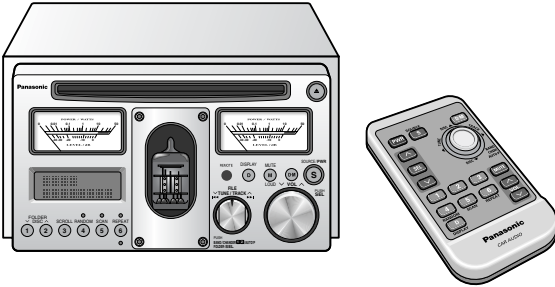


Panasonic®

AM/FM MP3 CD Receiver

Operating Instructions CQ-TX5500W



MP3



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

Safety Information

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.

WARNING:

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

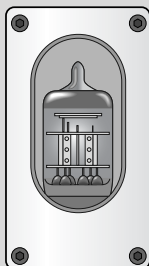
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, AND ANNOYING INTERFERENCE, USE ONLY THE INCLUDED COMPONENTS.

WARNING:

Never remove the electron tube.

- Disassembly and modification may cause machine trouble, burn, electric shock or injury. Do not disassemble or modify the product. Otherwise, the product may be out of order, or operators concerned may be burned, electrically shocked or injured. Refer repairs to the dealer where you purchased the product.

Never repair the product by yourself.



- Do not remove or even loosen the screws on the panel.

Contents

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Please refer to page 64 for clock adjustment.

If necessary

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Special care of this unit

For connecting to other devices:

- Read the instructions for each device carefully and follow them for proper use.

For the use of a mobile phone:

- A noise may occur because of the position or direction of a mobile phone. Keep the phone away from the unit as much as possible.

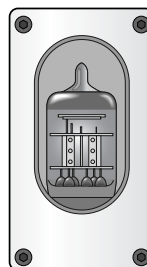
Unit handling

Use the unit only in the car-mounted way.

- If you use the unit outdoors or in a pleasure boat, the unit may be out of order, or you may be electrically shocked or injured.

Never remove the electron tube.

- Disassembly and modification may cause machine trouble, burn, electric shock or injury. Refer repairs to the dealer where you purchased the product. Never repair the product by yourself.



Do not remove or even loosen the screws on the panel.

Escape clauses

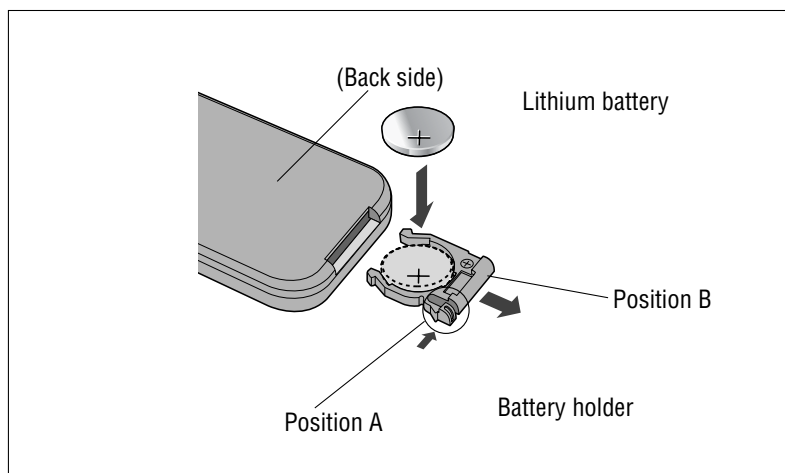
- Panasonic shall have no liability for any damages caused by a fire, an earthquake, an act by a third party, an accident or use of the unit under abnormal conditions resulted from user's intention, negligence, improper use, etc.
- Panasonic shall have no liability for any consequential damages whatever arising out of use of or inability to use the unit. (Ex. loss of revenue, change and disappearance of recorded information, etc.)
- The supplied guarantee card is not applicable when the unit is installed in a car that is used for commercial purpose (such as a bus, a taxi, a commercial car, etc.).

• Operating Instructions	1
• Supplied Hardware	1 set (→ Page 72)
• Remote Control Unit	1
• Lithium Battery (CR2025)	1
• Warranty Card	1

Remote Control Preparation

Battery Installation

1. Remove the battery holder.
Pull the holder out at position B while pushing position A as indicated.
2. Install the battery on the battery holder.
Place the battery in the holder with its (+) side upwards as shown.
3. Insert the battery holder.
Push in the battery holder back into its original position.



Battery Notes

Remove and dispose of an old battery immediately.

Battery Information:

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

Caution: Improper use of batteries may cause overheating, an explosion or 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.
- Follow local regulations when disposing of batteries.

Names and Functions

Main unit

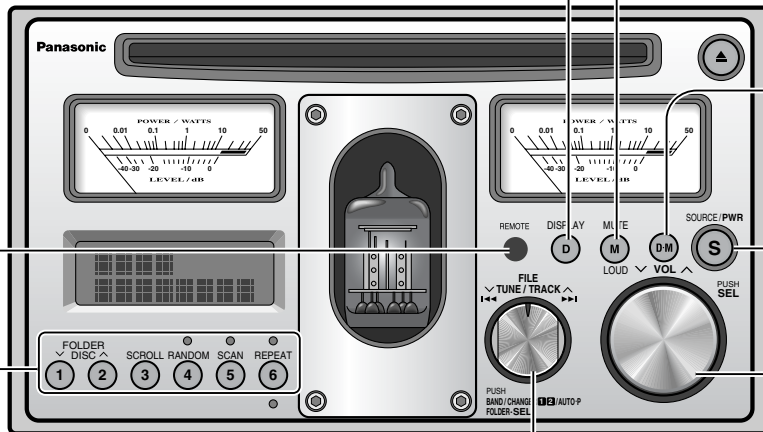
Display

- Display switching
- Establishment of user setting mode / item selection

MUTE, LOUD

- Muting
- Bass and treble emphasis at low-volume levels (Loudness)

REMOTE (Remote control sensor)



1 - 6

- Station presetting / station call (PRESET)
- Disc selection (DISC) [1, 2]
- Folder selection (FOLDER) [1, 2]
- Title scrolling (SCROLL) [3]
- Random play (RANDOM) [4]
- Scan play (SCAN) [5]
- Repeat play (REPEAT) [6]

Selection key

TUNE / FILE, TRACK

- Frequency / track / file selection
- Folder selection (in the folder selection mode)
- Setting and adjustment (in the user setting mode)



Turn

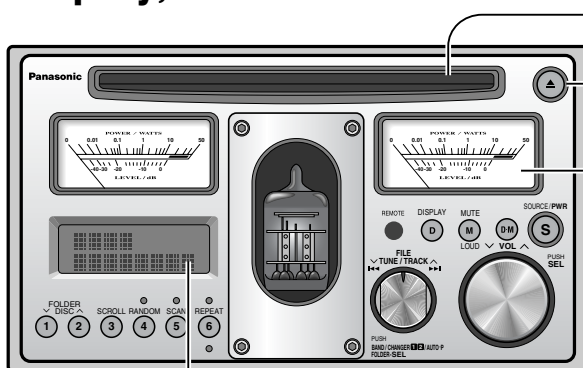
BAND, CHANGER 1 2*, AUTO•P FOLDER SEL

- Band selection
 - Auto station search and registration
 - Establishment of folder selection mode / confirmation
- * in future use



Press

Display, Disc slot



CD slot

- ▲ CD ejection

Twin analog meters

Input level / output power meter
You can choose which the meter indicates, input level or output power. (page 65)

Level meter (bottom scale)

Power meter (top scale)

The pointer of the meter is sensitive even at low-volume levels. (Pointer movement has nothing to do with the volume.)

The pointer moves in accordance with the volume level.

Display

Refer to "Wiring Connections" for the terminals on the rear.

(pages 74 - 77)

D•M (Direct Memory)

- Listening to your favorite stations
- Registration of favorite stations

PWR, SOURCE

- Power on / off
- Sound source switching

Level control

VOL

- Volume adjustment
- Sound quality adjustment (in the tone control mode)



SEL

- Tone control selection
- Clearance of all settings and adjustments (memory clearance)



Warnings

- Do not remove or even loosen the screws on the panel.
- Do not turn the Selection key forcibly.

Note:

- The application of meter readings is not for measurements but only for guidelines.

Remote control

Operate the remote control aiming it at the remote control sensor.

Joystick key

TUNE / (FILE) , TRACK ◀ ▶

- Frequency / track / file selection
- Folder selection (in the folder selection mode)
- Setting and adjustment (in the user setting mode)

Right / Left

DISC / (FOLDER)

- Disc / folder selection

Up / Down

BAND, CH 1 2*, AUTO•P FOLDER SEL

- Band selection
- Auto station search and registration
- Establishment of folder selection mode / confirmation

Press

* in future use

MUTE, (LOUD)

- Muting
- Bass and treble emphasis at low-volume levels (Loudness)

VOL

- Volume adjustment

D•M (Direct Memory)

- Listening to your favorite stations
- Registration of favorite stations

SOURCE

- Sound source switching

PWR

- Power on / off

SEL

- Tone control selection
- Clearance of all settings and adjustments

DISPLAY

- Display switching
- Establishment of setting mode / item selection (user setting)

1 - 6

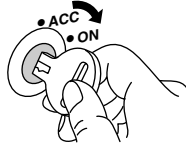
- Station presetting / station call (PRESET)
- Random play (RANDOM)[4]
- Scan play (SCAN)[5]
- Repeat play (REPEAT)[6]

Power/Basic Operation

Preparation

Start the engine.

(Or turn the key in the ignition to the ACC ON position.)



Turn the power on / off.

