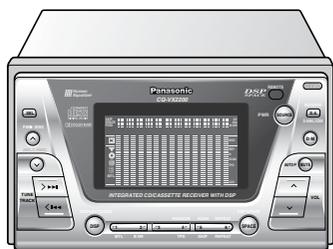


Panasonic®

松下电器

INTEGRATED CD/CASSETTE RECEIVER WITH DSP



CQ-VX2200W Operating Instructions



COMPACT
disc
DIGITAL AUDIO

- Please read these instructions carefully before using this product and keep this manual for future reference.

Safety Information

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

CAUTION:
THIS PRODUCT IS A CLASS I LASER PRODUCT. USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE. DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

Laser products:
 Wave length: 780 nm
 Laser power: No hazardous radiation is emitted with safety protection.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, AND ANNOYING INTERFERENCE, USE ONLY THE INCLUDED COMPONENTS.



Contents _____ Page

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Use This Product Safely	8
Components	8
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Name of Controls and Functions	11
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Panasonic welcomes you to our ever growing family of electronic product owners. We know that this product will bring you many hours of enjoyment. Our reputation is built on precise electronic and mechanical engineering, manufactured with carefully selected components and assembled by people who take pride in their work. Once you discover the quality, reliability, and value we have built into this product, you too will be proud to be a member of our family.

❑ Use This Product Safely

When Driving

Keep the volume level low enough to be aware of road and traffic conditions.

When Washing Your Car

Do not expose the product, including the speakers, CDs and tapes to water or excessive moisture. This could cause electrical shorts, fire, or other damage.

When Parked

Parking in direct sunlight can produce very high temperatures inside your car. Give the interior a chance to cool down before switching the unit on.

Use the Proper Power Supply

This product is designed to operate with a 12 V DC, negative ground battery system.

Disc Mechanism

Do not insert coins or any small objects. Keep screwdrivers and other metallic objects away from the disc mechanism and disc.

Tape Mechanism

Keep magnets, screwdrivers or other metallic objects away from the tape mechanism and tape head to prevent poor performance or malfunctions.

Use Authorized Service Centers

This product is made of precision parts. Do not attempt to disassemble or adjust any parts. For repair, please consult your nearest authorized Panasonic Service Center.

For Installation

The product should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.

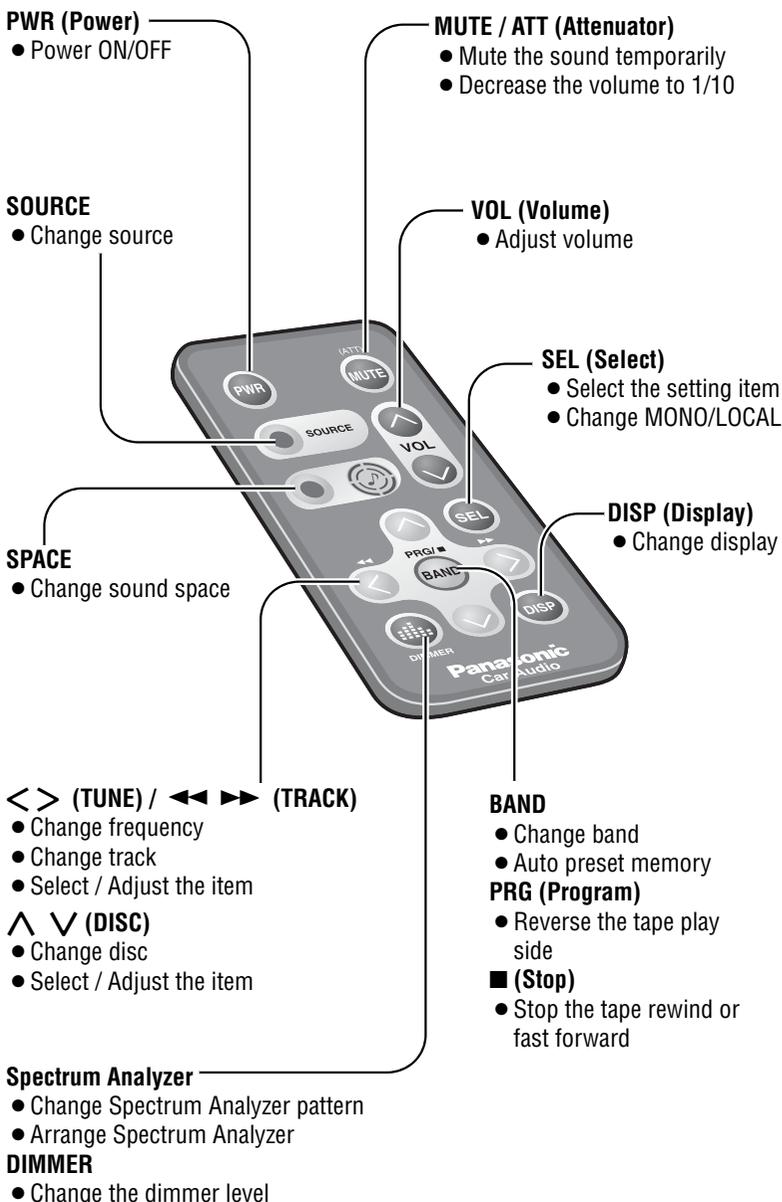
❑ Components

- Operating instructions 1
- Installation hardware 1 set (⇒ page 32)
- Power connector 1
- Remote Control Unit 1
- Lithium battery (CR2025) 1

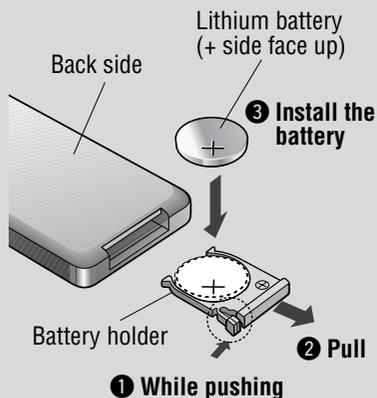
Remote Control

Control Reference Guide

Point the remote control unit at the main unit's sensor (REMOTE).



Battery Installation

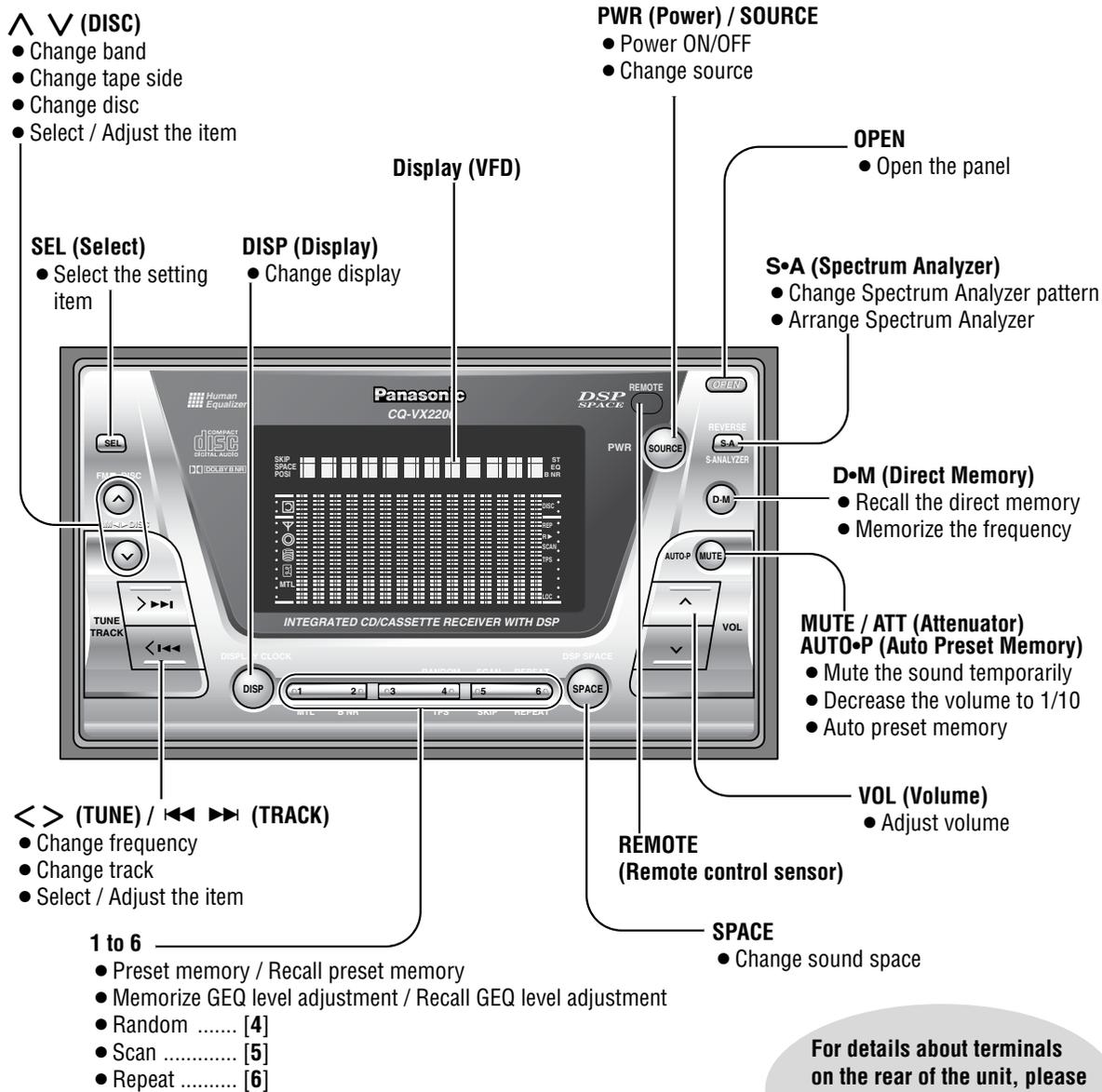


- Battery Type: Panasonic lithium battery (CR2025)
- Battery Life: Approximately 6 months with normal use (at room temperature)

Caution: Improper use of batteries may cause overheating, an explosion, ignition, resulting in injury or a fire. Battery leakage may damage the unit.