SOURCE/PWR

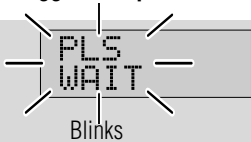


- **ON:** Press
- **OFF:** Hold down 1 sec. or more

PWR

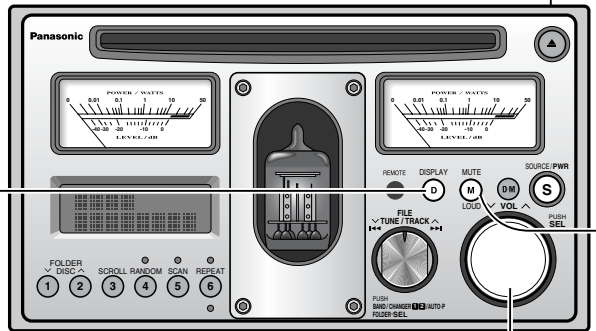
on the remote control toggles the power on and off.

Playback of a CD / MP3 starts after the electron tube warms up. Wait for a while (approx. 15 sec.)



Notes:

- Inserting a disc into the slot or a disc magazine into the CD changer turns on the power and starts playback.
- Ejecting the playing disc or the active disc magazine turns off the power.



Adjust the volume.



- The volume level changes on the mode basis because every mode (AM mode and FM mode in the radio mode) has its own volume level. (intelligent volume)

Adjustable range: 0 dB to -79 dB, -∞ dB
max. min. (silence)

Switch the display.

DISPLAY

Press D

Notes:

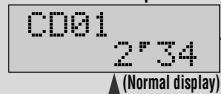
- The display varies with sound sources.
- Refer to page 64 for clock adjustment.

*1 Absolute title No.: File numbers assigned to all in the disc.

*2 Relative title No.: File numbers assigned to all in the currently playing folder.

Ex.) For a music CD

Track No. and elapsed time



Clock ("ADJUST" is displayed until adjusting it.)



Disc title



Track title



Ex.) For an MP3

Absolute title No.*1 and elapsed time



Clock ("ADJUST" is displayed until adjusting it.)



Folder No. and relative track No.*2



Folder title



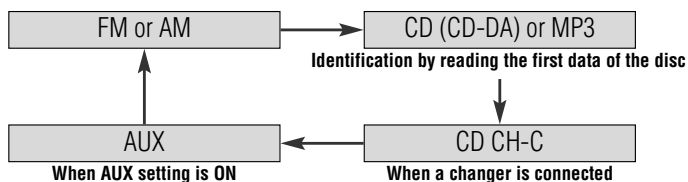
File title



Select a sound source.

SOURCE / PWR

Press **S** to change the sound source.

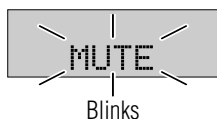


Note:

- "AUX" can be skipped when an external audio input (AUX) is not used. (☞ page 65)

Reduce the volume level to zero. (mute)

Press **M** ("MUTE" is canceled by pressing again.)



Emphasize Bass and treble at low-volume levels (loudness).

Hold down **M** for 2 sec. or more.

("LOUD" is canceled by holding down for 2 sec. or more again.)

- The LOUD indicator lights up when Loudness is set to ON.



The clock is active even when the power is turned off.

OFF: No display

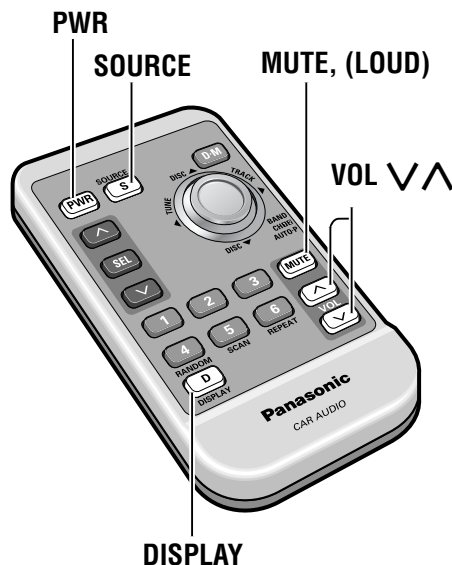
Clock ("ADJUST" is displayed until adjusting it.)



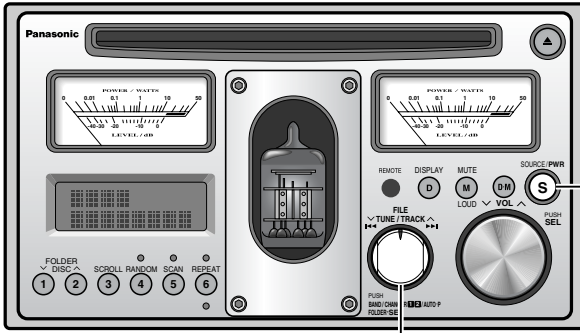
Title display

- Up to 8 alphanumeric characters can be displayed. (Up to 48 alphanumeric characters can be displayed by scrolling them.) (☞ pages 55 and 58)
- Some languages such as Hankul character and some symbols cannot be displayed. They may be a blank space or become garbled.
- CD text (title information recorded on the disc) is displayed in the CD mode.
* CD text cannot be displayed in the CD changer mode.

Refer to page 59 for the folder title and the file title of MP3.

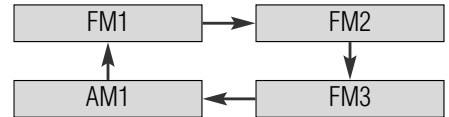


Radio



1 Press **S** to select the radio mode (FM / AM).

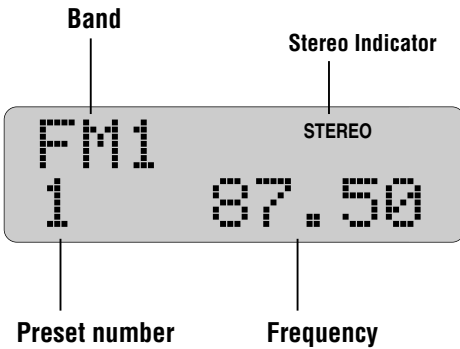
2 Press  to select Band.



3 Turn  to select a station.

For auto seeking, keep on turning the switch for 0.7 sec. or more.

- Then release, seeking will start. Seeking will stop when a station is received.



Notes:

- The stereo indicator lights during reception of an FM stereo broadcast.
- This indicator does not support AM stereo broadcast.

Station Preset

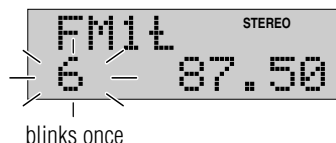
Up to 6 stations can be stored in each of the FM1, FM2, FM3 and AM band selections.

Manual Preset Memory

Manually save a station in the preset memory.

Select a band and frequency (step ① to ③ on the previous page)
Hold down ① to ⑥ for 2 sec. or more to memorize.
(Preset button)

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



Auto Preset Memory

Automatically save stations with good reception in the preset memory.

Select a band (step ② on the previous page)

Press  for 2sec. or more.

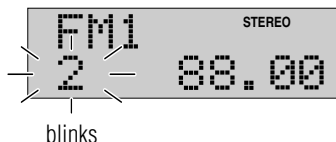
PUSH BAND / CHANGER [1-6] / AUTO-P FOLDER-SEL

- The 6 stations with good reception will be automatically saved in the memory under preset numbers 1 to 6.

Scanning is completed...

- Once set, the preset stations are sequentially scanned for 5 seconds each.

Press one of the button from ① to ⑥ for tuning in the preset station. while scanning

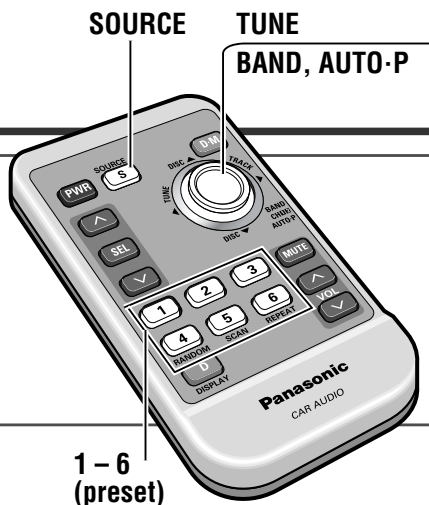


Notes:

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

Preset Station Calling

Select a band (page 52)
Press ① to ⑥
(Preset button)



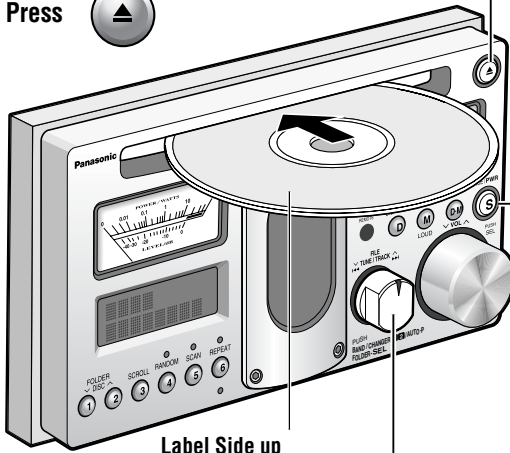
1 - 6
(preset)

CD Player

If a disc contains both CD-DA and MP3 data, only first-recorded data is played.
(It may take time until playback starts because all data is checked.)

To Eject the Disc

Press



Label Side up

Do not use a single adapter. The unit supports 8 cm CD without an adapter.

Playback starts when inserting a CD.

Make sure there is no CD loaded before inserting a CD. (There is a CD loaded during the ▲ button lighting.)

When a CD is loaded:

SOURCE / PWR

1 Press **S** to change to the CD mode.

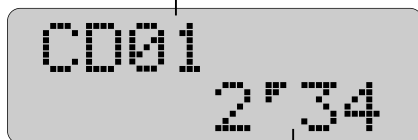
- Playback starts.