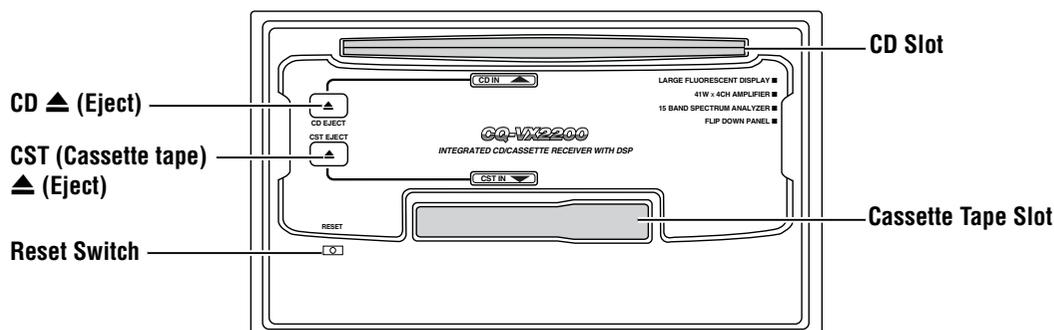
- Do not disassemble or short the battery. Do not throw a battery into a fire.
- Keep batteries away from children to avoid the risk of accidents.
- Be careful to observe proper local disposal rules when you dispose of batteries.

Name of Controls and Functions



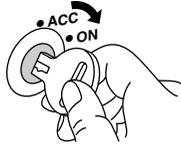
For details about terminals on the rear of the unit, please see "Electrical Connections" (⇒ page 37)

Behind the Front Panel



Power and Basic Operations

Preparation Turn the key in the ignition until the accessory indicator lights.



Power On / Off

PWR SOURCE **Power on : Press**
Power off : Press again and hold

- When you use this unit for the first time, a demonstration message appears on the display.
- DISP** : Press to cancel this display
- SOURCE** : Press and hold for more than 1 second when turning power on to display a demonstration message again



Volume

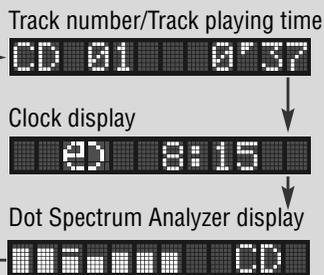
 : Press **VOLUME 20**
Setting Range : 0 to 40

- The sound level for each source is stored in memory. (For radio, one volume setting for AM, one volume setting for all FMs.)

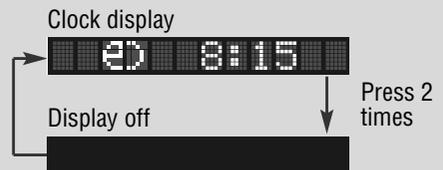
Display Change

DISP : Press

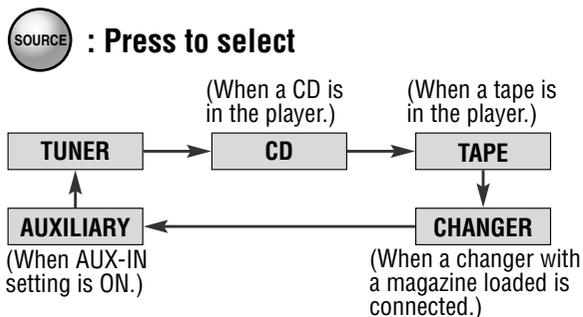
Example: CD Mode



When Power is Off



Mode Selection



Note: Skipping “AUXILIARY” can be set. (➔ page 30)

Mute / ATT (Attenuator)

MUTE : Press **MUTE ON**
(Press again to cancel)

Decreasing volume range depends on setting.
(MUTE/ATT setting ➔ page 30)

- MUTE : No sound (Default)
- ATT : Decrease the volume to 1/10 of previous level.

Clock Setting

- 1** **DISP** : Press and hold for more than 2 seconds
- 2** **UP** **DOWN** : Press to adjust hour
- 3** **RIGHT** : Press to move to minute
- 4** **UP** **DOWN** : Press to adjust minute
- 5** **DISP** : Press to set

Notes:

- If clock is not adjusted, “ADJUST” will be appear.
- The 12-hour system is used for the clock.
- The clock is not adjustable when power is off.

Radio Basics



1 Mode Selection

SOURCE : Press to select the radio mode

2 Band

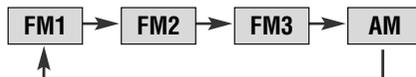
▲ : Press to select an FM band



▼ : Press to determine the AM band



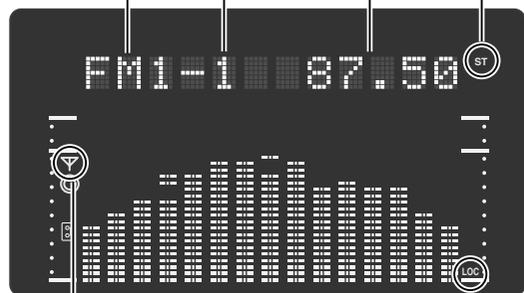
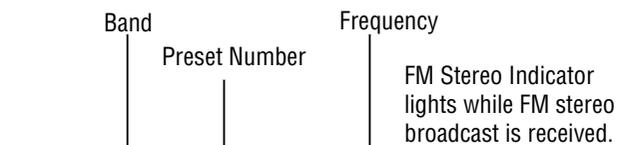
Note: Press **BAND** when using the remote control



3 Tuning

>>> : Higher frequency
<<< : Lower frequency

Press and hold for more than 0.5 seconds then release. Seeking will start.



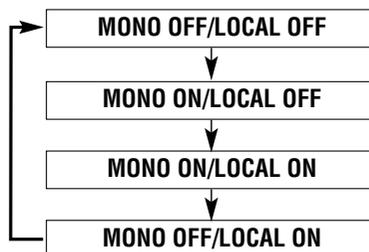
When in Radio Mode

LOCAL Indicator lights while in LOCAL mode.

Mono / Local selection

MONO: Reduce noise during a weak FM broadcast.
LOCAL: Searching stops at a strong signal only.

- ① **SEL** : Press and hold for more than 2 seconds.
- ② **SEL** : Press to select MONO/LOCAL
- ③ **>>>** / **<<<** : Press to change the display as follows.



Preset Station Setting

Up to 6 stations each can be saved in the FM1, FM2, FM3 and AM preset station memories.

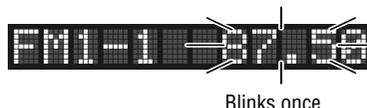
Manual Preset Memory

Manually save a station in the preset memory.

Select a band and frequency (step ❶, ❷ and ❸ on the previous page)

 to  : Press and hold for more than 2 seconds

- The display blinks once, and a receiving station is saved in the memory.



Auto Preset Memory

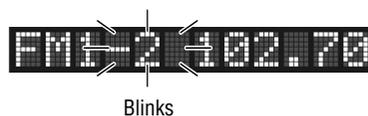
Automatically save strong stations in the preset memory.

Select a band (step ❶ and ❷ on the previous page)

AUTO-P  : Press and hold for more than 2 seconds

- The 6 strongest available stations will be automatically saved in the memory under preset numbers 1 to 6.
- Once set, the preset stations are sequentially scanned for 5 seconds each.

 to  : Press to select the station.



Note: New stations are overwritten on existing saved stations after following this procedure.

Preset Station Calling

Select a band (step ❶ and ❷ on the previous page)

 to  : Press to select the station.

CD Player Basics



Disc Insert / Eject

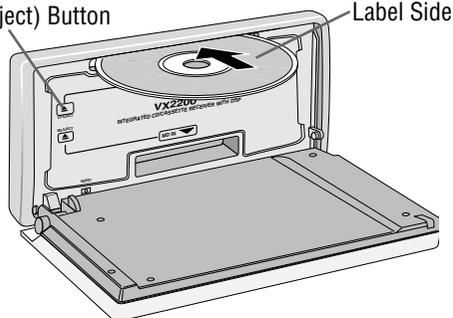
If lights, a CD has been already loaded.

OPEN : Press to open the panel

- Insert the disc and playback will start.
Close the front panel manually.

Caution: Only 12 cm CD is available for this unit.

CD (Eject) Button



Notes:

- Loading a CD when the power is off allows the power to be turned on.
- Ejecting the CD when the unit is in the CD mode allows the power to be turned off.

When a CD is in the player

1 Mode Selection

: Press to select the CD mode

2 Track Selection

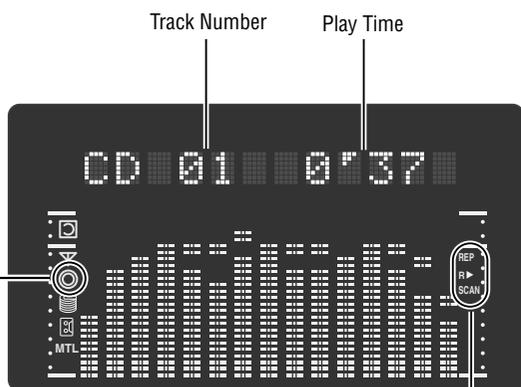
: Next track
 : Beginning of the current track/
 Previous track (Press twice)

Fast Forward / Reverse

Press and hold

: Fast forward
 : Fast reverse

- Release to resume the regular CD play.