2 Turn  to select a title.

For fast forward / fast reverse, keep on turning the switch for 0.7 sec. or more.

- Fast forward / fast reverse is active during turning the switch.

Track Number



Play Time

Cautions

Refer to the section on “Notes on CD-Rs / RWs” (Page 67).

- Do not use irregularly shaped discs.
- Do not use discs that have a seal or label attached.

Notes:

- Playback of a CD / MP3 starts after the electron tube warms up. Wait for a while (approx. 15 sec.)
- Leaving the CD for approx. 30 sec. after ejecting it lets the CD come in again. (Playback starts if this happens in the CD mode.)
- CD-R / RW contents may not be played back or displayed correctly with some writing software applications, CD-recorders, or the combination of them.

Copyright

It is forbidden under the copyright law to copy, distribute or deliver a copyrighted object such as music without a copyright license except personal use. Treat CDs with due care.

Playing Mode

Random Play

RANDOM
Press **4**
Press again to cancel.

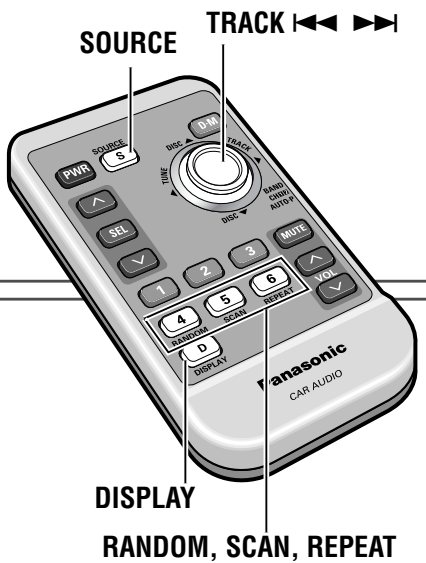
Note:

- While the RANDOM, SCAN or REPEAT play is in operation, each corresponding indicator lights up.

Scan Play
The first 10 seconds of each track play in sequence.

SCAN
Press **5**
Press again to cancel.

After scanning returns to the start point, the scan function is canceled and the same track as the one before scanning starts.



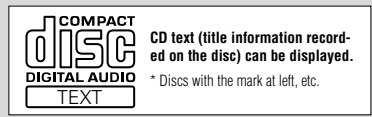
Repeat Play

REPEAT
Press **6**
Press again to cancel.

Title Information Display

DISPLAY
Press **D** to change the display. (page 50)

“NO TITLE” is displayed when there is no information.



- Notes:**
- The track display will be active by setting SCROLL to ON when the title is not displayed.
 - The display scrolls to the end and stops showing the first 8 characters if you execute display switching, source switching or disc replacement while SCROLL is set to OFF.

Refer to page 51 for title display.

Title Scrolling

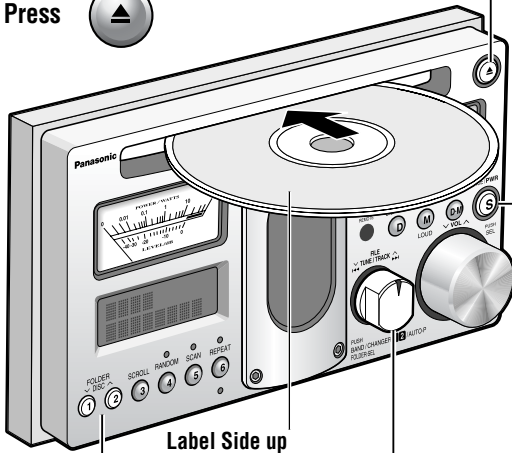
SCROLL
Press **3** on the main unit. (“SCROLL” is canceled by pressing again.)

MP3 Player

If a disc contains both CD-DA and MP3 data, only first-recorded data is played.
(It may take time until playback starts because all data is checked.)

To Eject the Disc

Press



Label Side up

Do not use a single adapter. The unit supports 8 cm CD without an adapter.

Playback starts when inserting a CD.

Make sure there is no CD loaded before inserting a CD.
(There is a CD loaded during the ▲ button lighting.)

When a CD is loaded:

SOURCE / PWR

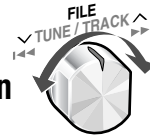
1 Press **S** to change to the MP3 mode.

- Playback starts.

2 Press **1** **2** to select a folder.



3 Turn **FILE / TRACK** to select a file.



For fast forward / fast reverse, keep on turning the switch for 0.7 sec. or more.

- Fast forward / fast reverse is active during turning the switch. (Lapse time on the display may different from real time. However, the displayed time is corrected by playing back another file.)

Normal display



Absolute title No. *1

Lapse time

Folder and file display



Folder No.

Relative title No. *2

*1 Absolute title No.: File numbers assigned to all in the disc.

*2 Relative title No.: File numbers assigned to all in the currently playing folder.

Cautions

Refer to the section on "Notes on CD-Rs / RWs" (Page 67).

- Do not use irregularly shaped discs.
- Do not use discs that have a seal or label attached.

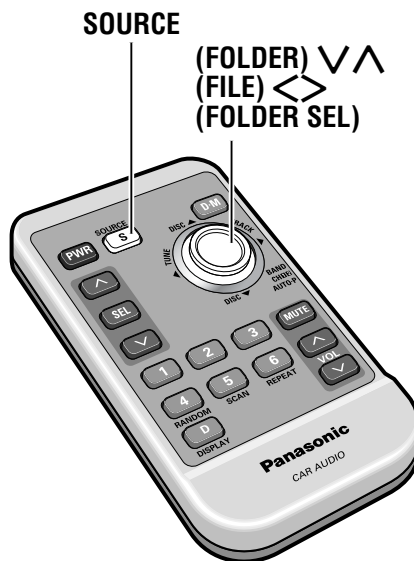
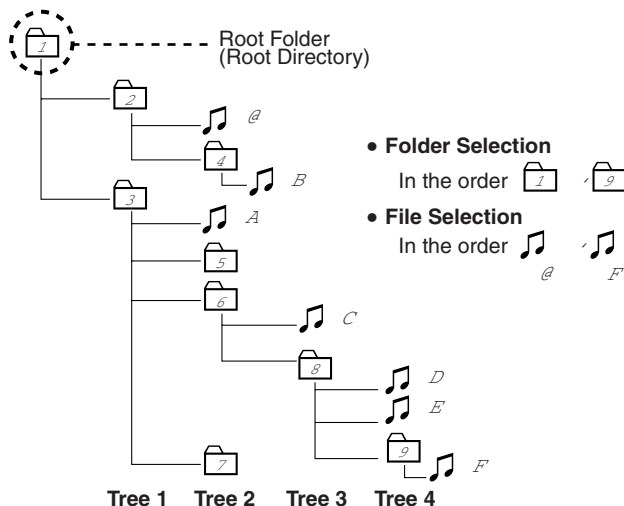
Notes:

- Playback of a CD / MP3 starts after the electron tube warms up. Wait for a while (approx. 15 sec.)
- Leaving the CD for approx. 30 sec. after ejecting it lets the CD comes in again. (Playback starts if this happens in the CD and MP3 modes.)
- When you skip folders or files forward continuously, you may hear the head part of skipped tracks.
- If turning off the ACC power of the car during playing, the lapse time on the display may become different from real one. For a file recorded with variable bit rate (VBR), playback starts from the beginning of the current track.
- The contents of a MP3 may not be played back or displayed correctly with some writing software applications, CD-recorders, or the combination of them.


Points to remember when recording an MP3 disc


Folder Selection Order / MP3 file playback order (Example)


- This unit counts the number of folders irrespective of the presence or absence of MP3 file.
- If the selected folder does not contain any MP3 files, the nearest MP3 files in the order of playback will be played.
- Playback order may be different from other MP3 players even if the same disc is used.
- "ROOT" appears when displaying the root folder's folder name.



Quick search for your favorite folder (folder selection)


- 1** Press  to select the folder selection mode.

 - "ROOT" (root folder) appears on the display.
- 2** Turn  to select a folder.

 - A folder title changes.
- 3** Press  to determine the folder.

 - The first file in the selected folder starts playing.

Notes:

- If no operation is performed for approx. 20 sec., the unit goes back to the normal mode.
- If you would like to interrupt (or go back to the normal mode), press  .

MP3 Player (continued)

Playing Mode

Random Play	All files
	Playing folder

RANDOM

Press **4**

("RANDOM" is canceled by pressing again.)



RANDOM

Hold down **4** for 2 sec. or more.

("RANDOM" is canceled by holding down for 2 sec. or more again.)

Note:

- While the RANDOM or REPEAT play is in operation, each corresponding indicator lights up.

Repeat Play	Playing file
	Playing folder

REPEAT

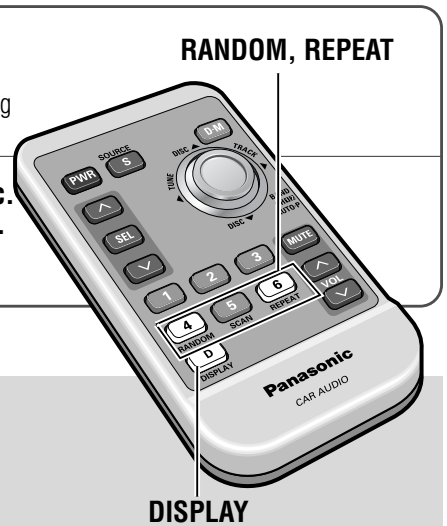
Press **6**

("Repeat" is canceled by pressing again.)

REPEAT

Hold down **6** for 2 sec. or more.

("Repeat" is canceled by holding down for 2 sec. or more again.)



Folder Title and File Title Display

Press **D** to change the display. (page 50)

If "NO TITLE" appears on the display, there is no title information recorded.