When a CD is inside
(Blinks during CD play)

Repeat, Random and
Scan Indicator

Cautions:

- Do not use irregularly shaped CDs.
- To avoid damaging the front panel, do not push it down or place objects on it while it is open.
- Do not pinch your finger or hand in the front panel. Do not insert foreign matter into the disc and cassette tape slots.

Various Way of Listening

Random Play

All the available tracks are played in random sequence.

RANDOM

 : **Press**

(Press again to cancel)

R 

Lights

Scan Play

The first 10 seconds of each track play in sequence.

SCAN

 : **Press**

(Press again to cancel)

SCAN

Lights

- After playing 10 seconds of all tracks, the scan play is finished and the starting position goes to the beginning of the first played track.

Repeat Play

Repeat the current selection.

REPEAT

 : **Press**

(Press again to cancel)

REP

Lights

Notes on CD-R Disc

A playable CD-R disc is only a CD-R disc on which sound was recorded.

- Some recorded CD-R discs by using CD recorder are not playable because of their characteristic, or scratches or dirt on the discs.
- You can not play a CD-R disc that has not been finalized.
- A CD-RW disc is not playable.
- MP3 file, video CD, CD-ROM and CD-EX disc are not playable.
- Be sure to observe the handling instructions of CD-R disc.
- Do not apply a disc that has a label printed by a commercially available label printer.

Cassette Tape Player Basics

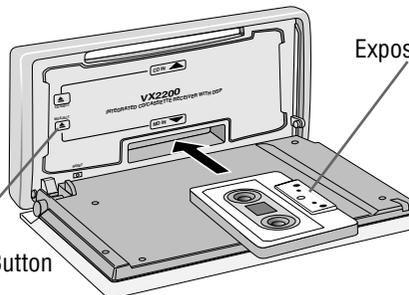


Tape Insert / Eject

If lights, a tape has been already loaded.

: Press to open the panel

- Insert the tape and playback will start.
Close the front panel manually.



Tape ▲ (Eject) Button

Notes:

- Loading a tape when the power is off allows the power to be turned on.
- Ejecting the tape when the unit is in the Cassette tape mode allows the power to be turned off.

When a Cassette tape is in the player

1 Mode Selection

: Press to select the cassette tape mode

2 Play Side Change

: Press to reverse
(Press for remote control)

3 Fast Forward / Rewind

: Fast Forward

: Rewind

: Press to resume the tape play
(Press for remote control)

Playside (▶ : Top side, ◀ : Bottom side)

When a Cassette tape is inside
(Blinks during Cassette tape play)

Skip Indicator

Dolby B NR Indicator



Metal Tape Indicator

TPS Indicator

Repeat Indicator

Cautions:

- To avoid damaging the front panel, do not push it down or place objects on it while it is open.
- Do not pinch your finger or hand in the front panel. Do not insert foreign matter into the disc and cassette tape slots.

Metal Tape Mode

When playing metal or chromium dioxide (CrO₂) tapes.



Press

(Press again to cancel)

MTL

Lights

- When playing non-metal tape, please set this function off.

Dolby B Noise Reduction

Set the Dolby B NR mode when playing back a tape recorded with Dolby B Noise Reduction.



Press

(Press again to cancel)

B NR

Lights

Tape Program Search (TPS) Operation



Press

(Press again to cancel)

TPS

Lights



- Activates the tape rewind and goes back to the beginning of the current program. The TPS finds the beginning of a following program correspondent to how many times you press this button. (Up to 8 programs)



- Activates the tape fast forward and goes to the beginning of the next program. The TPS finds the beginning of a following program correspondent to how many times you press this button. (Up to 9 programs)

* Press to cancel rewind or fast forward.

(Press for remote control)

Notes:

The TPS mode may not work correctly in the following cases.

- There is an interval less than 4 seconds or having a high level of noise or hum between programs.
- There is particularly low-level passage during the program.

Blank Skip

Skip unrecorded portions longer than 15 seconds on the tape.



Press

(Press again to cancel)

SKIP

Lights

Note: The blank skip does not work when an unrecorded portion of a tape is less than 15 seconds.

Repeat Play

Repeat the current program.



Press

(Press again to cancel)

REP

Lights

CD Changer Control



Preparation Connect the CD changer, and load a magazine. (➔ page 38)

Notes:

- Loading a magazine when the power is off allows the power to be turned on.
- Ejecting the magazine when the unit is in the CD Changer Mode allows the power to be turned off.

1 Mode Selection

SOURCE : Press to select the CD changer mode

- Insert the disc when "NO DISC" appears.

2 Disc Selection

▲ : Next disc

▼ : Previous disc

3 Track Selection

>>> : Next track

<<< : Beginning of the current track/
Previous track (Press twice)

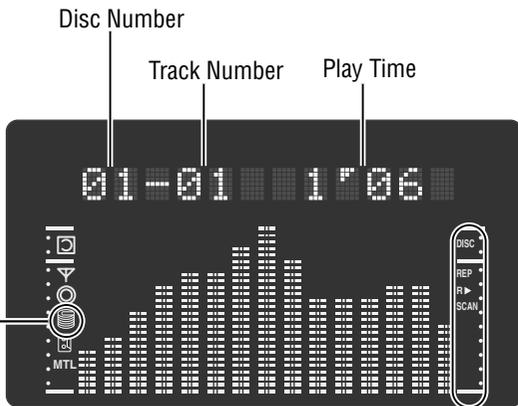
Fast Forward / Reverse

Press and hold

>>> : Fast forward

<<< : Fast reverse

- Release to resume the regular CD play.



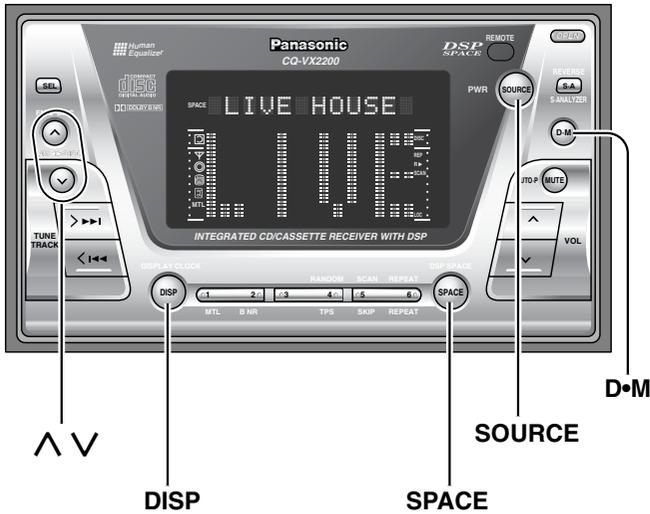
When a CD Changer with a magazine loaded is connected. (Blinks during CD Changer play)

Repeat (Disc), Random (Disc) and Scan (Disc) Indicator

Various Way of Listening

Random Play	All Tracks	<p>All the available tracks on all discs in the magazine are played in a random sequence.</p> <p> : Press (Press again to cancel)</p> <p> Lights</p>
	Current Disc	<p>All the available tracks on current disc are played in a random sequence.</p> <p> : Press and hold for more than 2 seconds (Press and hold again to cancel)</p> <p> Lights</p> <p> Lights</p>
Scan Play	All Tracks	<p>The first 10 seconds of each track on the discs plays in sequence.</p> <p> : Press (Press again to cancel)</p> <p> Lights</p> <ul style="list-style-type: none"> • With the scanning of all tracks over, the original program starts playing from the beginning.
	First Track on All Discs	<p>The first track of all the discs in the magazine is played for 10 seconds each.</p> <p> : Press and hold for more than 2 seconds (Press and hold again to cancel)</p> <p> Lights</p> <ul style="list-style-type: none"> • With the scanning of all tracks over, the original disc starts playing from the beginning. <p> Lights</p>
Repeat Play	Current Track	<p>Repeat the current track selection.</p> <p> : Press (Press again to cancel)</p> <p> Lights</p>
	Current Disc	<p>Repeat the current disc selection.</p> <p> : Press and hold for more than 2 seconds (Press and hold again to cancel)</p> <p> Lights</p> <p> Lights</p>

Sound Space and Useful Functions



Sound Space Reproduction (SPACE)

Sound space can be made in a car like being in a concert hall.
 Default : .SPACE OFF
 Setting range : 8 types
 (including SPACE OFF)

Sound space is available for each mode (AM, FM, CD, Cassette Tape, CD Changer, AUX-IN and Direct Memory).

Direct Memory

Your favorite FM/AM radio station can be memorized in the D•M button and you can call back radio stations just by pressing the button whatever the current sound source is, even if the power is off.

Default : FM 88.1 MHz

External Sound Source (AUX IN)

Preparations :

Connect an external device to AUX input terminal. (→ page 38)

SPACE : Press to change as follows



- After setting, "SPACE" indicator will illuminate.

Example:



Space Indicator

Recalling the Direct Memory

D-M : Press
(Press again to cancel)

- The direct memoried station is received.



Memorize

Select the station in Radio mode
(➔ page 14)

D-M : Press and hold for more
than 2 seconds

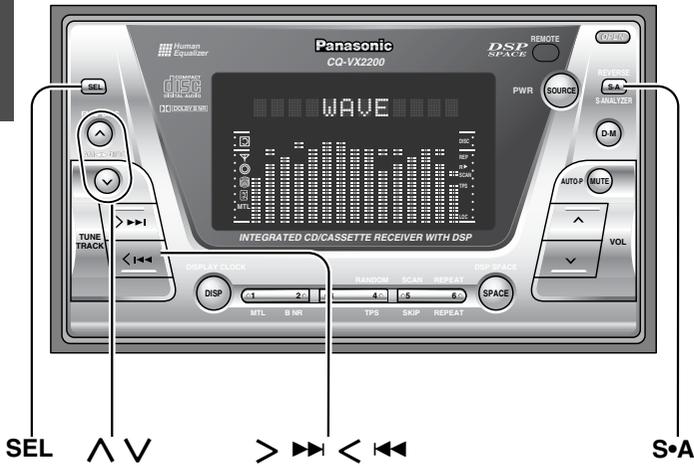
- New station is overwritten on existing saved station.



SOURCE : Press to change to AUX IN mode



Sound Space and Useful Functions (continued)

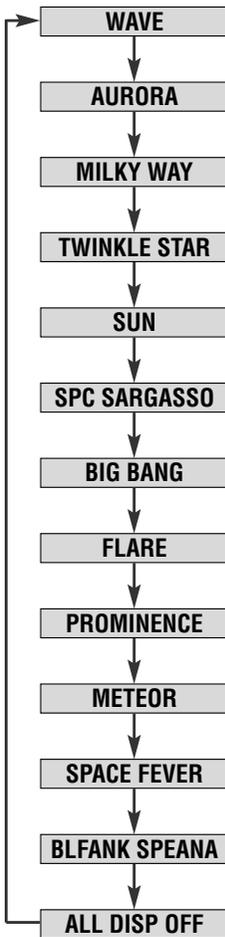


Spectrum Analyzer Display Pattern

Default : WAVE
 Variety : 13 types (including BLANK
 SPEANA and ALL DISP OFF.)

Spectrum Analyzer Display Pattern

S.A. : Press to change as follows



Spectrum Analyzer Arrangement

Default : NORMAL / POSI
 Variety : 8 types (except for BLANK
 SPEANA and ALL DISP OFF.)

S.A : Press to change

There are special functions in Spectrum Analyzer Display Pattern.

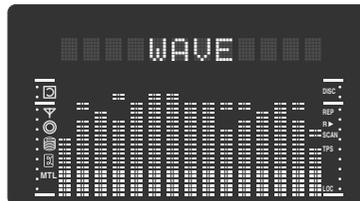
● **BLANK SPEANA**

In this display, only the spectrum analyzer is turned off.

● **ALL DISP OFF**

The whole display, including the lights, goes out.
(When some operation is performed, the display lights for about 5 seconds.)

Example:



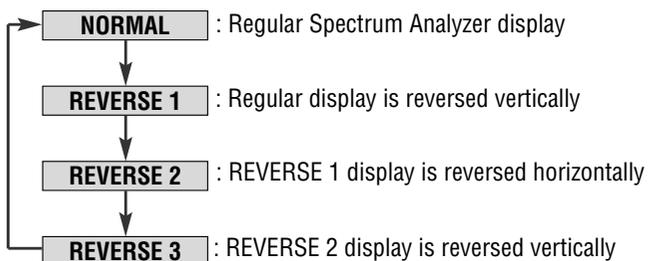
1 **REVERSE S.A** : Press and hold for more than 2 seconds

2 Arrange the Spectrum Analyzer Display using these methods.

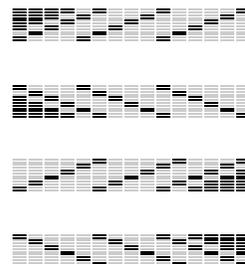
□ **Direction Change**



: Press to change as follows



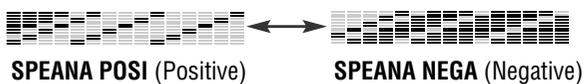
Example:



□ **Positive - Negative Switch**



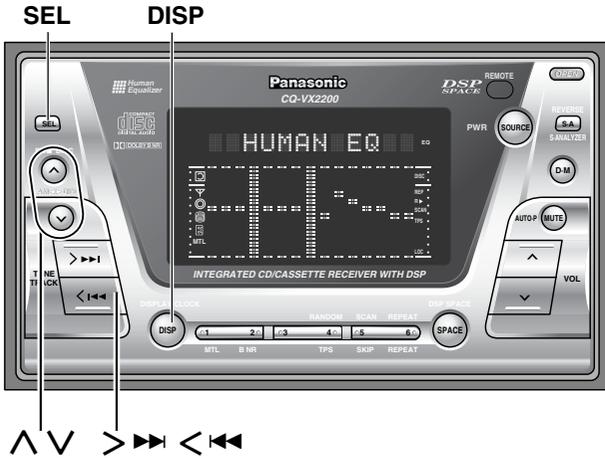
: Press to change as follows



Notes:

- If no operation is performed within 10 seconds, the display will return to the normal operation mode.
- The indication pattern can not be changed at letter indicating part of the display.

Sound Setting



1 Select the Item

SEL : Press to select



Tone Quality

(Human Equalizer/HEQ)

There are 49 ready patterns to make presetting easier.

Default : FLAT

Setting range : 0 - 3 for each patterns
(49 patterns)

Select

HUMAN EQ

Save Your Tone Quality Preference

(Graphic Equalizer/GEQ)

You can adjust the level from bass to treble in each of 7 frequency bands. Up to 6 tone quality preferences can be saved in memory.

Default : 0 dB for each frequency

Setting range : -12 to +12 in 2 dB step

Select

GRAPHIC EQ

2 Set



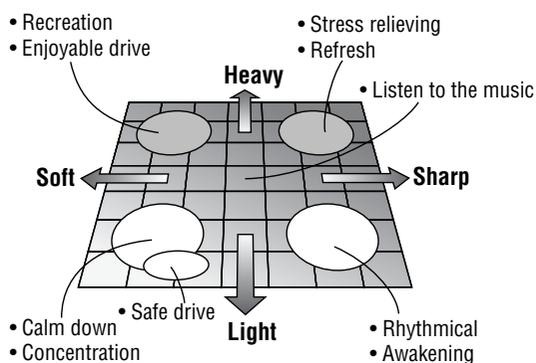
Notes:

- If no keys have been pressed for more than 10 seconds, the display returns to the normal operation mode.
- To return to the normal operation mode.

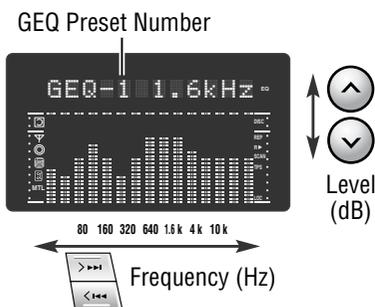


- A cursor moves in the HEQ display and blinks at the adjusted point.

Positioning Image



Adjustment



- Frequency changes as follows.
80 → 160 → 320 → 640 → 1.6 k → 4 k → 10 k (Hz)
- Selected frequency blinks.
- After adjusting, EQ indicator will illuminate.

Memorize (GEQ Preset Memory)

- 1 Adjust the level for each frequency
- 2 to : Press and hold for more than 2

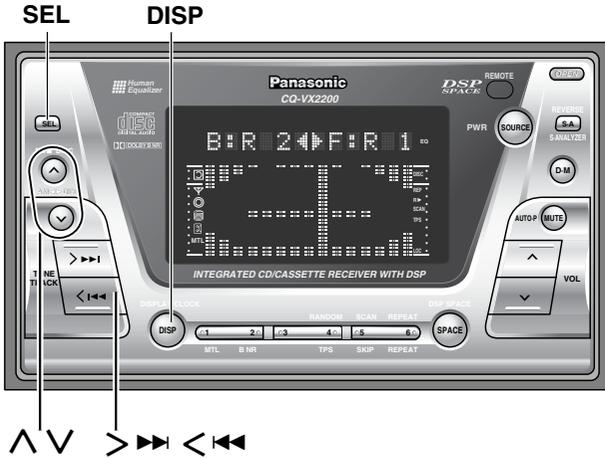
- The display blinks once, and a adjusted levels are saved in the memory.

Calling Back the Preset Tone Quality

- 1 After changing to the GEQ adjusting display
- 2 to : Press

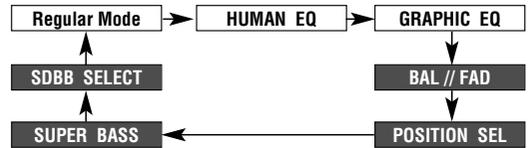
Note: New levels are overwritten on existing saved level after following this procedure.

Sound Setting (continued)



1 Select the Item

SEL : Press to select



Sound Setting

Balance and Fader

Default : Center
Setting range : 15 levels each

Select

BAL//FAD

Sound Image (Position)

You can adjust the sound image in accordance with a listener's position.

Default : OFF

Select

POSITION SEL

Rear Speakers as Sub-Woofers (Super Base Control Sub-Woofer/SBC-SW)

You can utilize the rear speaker connected to the built-in amplifier as Sub-Woofers that outputs only bass.

Default : OFF

Select

SUPER BASS

Bass Enhancement (Super Dynamic Bass Boost/SDBB)

The bass of the 4 speakers connected to the built-in amplifier is enhanced, so that you can enjoy heavy bass sound.