Folder Title and File Title Scrolling

Press **3** on the main unit.

("SCROLL" is canceled by pressing again.)

Notes:

- "ROOT" (root folder) is displayed as a folder title when playing a file (in the root folder) in the first layer.
- The file title display will be active by setting SCROLL to ON when the title is not displayed.
- The display scrolls to the end and stops showing the first 8 characters if you execute display switching, source switching or disc replacement while SCROLL is set to OFF.

Refer to the next page for folder title and file title display.

Points to remember when recording an MP3 disc

This player allows you to play MP3 files recorded on CD-ROMs, CD-Rs (Recordable) and CD-RWs (Rewritable).

What is MP3

MP3, short for MPEG Audio Layer-3, is a standard for compressing digital audio data adopted for video CDs and similar media. It is one of the audio compression systems covered by MPEG's (Motion Picture Experts Group) digital audio compression standards. What it does is reduce the number of bytes in a song without detracting from the sound quality by eliminating big sound waves within the sound range that is imperceptible to the human ear. This compression allows you to reduce the contents of a conventional music CD by a factor of around 10. This means that you can record the contents of 10 music CDs on a single CD-R or CD-RW. (The figures refer to data recorded on a 650 MB CD-R or CD-RW at a fixed bit rate of 128 kbps and a sampling frequency of 44.1 kHz.)

■ Converting (encoding) audio data to an MP3 file

- It is recommended to set the bit rate to "128 kbps or more" and "Fixed".
- Bit rate 8 kbps of MPEG-2 and sampling frequency 16 kHz of MPEG-2 can not be reproduced.
- If set to VBR (Variable Bit Rate), the file playing time may not be displayed correctly, and the bit rate value on the AUDIO indicator may flicker.
- The playback sound quality differs depending on the encoding software and the bit rate. For details refer to the user manual of your encoding software.

■ Recording MP3 files on a CD-R / RW

- Do not record files other than MP3s or unnecessary folders on a disc. If many folders or files other than MP3s are recorded on a disc, it may take up to 150 seconds before playback starts, and you may have difficulties using fast forward and fast reverse.
- Use ISO 9660 file system (Extension of the ISO 9660 file systems are included.) APPLE HFS file system is not supported. If they do not conform to ISO 9660 file system, the file may not play normally, or the file or folder names may not be displayed correctly.
- Make sure to add the ".mp3" extension to each MP3 file name. A file with a different file name extension or none at all will not play.
- Although Multi session recording is supported, the use of Disc-at-Once is recommended. Make sure to close the session when you finished recording on a disc.
- ID3Tag character information is not displayed. A file in which character information was recorded by use of ID3Tag 2.0 or later version may not be reproduced normally. For example, the file playing time may not be displayed correctly.
- Packet writing software is not supported.
- A playlist function is not supported. Record files and folders in the order in which you want them to be played. Some writing software lets you specify the recording order by adding a prefix in the range of "01" - "99", etc. to the file name. For details refer to the user manual of your writing software.

Note: You may encounter trouble in playing MP3s or displaying the information of MP3 files recorded with certain writing softwares or CD recorders (CD-R / RW drives).

Supported file systems and file names

Supported file system	Displayable folder names and file names
ISO 9660 Level 1	<p>Name files and folders in accordance with the standard of each file system. Refer to the instructions of writing software for details.</p> <ul style="list-style-type: none"> ● This player can display file names of up to 31 letters in scroll mode. ● ASCII character set and special characters in each language can be displayed. Undisplayable characters and symbols will be converted into an asterisk (*). <p>ASCII character set: ASCII character set consisting of A to Z, a to z, digits 0 to 9, and the following symbols: (space) ! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ` { } ~</p> <p>* Up to 15 letters can be displayed when scrolling in the Joliet system.</p>
ISO 9660 Level 2	
Apple Extension to ISO 9660	
Romeo	
Joliet*	

Maximum number of files / folders

- Maximum number of trees: 8
- Maximum number of files / folders: 254 (files + folders. Root folder is not included.)

Notes:

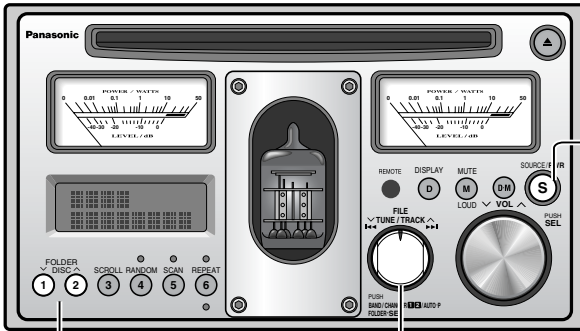
- "ERROR4" appears on the display when a file cannot be played back.
- MP3 encode software and writing software are not supplied to this model.

- If the total of files and folders exceeds 254, successful playback may not be performed.

Copyright

It is prohibited by copyright laws to copy, distribute and deliver copyrighted materials such as music without the approval of copyright holder except enjoying yourself personally.

CD Changer



Preparation

Connect a CD changer. (Page 76)

SOURCE / PWR

1 Press **S** to select the changer (CH-C) mode.

- Playback starts.

If "NO MAG" appears on the display, insert a magazine.

If "NO DISC" appears on the display, insert a disc.

2 Press **1** **2** to select a disc.

FOLDER
∨ DISC ^

For the remote control



3 Turn to select a track.

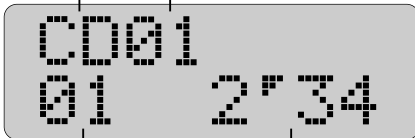
FILE
∨ TUNE/TRACK ^

For fast forward / fast reverse, keep on turning the switch for 0.7 sec. or more.

- Fast forward / fast reverse is active during turning the switch.

CD changer

Disc Number



Track No.

Lapse time

Note:

- Some CD changers do not support CD-Rs. CD changers do not support CD-RWs and MP3 format.

Refer to the section on "Notes on CD-Rs / RWs" (Page 67).

Playing Mode

Random Play	All tracks
	Playing disc

<p>RANDOM</p> <p>Press 4</p> <p>("RANDOM" is canceled by pressing again.)</p>
<p>RANDOM</p> <p>Hold down 4 for 2 sec. or more.</p> <p>("RANDOM" is canceled by holding down for 2 sec. or more again.)</p>

Note:

- While the RANDOM, SCAN or REPEAT play is in operation, each corresponding indicator lights up.

Scan Play The first 10 seconds of each track play in sequence.	All tracks
	First track in the disc

<p>SCAN</p> <p>Press 5</p> <p>("SCAN" is canceled by pressing again.)</p>	After scanning returns to the start point, the scan function is canceled and the same track as the one before scanning starts.
<p>SCAN</p> <p>Hold down 5 for 2 sec. or more.</p> <p>("SCAN" is canceled by holding down for 2 sec. or more again.)</p>	After scanning returns to the start point, the scan function is canceled and the first track in the same disc as the one before scanning starts.

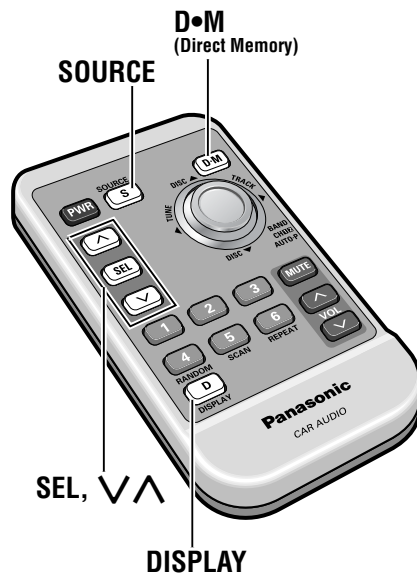
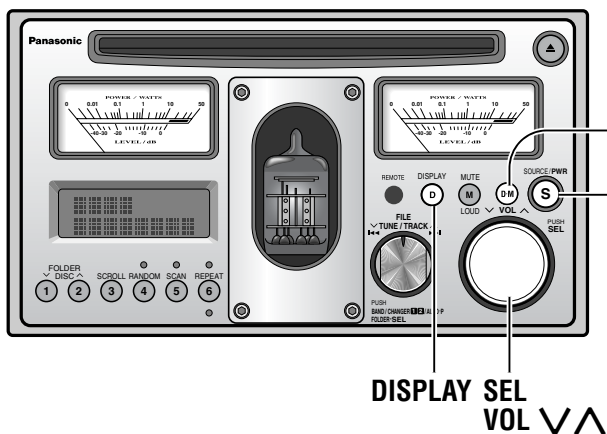
Repeat Play	Playing track
	Playing disc

<p>REPEAT</p> <p>Press 6</p> <p>("REPEAT" is canceled by pressing again.)</p>	<p>SOURCE DISC TRACK </p>
<p>REPEAT</p> <p>Hold down 6 for 2 sec. or more.</p> <p>("REPEAT" is canceled by holding down for 2 sec. or more again.)</p>	



RANDOM, SCAN, REPEAT

Useful Functions



Receive AM / FM broadcasts with one button. (D•M: Direct Memory)

You can receive your favorite station even if the power is turned off or the unit is in any modes.
Default: FM 87.50 MHz

Press **D•M**

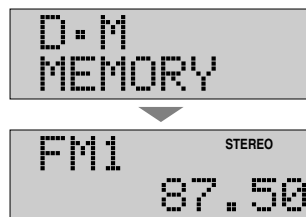
("DIRECT MEMORY" is canceled by pressing again.)

- Registered stations can be received.



- For station registration, select a frequency in the FM / AM mode (see page 52) and hold down **D•M** for 2 sec. or more.

- A station is written over an older one to be registered.



Listen to sound from external devices. (AUX)



Preparation Connect an audio terminal of an external device such as a TV set to the external audio input cord (AUX-IN). (see page 74)

SOURCE / PWR

Press **S** to select the AUX mode.




Sound Controls

- 1 Press  to select an operation.
- 2 Turn  to make an adjustment.

For the remote control



Notes:

- If no operation is performed while each operation is displayed (approx. 10 sec.),
* For adjustment of the main volume, the waiting time is approx. 2 sec., the unit goes back to the normal mode.
- To switch to the normal mode, press .
- To initialize all settings and adjustments that are registered, refer to page 71.

DISPLAY

Bass adjustment (BASS)

Default: 0 dB
Adjustable range: -12 dB to +12 dB (by 2 dB)

“-”: Decrease
“+”: Increase

BASS
+10dB

Treble adjustment (TREBLE)

Default: 0 dB
Adjustable range: -12 dB to +12 dB (by 2 dB)

“-”: Decrease
“+”: Increase

TRE
- 2dB

Left and right volume adjustment (BALANCE)

Default: Center (0)
Adjustable range: Each side 1 to 15 steps (by 1 step)

“L” (left): Left increase
“R” (right): Right increase

BAL
L: 5

Front and rear volume adjustment (FADER)

Default: Center (0)
Adjustable range: Each side 1 to 15 steps (by 1 step)

“F” (front): Front increase
“R” (rear): Rear increase

FAD
F: 5

Volume adjustment (MAIN VOLUME)

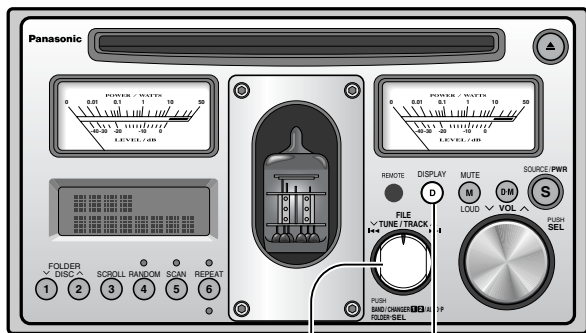
Adjustable even in the normal mode

Adjustable range: 0 dB to -79 dB, -∞ dB (by 1 dB)

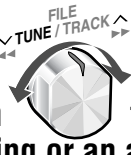
“-∞”: Minimum
“0”: Maximum

VOL
-30dB

User Settings



TUNE ∇/\blacktriangle DISPLAY

- 1 Hold down **D** for 2 sec. or more to change to the setting mode.
- 2 Press **D** to select an operation.
- 3 Turn  to make a setting or an adjustment.



Clock adjustment

Default: ADJUST (nonadjusted)

\blacktriangle : "minutes" adjustment

∇ : "hours" adjustment
* 12-hour display



- A number on the second time scale becomes 0 each time "minutes" or "hours" adjustment is made. (Reset)

Beep selection

Default: ON

ON : Beep activated

OFF : Beep deactivated

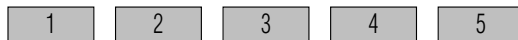


- A beep does not come out of the pre-out terminal.
- A beep is deactivated when the integrated amplifier is set to OFF. (page 66)

Contrast adjustment

Default: Level 3

Adjustable range: Level 1 – 5



Adjust contrast to enhance display visibility.



Adjustment of illuminated buttons

Default: ON

AUTO : Synchronization with sub-headlights

ON : Turned on

OFF : Turned off



Adjustment of illuminated analog meters

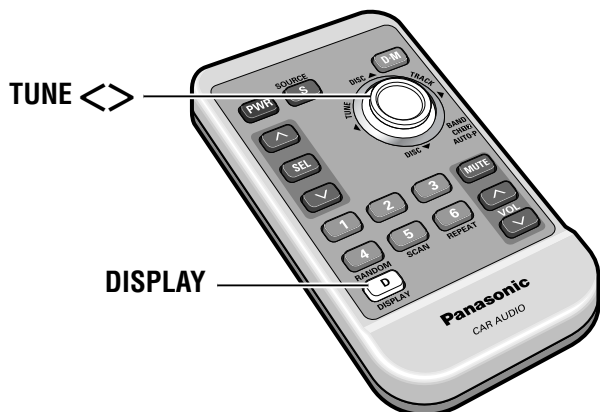
Default: ON

AUTO : Synchronization with sub-headlights

ON : Turned on

OFF : Turned off





Notes:

- If no operation is performed while each operation is displayed (approx. 10 sec.), the unit goes back to the normal mode.
- To switch to the **DISPLAY** normal mode, press **D**.
- To initialize all settings and adjustments that are registered, refer to page 71.

Selection of analog meter indication
Default: Level meter

LEVEL : The pointer of the meter moves in response to the input level of a source. (See bottom scale.)
● The pointer is sensitive even at low-volume levels. (Pointer movement has nothing to do with the volume.)

POWER : The pointer of the meter moves in response to the output power of the unit. (See top scale.)
● The pointer moves in accordance with the volume level.

The application of meter readings is not for measurements but only for guidelines.



Selection between use of external audio inputs (AUX) and unused them (AUX setting)
Default: ON

ON : Use
OFF : Not use (skipping the AUX mode)

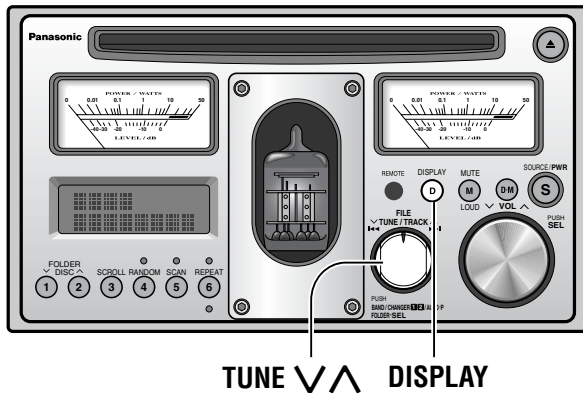



Volume adjustment under the condition of using voice guidance of a car navigation system (Navi mute setting)
Default: HALF
* This function is provided for future use.

HALF : The volume decreases to approx. one-tenth.
ON : The volume decreases to zero.
OFF : The volume is the same as the one under normal conditions. ➔ Volume adjustable



User Settings (continued)



- 1 Hold down **DISPLAY** **D** for 2 sec. or more to change to the setting mode.
- 2 Press **DISPLAY** **D** to select an operation.
- 3 Turn **TUNE/TRACK** **V/A** to make a setting or an adjustment.  For the remote control

Illumination control (DIMMER)

Default: AUTO

AUTO	: Darkening synchronizing with sub-headlights (When sub-headlights are turned on, illumination of the unit darkens.)
ON	: Darkening
OFF	: Not darkening

DIM
AUTO

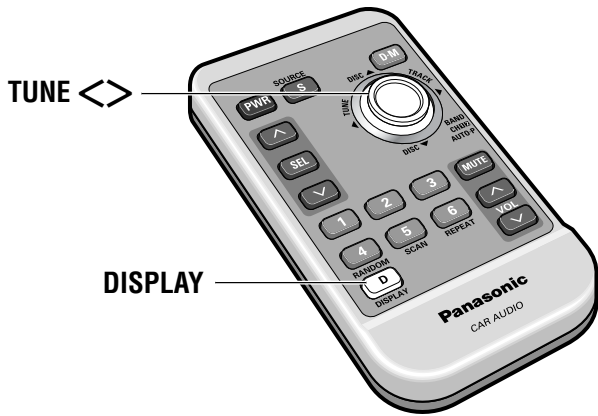
Selection between use of the integrated amplifier and unused it

Default: ON

ON	: Use
OFF	: Not use (using only an external amplifier)

AMP
ON

Be sure to select ON when an external amplifier is not connected. In case of selecting OFF, sound does not come out (including beep).



- Notes:**
- If no operation is performed while each operation is displayed (approx. 10 sec.), the unit goes back to the normal mode.
 - To switch to the **DISPLAY** normal mode, press **DISPLAY** **D** for 2sec. or more.
 - To initialize all settings and adjustments that are registered, refer to page 71.

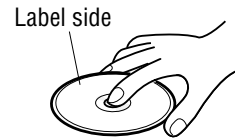
Notes on CD / CD Media (CD-ROM, CD-R, CD-RW)

If you use commercial CDs, they must have either of these labels shown at right.



How to hold the disc

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



Do not use irregularly shaped discs.

Do not leave discs in the following places:

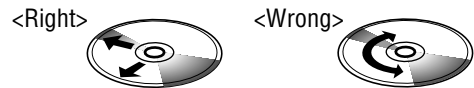
- Direct sunlight
- Near car heaters
- Dirty, dusty and damp areas
- Seats and dashboards



Do not use irregularly shaped discs.

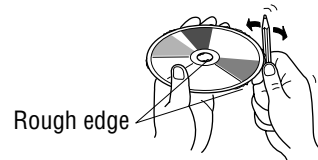
Disc cleaning

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.



Do not attach any seals or labels to your discs.

Do not write on the disc label in a heavy pen or ballpoint pen.

Notes on CD-Rs / RWs

- You may have trouble playing back some CD-R / RW discs recorded on CD recorders (CD-R / RW drives), either due to their recording characteristics or dirt, fingerprints, scratches, etc. on the disc surface.
- CD-R / RW discs are less resistant to high temperatures and high humidity than ordinary music CDs. Leaving them inside a car for extended periods may damage and make playback impossible.
- Some CD-R / RWs cannot be played back successfully thanks to incompatibility among writing software, a CD recorder (CD-R / RW drive) and the discs.
- This player cannot play the CD-R / RW discs if the session is not closed.
- This player cannot play the CD-R / RW discs which contains other than CD-DA or MP3 data (Video CD, etc.).
- Be sure to observe the instructions of CD-R / RW disc for handling it.