Default : OFF

Select

SDBB SELECT

2 Set

 and 
 : Press to select and adjust

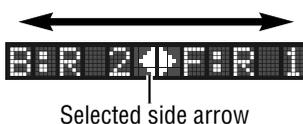
Notes:

- If no keys have been pressed for more than 10 seconds, the display returns to the normal operation mode.
- To return to the normal operation mode.

 : Press

Balance

 : Right enhanced
 : Left enhanced



Fader

 : Front enhanced
 : Rear enhanced

OFF : All seats

RIGHT : Front right

LEFT : Front left

FRONT : Front

REAR : Rear

Example:

POSI FRONT

- After setting, POSI indicator will illuminate.

OFF : Regular output (stereo)

Bass Enhancement (monaural)

- Adjust the Sub-Woofers output level. It is also interlocked with the preout (rear speaker output).
- BAL/FAD, POSI, SDBB and SPACE settings for rear speaker output will be invalid.

FLAT

100 Hz

150 Hz

200 Hz

(Does not cut the treble)

Note: Set to FLAT when using the cutoff frequency adjustment function built in an optional amplifier.

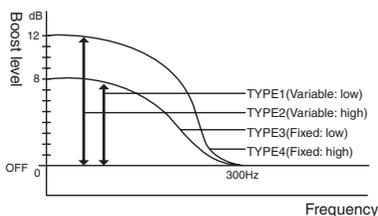
OFF : Normal output

TYPE 1 : Variable, low

TYPE 2 : Variable, high

TYPE 3 : Fixed, low

TYPE 4 : Fixed, high



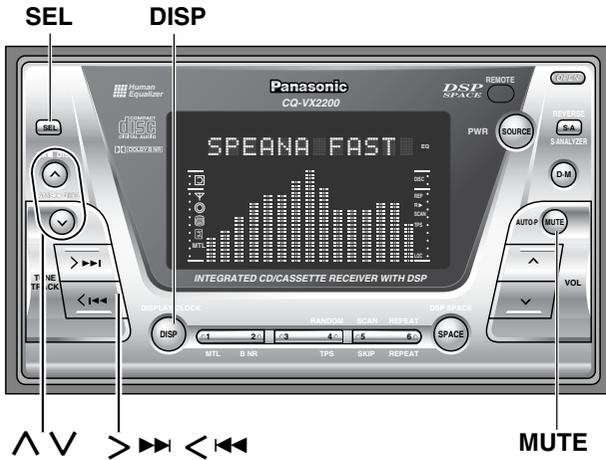
- Variable : Bass enhancement along with the volume
- Fixed : Bass enhancement with fixed range

Example:

SDBB TYPE4

- After setting, SDBB indicator will illuminate.

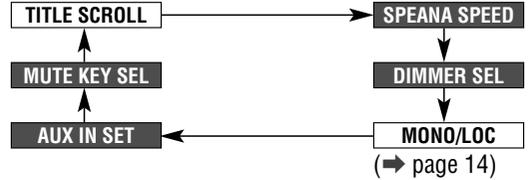
Other Setting



1 Select the Item

SEL: Press and hold for more than 2 seconds and then press again

(※) (⇒ page 31)



Other Setting

Spectrum Analyzer Speed

Default : SPEANA FAST

Select

SPEANA SPEED

Dimmer

Default : MID (When side-marker lamp is on)
HIGH (When side-marker lamp is off)

Select

DIMMER SEL

Excluding AUX-IN from Source Selection

Default : ON

Select

AUX IN SET

Mute/ATT (Attenuator)

Decreasing range by pressing **MUTE** button can be selected.

Default : Mute

Select

MUTE KEY SEL

2 Set



Notes:

- If no keys have been pressed for more than 10 seconds, the display returns to the normal operation mode.
- To return to the normal operation mode.



(※): The Title scroll function is designed for an MD changer (in future use).

FAST : Faster

SLOW : Slower

Example:

SPEAKER FAST

LOW

Darker

MID

Medium

HIGH

Brighter

- Display brightness with the side-marker lamps on or off can be set.

Note: Be sure to connect the illumination lead. (→ page 36)

Example:

DIMMER MID

ON

: External input (AUX-IN) is selectable as a source.

OFF

: External input (AUX-IN) is not selectable as a source.

Example:

AUX IN ON

MUTE

: No sound

ATT

: Decrease to 1/10

Example:

MUTE KEY

Installation Guide



WARNING

This installation information is designed for experienced installers and is not intended for non-technical individuals. It does not contain warnings or cautions of potential dangers involved in attempting to install this product.

Any attempt to install this product in a motor car by anyone other than qualified installer could cause damage to the electrical system and could result in serious personal injury or death.

Overview

This product should be installed by a professional. However, if you plan to install this product yourself, your first step is to decide where to install it. The instructions in these pages will guide you through the remaining steps: **(Please refer to the “WARNING” statement above).**

- Identify and label the car wires.
- Connect the car wires to the wires of the power connector.
- Install the unit in the dashboard.
- Check the operation of the unit.

If you encounter problems, please consult your nearest professional installer.

Caution: This unit operates with a 12 volt DC negative ground auto battery system only. Do not attempt to use it in any other system. Doing so could cause serious damage.

Before you begin installation, look for the items on the right which are packed with your unit.

- **Installation Hardware** Needed for in-dash installation

Installation Hardware

No.	Item	Q'ty
①	Binding-Head Screws (5 mmφ × 8 mm)	4
②	Flat-Head Screws (5 mmφ × 8 mm)	8

Required Tools

You'll need a screwdriver, a 1.5 volt AA battery, and the following:

12 V DC
Test Bulb



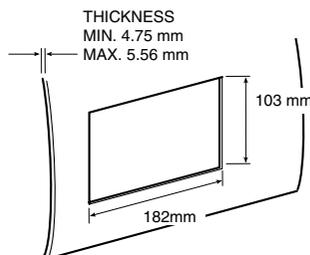
Electrical
Tape



Side-Cut
Pliers



Dashboard Specifications



☐ Identify All Leads

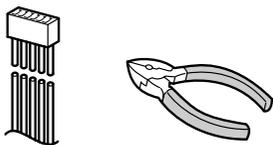
The first step in installation is to identify all the car wires you'll use when hooking up your sound system.

As you identify each wire, we suggest that you label it using masking tape and a permanent marker. This will help avoid confusion when making connections later.

Note: Do not connect the power connector to the stereo unit until you have made all connections. If there are no plastic caps on the stereo hooking wires, insulate all exposed leads with electrical tape until you are ready to use them. Identify the leads in the following order.

Power Lead

If your car has a radio or is pre-wired for one :
Cut the connector wires one at a time from the plug (leaving the leads as long as possible) so that you can work with individual leads.



Turn the ignition on to the accessory position, and ground one lead of the test bulb to the chassis.

Touch the other lead of the test bulb to each of the exposed wires from the cut radio connector plug. Touch one wire at a time until you find the outlet that causes the test bulb to light.

Now turn the ignition off and then on. If the bulb also turns off and on, that outlet is the car power lead.

If your car is not wired for an audio unit :
Go to the fuse block and find the fuse port for radio (RADIO), accessory (ACC), or ignition (IGN).

Battery Lead

If your stereo unit has a yellow lead, you will need to locate the car's battery lead. Otherwise you may ignore this procedure. (The yellow battery lead provides continuous power to maintain a clock, memory storage, or other function.)

If your car has a radio or is pre-wired for one:
With the ignition and headlights off, identify the car battery lead by grounding one lead of the test bulb to the chassis and checking the remaining exposed wires from the cut radio connector plug.

If your car is not wired for an audio unit :
Go to the fuse block and find the fuse port for the battery, usually marked BAT.

Speakers

Identify the car speaker leads. There will be two leads for each speaker, usually color coded.

A handy way to identify the speaker leads and the speaker they connect with is to test the leads using a 1.5 volt AA battery as follows.

Hold one lead against one pole of the battery and stroke the other lead across the other pole. You will hear a scraping sound in a speaker if you are holding a speaker lead.

If not, keep testing different lead combinations until you have located all the speaker leads. When you label them, include the speaker location for each.

Antenna Motor

If your car is equipped with an automatic power antenna, identify the car motor antenna lead by connecting one bulb tester lead to the car battery lead and touching the remaining exposed wires from the cut radio connector plug one at a time. You will hear the antenna motor activate when you touch the correct wire.

Antenna

The antenna lead is a thick, black wire with a metal plug at the end.

Installation Guide (continued)

❑ Connect All Leads

Now that you have identified all the wires in the car, you're ready to begin connecting them to the stereo unit wires. The connection diagram (➔ Page 36 to 38) shows the proper connections and color coding of the leads.

We strongly recommend that you test the unit before making a final installation.

You can set the unit on the floor and make temporary connections to test the unit. Use electrical tape to cover all exposed wires.

Important: Connect the red power lead last, after you have made and insulated all other connections.

Ground

Connect the black ground lead of the power connector to the metal car chassis.

Speakers

Connect the speaker wires. See the wiring diagram below for the proper hookups. Follow the diagram carefully to avoid damaging the speakers and the stereo unit.

The speaker used must be able to handle more than 41 W of audio power. If using an optional audio power, the speakers should be able to handle the maximum amplifier output power. Speakers with low input ratings can be damaged.

Speaker impedance should measure 4 - 8 Ω , which is typically marked on most speakers. Lower or higher impedance speakers will affect output and can cause both speaker and stereo unit damage.

CAUTION : Never ground the speaker cords. For example, do not use a chassis ground system or a three-wire speaker common system. Each speaker must be connected separately using parallel insulated wires. If in doubt about how your car's speakers are wired, please consult with your nearest professional installer.

Motor Antenna

Connect the car motor antenna lead to the blue motor antenna relay control lead.

Battery

Connect the yellow battery lead to the correct radio wire or to the battery fuse port on the fuse block.

Antenna

Connect the antenna by plugging the antenna lead into the antenna receptacle.

Equipment

Connect any optional equipment such as an amplifier, according to the instructions furnished with the equipment. Leave about 30 cm of distance between the speaker cords/amplifier unit and the antenna/antenna extension cord. Read the operating and installation instructions of any equipment you will connect to this unit.

Power

Connect the red power lead to the correct car radio wire or to the appropriate fuse port on the fuse block.

If the stereo unit functions properly with all these connections made, disconnect the wires and proceed to the final installation.

Illumination

1. Connect to light switch, the control button are illuminated.
2. Can not find the light switch, connect the illumination lead (orange with white stripe) to accessory (ACC).

❑ Final Installation

Lead Connections

Connect all wires, making sure that each connection is insulated and secure. Bundle all loose wires and fasten them with tape so they won't fall down later.

Congratulations! After making a few final checks, you're ready to enjoy your new auto stereo system.

Connect the power cord after completion of other connections to prevent shortings.

❑ Final Checks

1. Make sure that all wires are properly connected and insulated.
2. Turn on the ignition to check the unit for proper operation.

If you have difficulties, consult your nearest authorized professional installer for assistance.

❑ Precautions

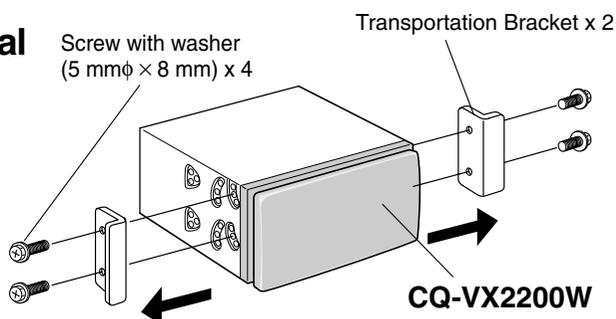
- We strongly recommend that you wear gloves for installation work to protect yourself from injuries.
- When bending the mounting tab of the mounting collar with a screwdriver, be careful not to injure your hands and fingers.

Transportation bracket removal

Be sure to remove the bracket for transportation before use (installation).

※Use screws (5 mm φ x 8 mm) with washers for installation.

Be careful not to lose any of these parts.



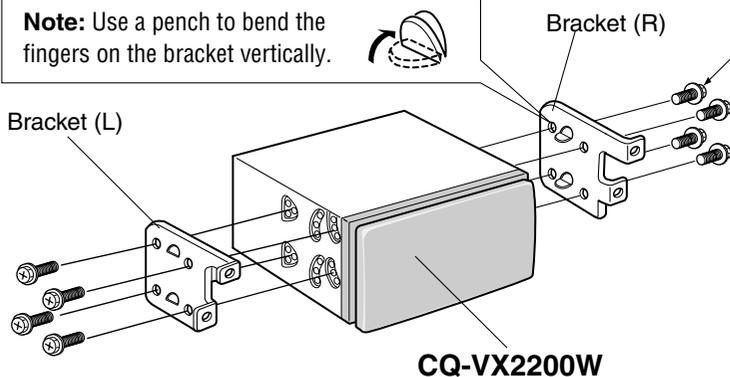
Note:

- The screw holes on the right side are not tapped. Please only use screws provided to mount the unit.
- To tighten the screws, press its head down straight forward.

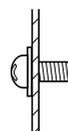
❑ Typical Installation (For vehicle with double-DIN size)

1. Remove Car radio or little object box from the vehicle and the stopping brackets.
2. Use the appended screws ① or ② to install the brackets on this unit.
3. Install this unit into the vehicle.

Note: Use a pencil to bend the fingers on the bracket vertically.



Appended Screws (① or ②).
Select appropriate ones matching the hole shape of the bracket.



- ① Binding-Head Screw x 8 (5 mm φ x 8 mm)



- ② Flat-Head Screw x 8 (5 mm φ x 8 mm)

Note: Binding-Head screws (5 mm φ x 8) ① are appended four pieces, the other four pieces are fixed on the transportation bracket. [Screw with washer (5 mm φ x 8 mm)]

- If a special kit (option) is necessary for a certain year's, model or grade of vehicle, please consult your dealer.
- For electrical connecting simply to your vehicle, you can buy a prepared power connector from your dealer.

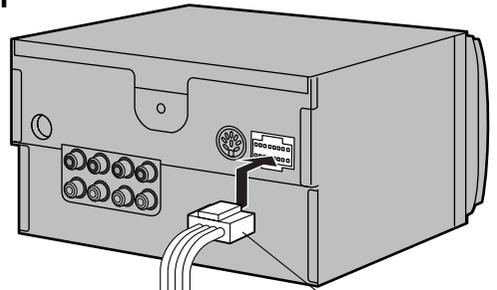
❑ Installation for except for the above motors

For general use kit (option) or motor's special kit (option), Please consult your dealer.

Electrical Connections

Wiring Diagram

**CD/Cassette Receiver
CQ-VX2200W**



Power Connector

Front Speaker Lead

Rear Speaker Lead

Antenna Control Cord

To the auto antenna control power cord of the car (Max. 0.1 A)

Illumination Lead

To the power line connected to the side marker lights of the car

External Amplifier Control Power Lead

To an external amplifier (Max. 0.1 A)