Maintenance

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



Never Use

Troubleshooting

Symptom

Probable cause - Remedy

● Power and general

No power to the unit

- Start the engine. (Or turn the key in the ignition to the ACC ON position.)
- Verify each connection.
- A fuse in the unit or connected devices blows.
➔ Refer the replacement of the fuse to the dealer where you purchased the unit.

No sound

- Playback of a CD / MP3 starts after the electron tube warms up. Wait for a while (approx. 15 sec.)
- Turn up the volume.
- "MUTE" stays ON. ➔ Select OFF.
- The integrated amplifier is set to OFF.
➔ Select ON if an external amplifier is not connected.
- Dew condensation occurred.
➔ Leave the unit for a while and try again.
- Verify each connection.
If the navi mute cord is not connected, use a cap (or vinyl tape) to insulate it.

Noise

- Keep your mobile phone or other devices that seem to cause noise away from the unit.

● Radio

High level of noise is included in FM stereo and mono broadcasting.

- Check whether the antenna is fully extended. (Or verify the connection of the auto antenna control cord.)
- A radio wave from the station is weak. ➔ Try another station.

● Sound quality and user settings

No sound coming from any one of the front, rear, right and left speakers

- Adjust the sound balance of front, rear, right and left speakers.
- Verify each connection.

Stereo sound reversed between right and left speakers

- Verify the connection of the speaker cords.

No beep

- "BEEP" is set to OFF. ➔ Select ON.
- The integrated amplifier is set to OFF. ➔ Select ON if an external amplifier is not connected.

Troubleshooting

Symptom

Probable cause - Remedy

● CD and MP3

**No sound when inserting a disc (no playback)
Disc ejected automatically**

- Insert a disc correctly.
- Insert a music disc.
- Enter a folder title / a file title using specified the number and type of characters that comply with the specifications.
- Be sure to put the extension, ".MP3", to a MP3 file.
- CD-R / RW contents may not be displayed correctly with used writing software, drive or the combination of them.

Poor sound quality (skipping)

- Clean the disc.
- Verify the installation.
 - ➔ The installation angle should be less than 30 degrees. Secure the unit to avoid shaking.
- Sound quality varies with used encoder software, transfer bit rate and other factors. Refer to the instructions for the encoder software.

Incorrect CD text displayed

- Clean the disc.

No sound when inserting a disc (lapse time displayed)

- The electron tube is damaged.
 - ➔ Refer the replacement of the electron tube to the dealer where you purchased the unit.
- The first track in a mixed-mode CD was played back. (Mixed-mode CD is a CD that has data other than music in the first track and music data in the second and later tracks in one session.)
 - ➔ Play back the music data in the second and later tracks.

Incorrect folder title and file title displayed

- Enter a folder title / a file title using specified the number and type of characters that comply with the specifications.
- A folder title or a file title may not be displayed correctly with used writing software, drive or the combination of them.

Difference between lapse time displayed and real one

- Fast forward or fast reverse was activated during playback, or you turned off the ACC power. ➔ Try another file to correct the lapse time displayed.
- The lapse time of a MP3 file that is recorded at variable bit rate (VBR) may be displayed incorrectly.

Much time to start playback

- Playback of a CD / MP3 starts after the electron tube warms up. Wait for a while (approx. 15 sec.)
- The hierarchy of folders and files on the disc is deep.
 - ➔ Do not record files other than MP3 type and unnecessary folders because it may take time to check the files.

Playback in an incorrect order

- The files are not recorded in your favorite order.
 - ➔ There is a writing software application in which you can arrange files by putting numbers such as "01" to "99" on the top of the files.

● Remote control

Pressing buttons does not work.

- Check the battery positioning.
- The battery is going to be dead. ➔ Change the battery.
- Aim the remote control at the Remote control sensor when operating it.

Troubleshooting (continued)

Error Messages

Message

Probable cause - Remedy

● CD / MP3

ERROR1

For ERROR 1 and ERROR 2

- The disc is dirty. The disc is turned upside down.
 - The disc is not an audio disc. The disc is not recorded.
 - There is a scratch on the disc.
- ➔ Eject the disc and check it.

ERROR2

For ERROR 3

- A mechanical error occurred.

ERROR3

Stop the engine and start it again, or turn off the ACC power and turn on it again when the ejection button does not work.

- ➔ In case of no result, press the reset switch.
- ➔ If there is still no reaction, refer repairs to the dealer where you purchased the unit.

ERROR4

- Data to be played back cannot be read. (That may be because the unit does not support the format, the compression method, the data type, the extension, etc. or the data is damaged.)

➔ Play back readable data. Check data and create files.

NO DISC

- No disc is loaded.
- ➔ Load a disc.

● CD changer

ERROR1

For ERROR 1 and ERROR 2

The next CD is played back automatically.

- The disc is dirty. The disc is turned upside down.
 - The disc is not an audio disc. The disc is not recorded.
 - There is a scratch on the disc.
- ➔ Eject the disc and check it.

ERROR2

For ERROR 3

- A mechanical error occurred.

ERROR3

Stop the engine and start it again, or turn off the ACC power and turn on it again when the ejection button on the CD changer does not work.

- ➔ In case of no result, press the reset switch on the CD changer.
- ➔ If there is still no reaction, refer repairs to the dealer where you purchased the CD changer.

NO DISC

- No disc is loaded.
- ➔ Load a disc.

NO MAG

- No magazine is loaded.
- ➔ Load a magazine.

No trouble in this case

Dew condensation

- When you play back a disc in a rainy day or right after turning on the heater, playback may not function correctly because of dew condensation on the optical lens of the CD player or on the disc. In such a case, eject the disc and wait for approx. an hour to let dew evaporate spontaneously.

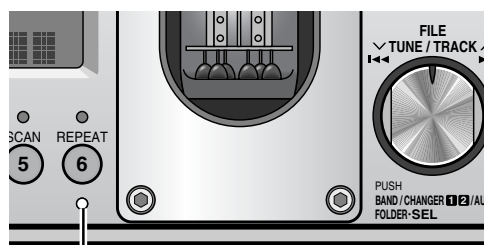
For no reaction by any buttons

Press the reset switch using a break-proof pin.

- The power is turned off and the unit restarts immediately. (Registered settings and adjustments are not cleared.)

For no reaction by the reset switch

Refer repairs to the dealer where you purchased the unit.



Reset switch

Initialization of all settings and adjustments that are registered (memory clearance)

- 1 Hold down  for 5 sec. or more.

- The message appears to make sure of memory clearance.



- 2 Press  to execute initialization.

- Registered settings and adjustments are cleared and the power is turned off. (The settings return to the factory default.)

To avoid initializing the settings and adjustments, press other buttons to cancel it.

In case a problem may arise

Turn off the power immediately.

Disconnect the power cable after making sure there is no smoke and the unit does not become hot. Refer repairs to the dealer where you purchased the unit.

Never repair the unit by yourself.

Preparation

Warning

No disassembly, no repair, no modification



No disassembly

Do not disassemble, repair or modify the unit. Do not connect the sheath-peeled cord to the power of other devices. Failure to heed the instructions may cause a fire, an electrically shock or a trouble.

Caution

Expert engineers for wiring and installation



Wiring and installation require expertise and experiences. Refer wiring and installation to the dealer where you purchased the unit to ensure safety.

Check the supplied items against the table

If there is a difference between them, please inform the dealer where you purchased the unit.

● Wiring

Item	Qty.
Power cord	1

● Installation

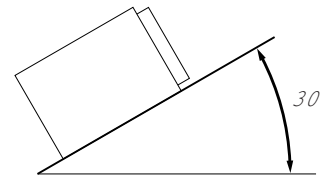
Item	Qty.
Special type tapping screw with washer (5φ x 8 mm)	4
Special type dished tapping screw (5φ x 8 mm)	8

Installation dimensions and angle



- The unit cannot be installed in some car types (due to the shape and dimensions of a dashboard), and the unit may interfere with a gearshift lever or other objects in some car types. Ask the dealer for further information.

Consult the dealer if space for an audio system is not designed for 2-DIN (180 (W) mm x 100 (H) mm).

- Install the unit at 30 degrees or less with respect to a horizontal axis.



Installation Flow

- 1 **Disconnect the cable from the negative ⊖ battery terminal (see caution on the right)**
- 2 **First complete the electrical connections, and then check them for correctness.**
( page 74-77)
 - Please carefully read the operating and installation instructions of the respective equipment before connecting it to this unit.
 - Please connect the power lead (red) after all other connections are made.
- 3 **Install** ( page 73)
- 4 **After installation reconnect the negative ⊖ battery terminal.**

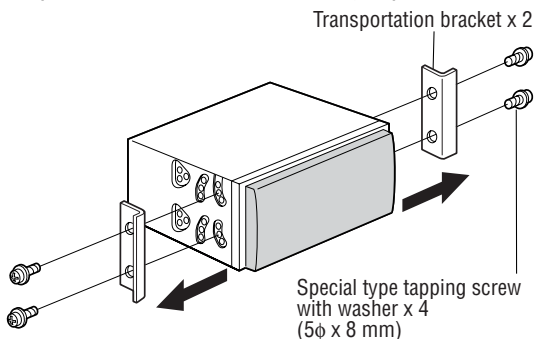
Caution: Do not disconnect the battery terminals of a car with trip or navigational computer since all user settings stored in memory will be lost. Instead take extra care with installing the unit to prevent shorts.

We strongly recommended that you wear gloves for installation work to protect yourself from injuries.

Installation

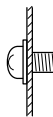
Remove the transportation brackets.

Removed 4 screws may be used for installation.
(Refer to the description at right.)



Cautions

- Be sure to put in the supplied tapping screws straight because the mounting holes on the unit are not tapped.
- Select from two types of supplied screws in accordance with the hole shape of your mounting bracket.