ACC Power Lead

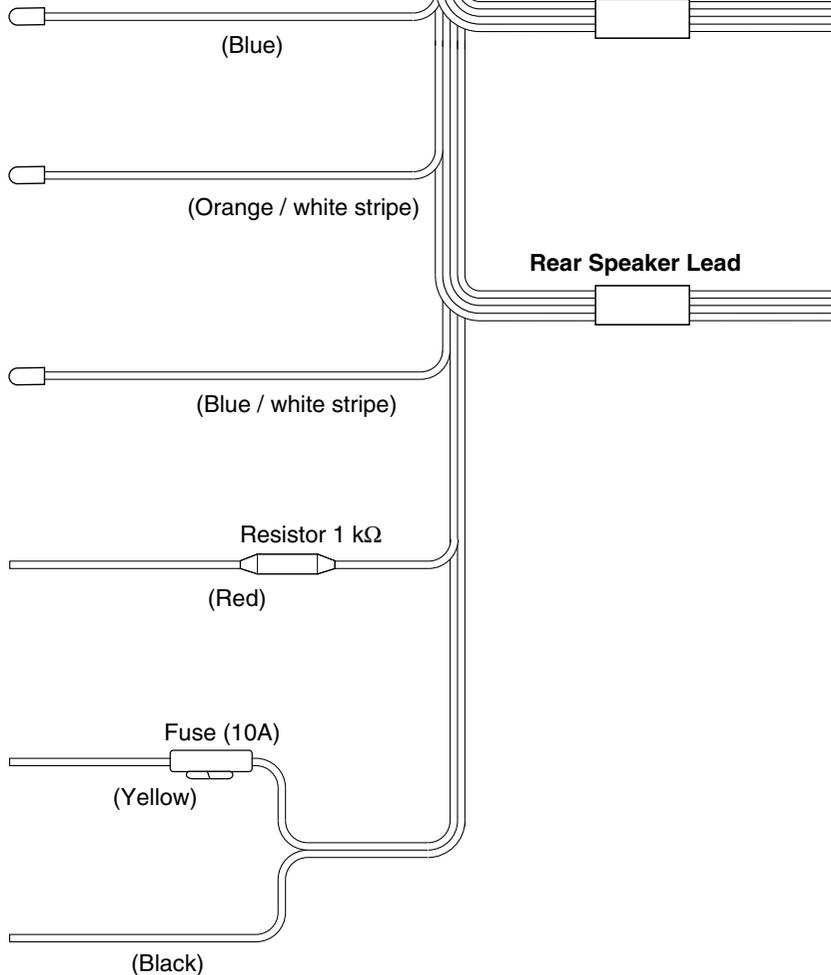
To ACC power, +12V DC

Battery Lead

To the car battery, continuous +12V DC

Ground Lead

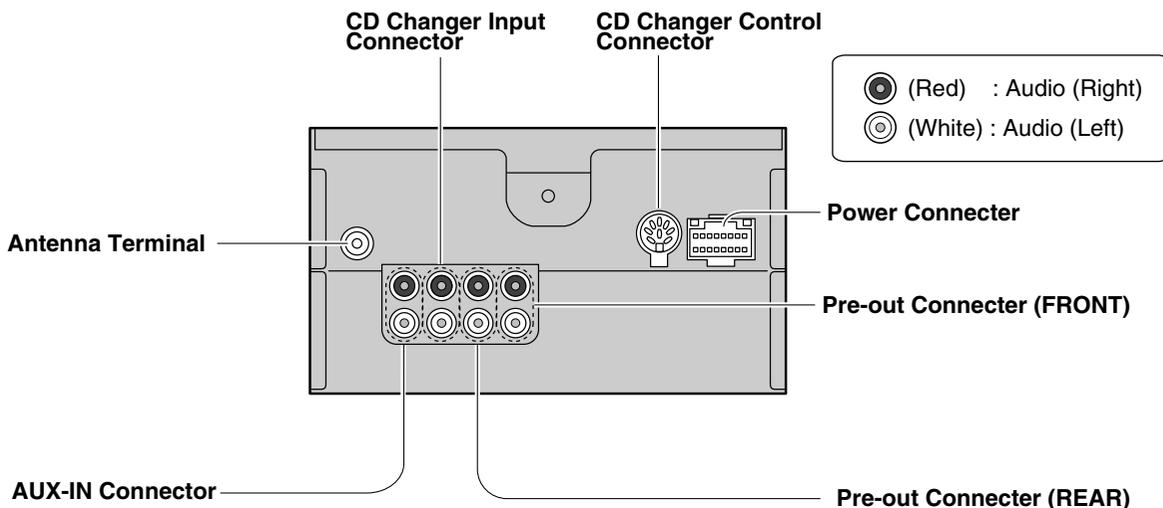
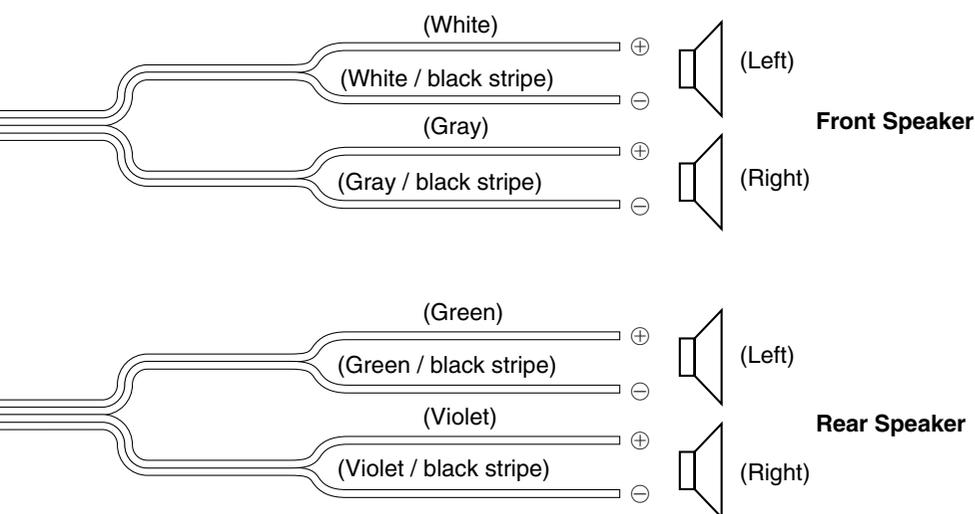
To a clean, bare metallic part of the car chassis



Note: If your car does not have a power line connected to the side marker lights of the car, leave the illumination lead disconnected.

Cautions:

- This product is designed to operate off a 12 V DC, negative ground battery system.
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove approx. 5 mm of protective covering from the ends of the leads before connecting.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.
- Remember, if your car has a drive computer or a navigation computer, the data of its memory may be erased when the battery terminals are disconnected.
- Connect the power cord after completion of other connections to prevent shortings.

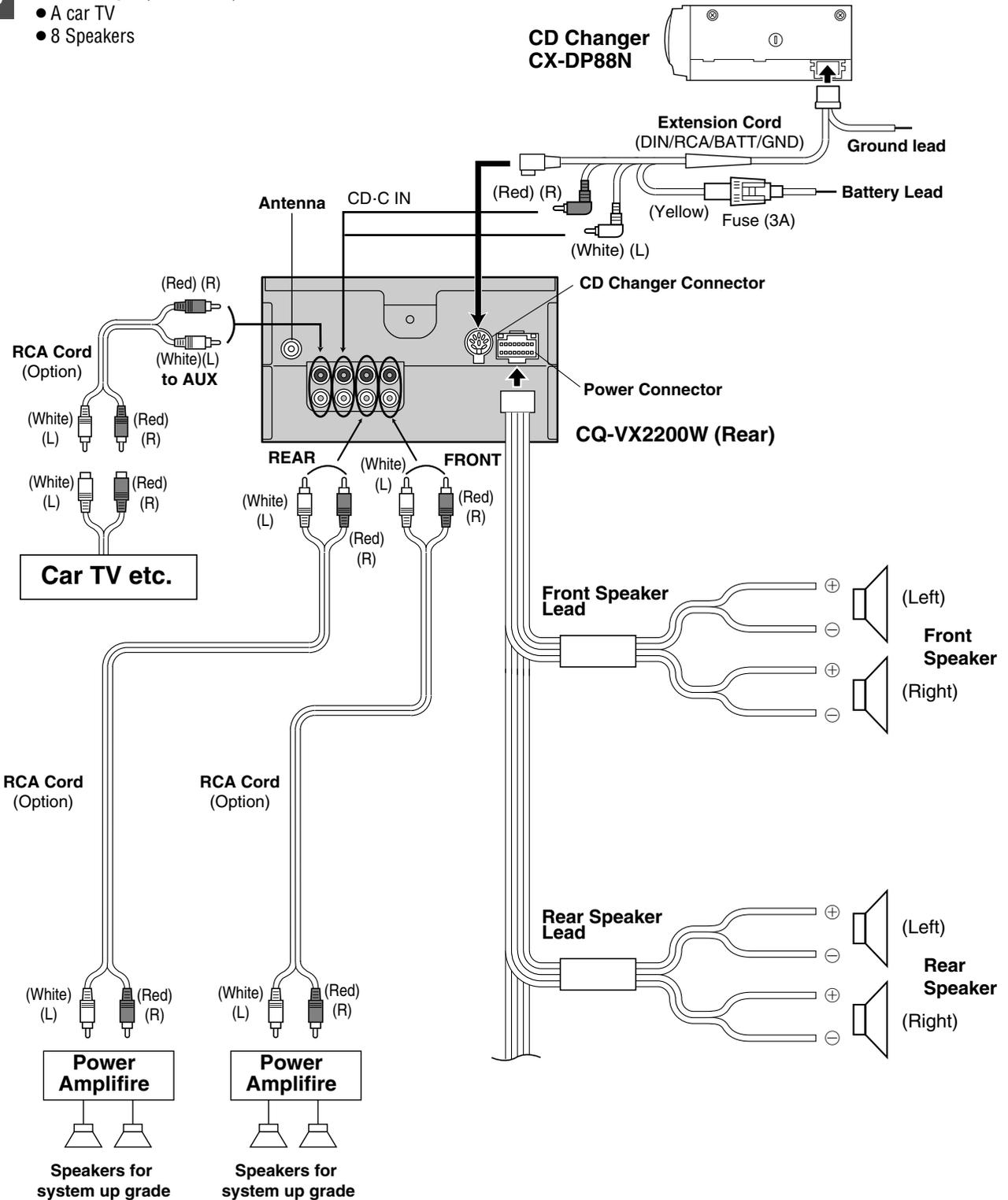


Electrical Connections (continued)

System Upgrade Example

Combination

- CD changer (CX-DP88N)
- A car TV
- 8 Speakers



Troubleshooting

Preliminary Steps

Check and take steps as described in the tables below.

If You Suspect Something Wrong

Immediately switch power off.

Disconnect the power connector and check that there is neither smoke nor heat from the unit before asking for repairs. Never try to repair the unit yourself because it is dangerous to do so.

Cautions:

- Do not use the unit if it malfunctions or something is wrong.
- Do not use the unit in abnormal conditions, for example, without sound, or if it emits smoke or a foul smell, which can cause ignition or electric shock. Immediately stop using the unit and call the store where you purchased it.

Common

Trouble	Cause / Step
No power	Car's engine switch is not on. → Turn your car's ignition switch to ACC or ON.
	Cables are not correctly connected. → Connect cables correctly.
	Battery cable is not correctly connected. → Connect the battery cable to the terminal that is always live.
	Accessory cable is not correctly connected. → Connect the accessory cable to your car's ACC source.
	Grounding wire is not correctly connected. → Connect the grounding wire to a metal part of the car.
	Fuse is burnt. → Call the store where you purchased the unit, or your nearest Panasonic Service Center and ask for fuse replacement.
No sound	Mute is set to ON. → Set it to OFF.
	Cables are not correctly connected. → Connect cables correctly.
	Condensation (dew) → Wait for a while before use.
Noise	A mobile phone is used near the unit. → Keep the mobile phone away from the unit.

Troubleshooting (continued)

Radio

Trouble	Cause / Step
Much noise in FM stereo and monaural broadcasts	Station is too far, or signals are too weak. ➔Select other stations of higher signal level.
	The radio antenna is not extended enough. ➔Extend the radio antenna enough.
	The motor antenna relay control lead is not connected correctly. ➔ If there is a motor antenna in the car, connect the motor antenna relay control lead to the motor antenna lead that is installed in the car correctly.
Preset station is reset.	Battery cable is not correctly connected. ➔Connect the battery cable to the terminal that is always live.

CD

Trouble	Cause / Step
CD is in the CD compartment but no sound is made, or CD is ejected automatically.	CD is upside down. ➔Place CD in the correct direction with the label side up.
	CD is dirty. ➔Clean CD, referring to the section on Notes on CD.
CD sound skips, tone quality is low.	CD is dirty. ➔Clean CD, referring to the section on Notes on CD.
Sound skip due to vibration	Mounting angle is over 30 degrees. ➔Adjust mounting angle to less than 30 degrees.
	Unstable mounting ➔Mount the unit securely with the mounting parts, referring to the section on Installation.
CD is not ejected.	<ul style="list-style-type: none"> ● CD is defective. ● Mechanical trouble ➔Open the panel and press [▲] (CD EJECT). If failure persists, press the reset switch. If normal operation is not restored, call the store where you purchased the unit or the nearest Panasonic Service Center to ask for repairs.