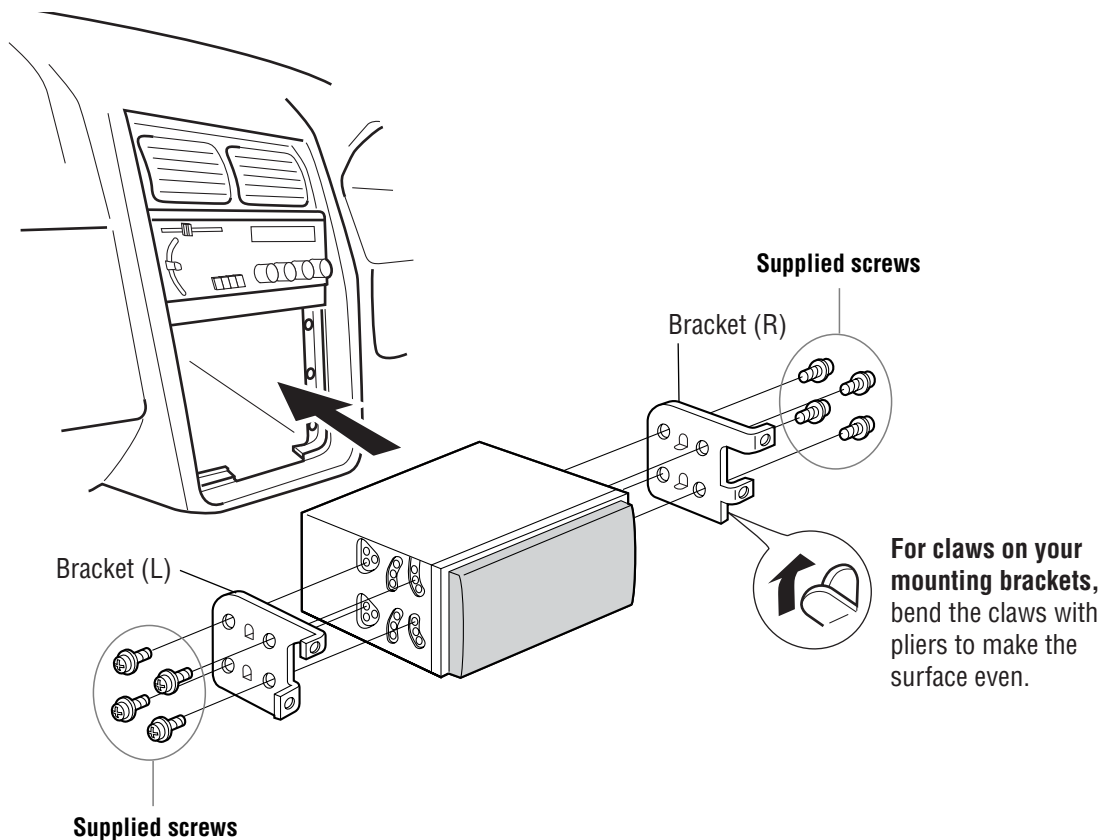
- Special type tapping screw with washer (4 pieces)

Four more screws are available, which were used for tightening the transportation brackets.



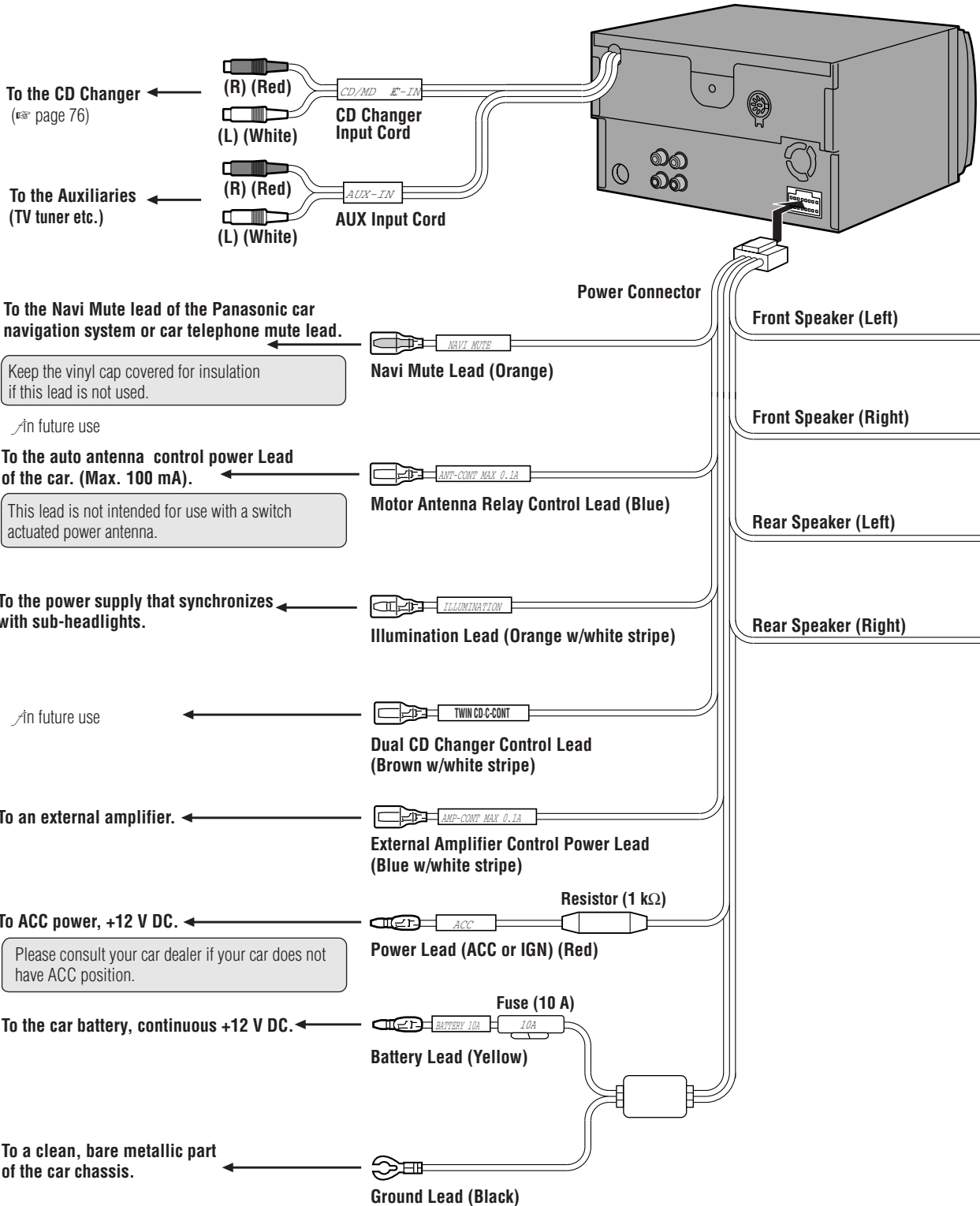
- Special type dished tapping screw (8 pieces)

The shape and securing method of the bracket to be used vary with car manufacturers and car models. Ask the dealer for further information.

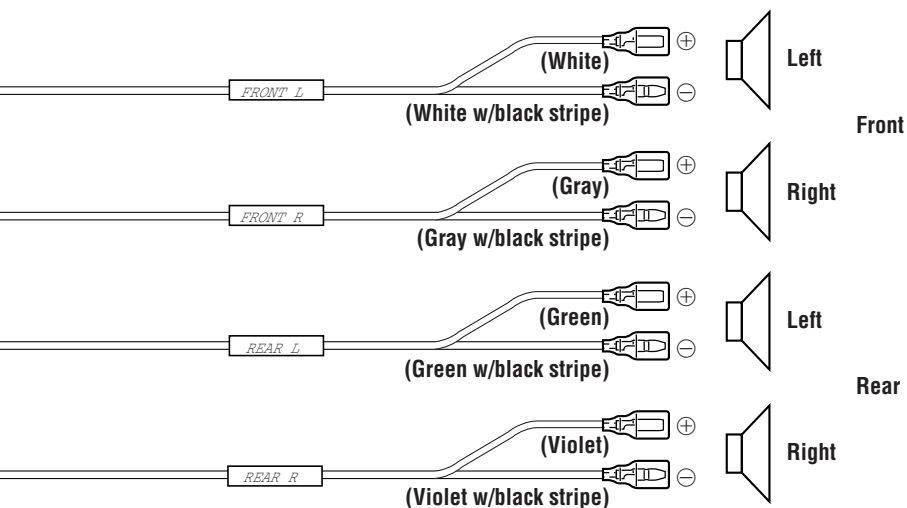


Electrical Connections

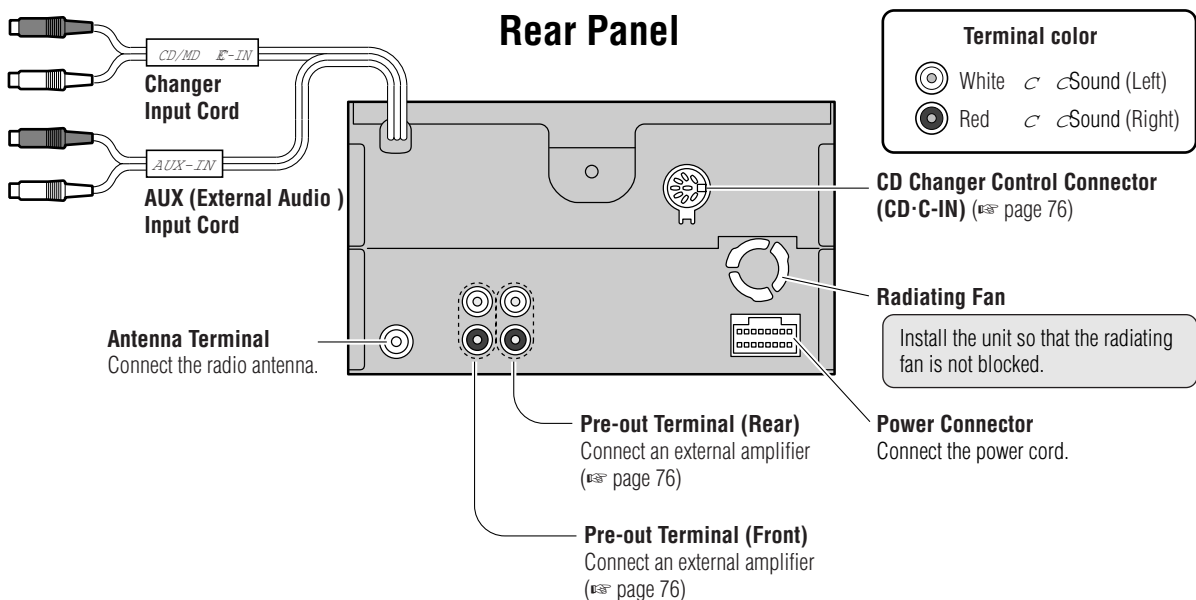
Wiring Diagram



Be sure to connect the power cord connector after completion of all other connections for prevention of shortings.



For two speakers
Insulate unused speaker cords with vinyl tape.



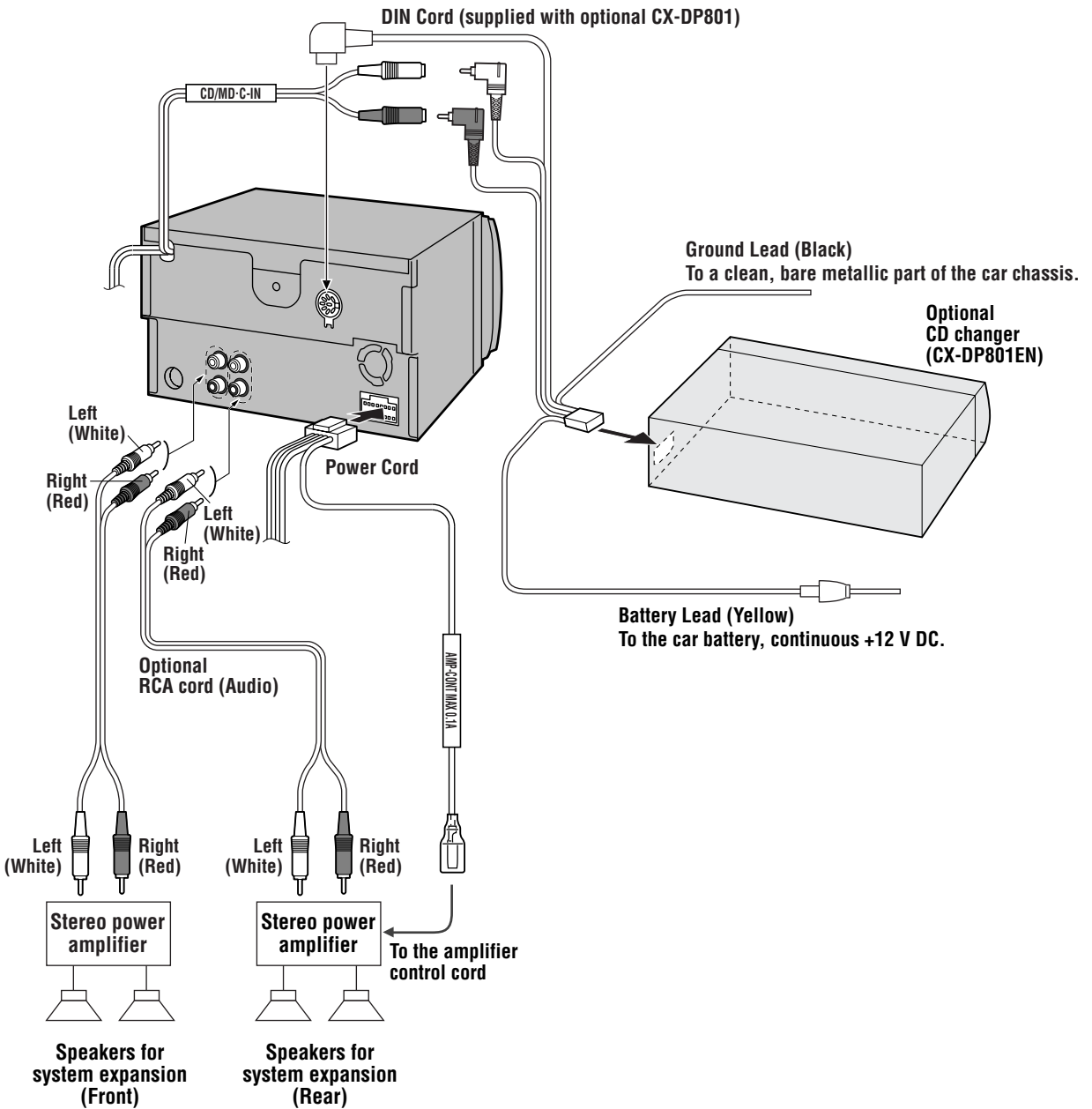
Wiring Connection

Connection of changer and external amplifier

Refer to the operating instructions for each connecting device in conjunction with this book.

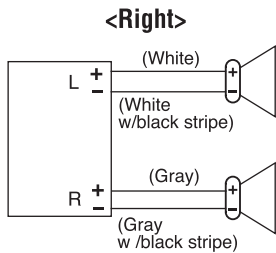
Ex.) CD changer (CX-DP801EN)

ENGLISH
31

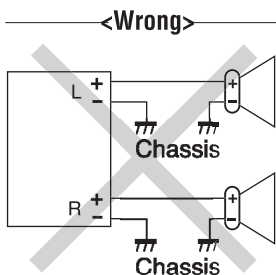


Speaker Connections

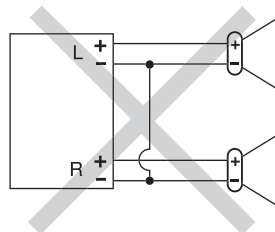
Caution: Please follow the instructions given below. Failure to do so will cause damage to the unit and speakers.



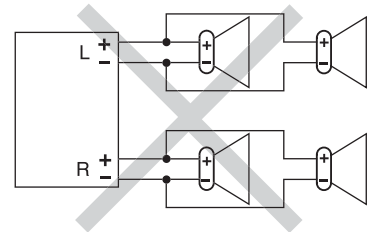
- Use ungrounded speaker only.
- The maximum speaker output should be 50 W or more. (If used with the optional power amplifier, the speaker output should be higher than the maximum amplifier output.)
- The speaker impedance should be 4 - 8 Ω .
- This unit uses the BTCL circuit, so each speaker should be connected separately using parallel vinyl insulated cords.
- The speaker cords and the power amplifier unit should be kept away (about 30 cm apart) from the antenna and antenna extension cord.



- Never connect the speaker cord to the body of the car.



- Do not use a 3-wire type speaker system having a common earth lead.



- Do not connect more than one speaker to one set of speaker leads.

Fuse

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

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

After – Sales Service

Warranty period: One year from the date of purchase

■ Repair request

Follow the remedies on the Troubleshooting pages. If the trouble cannot be solved, turn off the power and refer repairs to the dealer where you purchased the unit.

● Within the warranty period

The dealer where you purchased the unit will repair it as specified in the warranty card. Please take the unit to the dealer along with the warranty card.

● After the warranty period

Repair is available on a chargeable basis.

■ Holding period of functional parts for repair

We will hold the functional parts (which are indispensable to maintain its original performance) for 6 years after suspension of producing the unit.

For repair or handling

To the dealer where you purchased the unit

For inquiries

To “Customer Center”

Customer Center

Tel: (02)2633-0878

For South Korea only

Specifications

General

Power supply	: 12 VDC (11 V – 16 V), test voltage 14.4 V, negative ground
Current consumption	: 8.5 A (nominal output in the CD mode)
Power output	: 16 W x 4 ch. (1 kHz, 1 %, 4 Ω)
Maximum power output	: 45 W x 4 ch.
Compatible speaker impedance	: 4 Ω
Audio input impedance	: 10 k Ω (AUX IN)
Audio input sensitivity	: 2 Vrms (AUX IN)
Pre-out output voltage	: 4.0 Vrms (in the CD mode)
Pre-out output impedance	: 600 Ω
Dimensions	: 178 (W) x 100 (H) x 160 (D) mm
Weight	: 2.3 kg

FM tuner

Frequency range	: 87.5 – 108 MHz
Usable sensitivity	: 12 dBf (S/N 30 dB)
Signal to noise ratio	: 70 dB (mono)
Stereo separation	: 40 dB
Effective selectivity	: 75 dB (\pm 400 kHz)

AM tuner

Frequency range	: 531 – 1,602 kHz
Usable sensitivity	: 25 dB/ μ V (S/N 20 dB)
Image interference ratio	: 65 dB

CD player

Channel	: 2
Decoding	: 16-bit linear
Frequency response	: 5 Hz – 20 kHz
Signal to noise ratio	: 93 dB (IHF, A)
Wow and flutter	: Below measurable limits
MP3 decoder	: MPEG-1 Audio Layer 3 / MPEG-2 Audio Layer 3 LSF
● Bit rate	MPEG-1 : 32 kbps – 256 kbps, VBR MPEG-2 : 16 kbps – 160 kbps, VBR
● Sampling frequency	MPEG-1 : 32 kHz, 44.1 kHz, 48 kHz MPEG-2 : 22.05 kHz, 24 kHz

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

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