Cassette Tape

Trouble	Cause / Step
No sound	Blank tape is inserted in the unit. ➔Insert recorded tape into the unit.
Tape sound quality is poor.	Heads are dirty. ➔Clean Heads. (Ask a service representative for advice.)
	Poor quality tape. ➔Use better quality tape.

■ Cassette Tape (continued)

Trouble	Cause / Step
High tones are improperly emphasized.	Dolby B NR tape plays with Dolby B NR off. →Set Dolby B NR to ON.
Reproduction of high tones is poor.	Metal type tape plays with normal mode. →Change Normal mode to Metal mode.
	Non-Dolby B NR tape plays with Dolby B NR on. →Set Dolby B NR to OFF.
	Normal type tape plays with Metal mode. →Change Metal mode to Normal mode.
Wow and flutter is very high.	Heads are magnetized. →Demagnetize heads. (Ask a service representative for advice.)
	Tape running mechanism is dirty or out of order. →Clean tape running mechanism, or repair it. (Ask a service representative for advice.)

■ Sound Setting

Trouble	Cause / Step
No sound from left, right, front, or rear speaker	Left and right balance, or front and rear balance is off on one side. →Adjust BAL//FAD as appropriate.
Left and right sounds are reversed in stereo listening.	Cables are not correctly connected. →Connect the cables correctly.
	The right speaker wire is connected to the left speaker and the left speaker wire to the right speaker. →Connect the speaker wires to the correct one.
Only bass or monaural sound from rear speaker	SBC-SW is set to ON. →Set SBC-SW to OFF.

■ Remote Control

Trouble	Cause / Step
Buttons are invalid for operation.	Battery poles (+) (-) are reversed. →Insert the battery correctly.
	Wrong battery. →Check the battery.
	Battery has run down. →Replace the battery.
	Remote control is in the wrong direction. →Direct the remote control at sensor (REMOTE) on the panel.

Troubleshooting (continued)

Error Display Messages

■ CD

Display	Cause / Step
CD – E1 –	Disc is dirty, or is upside down. → Open the panel and press [▲] (CD EJECT) button. Check disc.
CD – E2 –	Disc has scratches. → Open the panel and press [▲] (CD EJECT) button. Check disc.
CD – E3 –	No operation by some cause. → Open the panel and press [▲] (CD EJECT) button. If failure persists, press the reset switch. If normal operation is not restored yet, call the store where you purchased the unit or the nearest Panasonic Service Center to ask for repairs.
⊖ PLS EJECT	Action was taken to start playing before disc is fully ejected. → Open the panel and press [▲] (CD EJECT) button.

■ Cassette Tape

Display	Cause / Step
⊕⊕ PLS EJECT	No operation by some cause. → Open the panel and press [▲] (CST EJECT) button.

■ CD Changer

Display	Cause / Step
CD CH – E1 –	Disc is dirty, or is upside down. → Select the next available compact disc. Check disc.
CD CH – E2 –	Disc has scratches. → Select the next available compact disc. Check disc.
CD CH – E3 –	No operation by some cause. → Eject the magazine. If failure persists, press the reset switch. If normal operation is not restored yet, call the store where you purchased the unit or the nearest Panasonic Service Center to ask for repairs.
NO DISC	No disc in the changer (magazine) → Insert discs into the changer (magazine).

Maintenance

Your product is designed and manufactured to ensure a minimum of maintenance. Use a dry soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvents.

Product Servicing

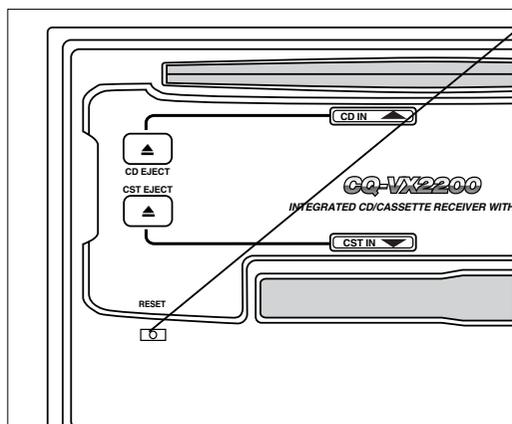
If the suggestions in the charts do not solve the problem, we recommend that you take it to your nearest authorized Panasonic Service Center. The product should be serviced only by a qualified technician.

Replacing the Fuse

Use fuses of the same specified rating (10 amps). Using different substitutes or fuses with a higher rating, or connecting the product directly without a fuse, could cause fire or damage to this unit.

If the replacement fuse fails, contact your nearest Panasonic Service Center for service.

Reset Switch



Reset switch

Insert a hard, slender stick into the hole and push the switch. The unit returns to the default state when the trouble is reset. Remember, the data and settings stored in the memory are deleted.

Important

Push the switch only when the unit fails to operate with any buttons. If the unit fails to return to normal condition, call the nearest Panasonic Service Center and ask for repairs.

Maintenance

Care of the Unit

Cleaning this unit

Use a dry, soft cloth to wipe.

Caution on cleaning

Never use solvents such as benzine, thinner as they may mar the surface of the unit.

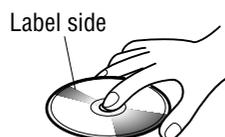
Notes on CD

ONLY USE DISCS CARRYING THE LABEL



How to hold the CD

- Do not touch the underside of the disc.
- Do not make scratches on the disc.
- Do not bend disc.
- When not in use, keep CD in the case.



Do not use irregularly shaped CDs

Do not leave discs in the following places:

- Direct sunlight
- Near car heaters
- Dirty, dusty and damp areas
- Seats and dashboards



Disc Cleaning

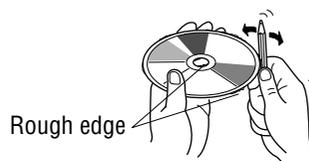
Use a dry, soft cloth to wipe from the center outward.



Caution on New Discs

A new disc may have rough edges on its inner and outer perimeter. These may cause malfunction.

Remove the rough edges using a pencil, etc.

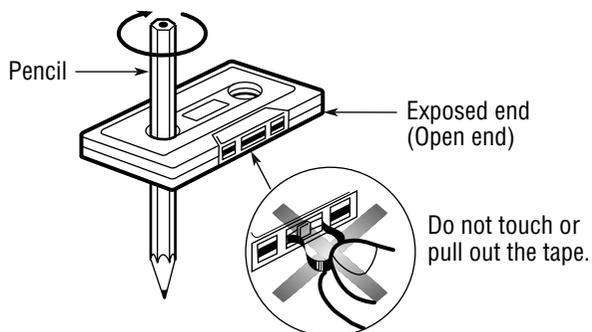


* Refer to page 17 as to CD-Rs.

Notes on Cassette Tape

Tape Slack:

Use a pencil or similar object to take up the slack as shown. If a loose tape is used, this may result in the tape becoming tangled in the rotating parts of the unit.



Specifications

General

Power Supply	: 12 V DC (11 V - 16 V), test voltage 14.4 V, negative ground
Current Consumption	: Less than 8.5 A (CD play mode)
Rated Output	: 16 W x 4 ch (1 kHz, 1%, 4 Ω)
Maximum Power Output	: 41 W x 4 ch
Suitable Speaker Impedance	: 4 Ω
Audio Input Impedance	: 10 k Ω (AUX IN)
Audio Input Voltage	: 2 V (AUX IN)
Pre-out Output Voltage	: 2 V
Pre-out Output Impedance	: 600 Ω
Dimensions (W x H x D)	: 178 x 100 x 160 mm
Weight	: 2.4 kg

DSP

Number of Channels	: 2 input channels, 4 output channels
Space mode	: 7 mode
Equalizer Center Frequency	: 80, 160, 320, 640, 1.6 k, 4 k, 10 k (Hz)
Variable Range of Equalizer	: -12 to +12 dB (13 steps)

FM Stereo Radio

Frequency Range	: 87.5 - 108 MHz
Usable Sensitivity	: 12 dBf.
Total harmonic distortion (mono)	: 0.3 % (1 kHz)
Weighted S/N ratio (mono)	: 60 dB
Frequency Response	: 20 Hz - 15 kHz (\pm 3 dB)
Stereo Separation	: 42 dB (at 1 kHz)
Image response ratio	: 75 dB

AM Radio

Frequency Range	: 531 kHz - 1,602 kHz
Usable Sensitivity	: 27 dB/ μ V
Image response ratio	: 65 dB

CD Player

Channel	: 2 channels
Quantization	: 16-bit liner
Frequency Response	: 5 Hz - 20 kHz
Dynamic range	: 90 dB (IHF, A)
Wow and Flutter	: Below measurable limits

Cassette Tape Player

Reproduction system	: 4-track, 2-program stereo
Tape Speed	: 4.76 cm/sec
Fast Forward Time	: 100 sec (C-60)
Rewind Time	: 100 sec (C-60)
Wow and Flutter	: 0.07 % (WRMS)
Signal/Noise Ratio	: Dolby B NR OFF 56 dB (IHF, A) Dolby B NR ON 66 dB (IHF, A)
Frequency Response	: 30 to 18,000 Hz (normal tape) 30 to 20,000 Hz (metal tape)

Note : Specifications and the design are subject to modification without notice due to improvements in technology.

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

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