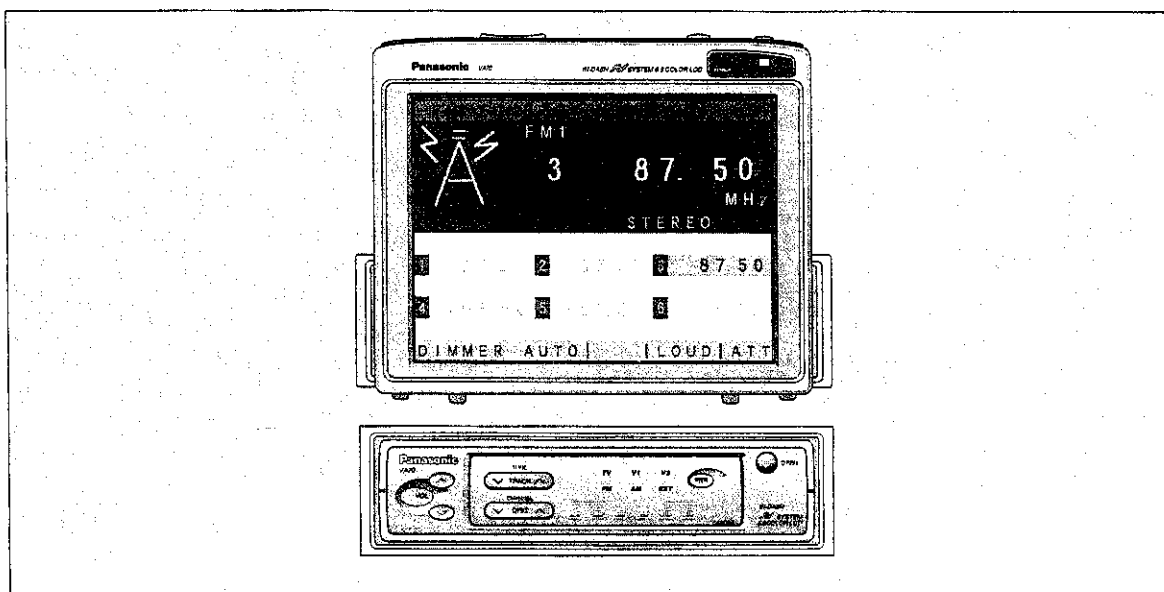


Operating Instructions

操作说明书

6.5 COLOR LCD TV/RECEIVER WITH CHANGER CONTROL
AV液晶电视机

CQ-VA70PEW



Panasonic[®]
松下电器

Before operating this set, please read these instructions completely.
操作本装置之前，请熟读这些说明。

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Panasonic welcomes you to their constantly growing family of electronic products owners. We endeavor to give you the advantages of precise electronic and mechanical engineering, manufacturing with carefully selected components, and assembly by people who are proud of the reputation their work has produced for our company. We know this product will bring you many hours of enjoyment, and after you discover the quality, value, and reliability we have built into it, you too will be proud to be a member of our family.

Precautions

Car Washing

To avoid electrical short circuits which may cause fire or other damage, do not expose this equipment (including the speakers, CDs or tapes) to water or excessive moisture.

Service

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

Power Supply

This equipment is designed to be used in a car that has a 12-volt negative ground battery system.

Car Ventilation

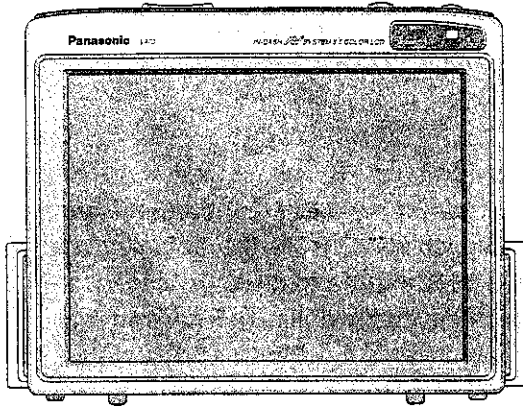
If your car is parked for several hours in direct sunlight, the temperature inside the car may become very high. It is advisable to drive the car for a while until the interior cools down before switching the unit on.

About Preset Memory

The present memory settings are cleared and return to the original factory settings when the power connector or battery is disconnected.

Basic Operation (Precautions)

How to Open and Close the Display

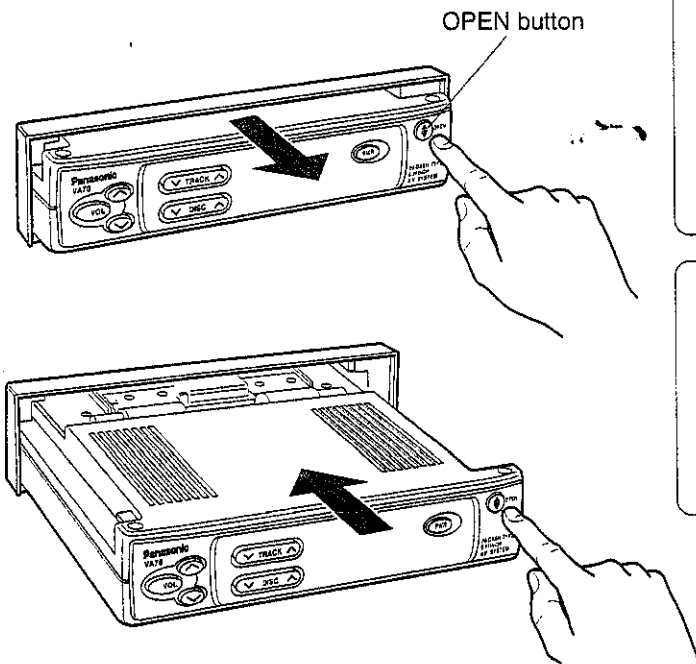


Display position	Pressing the OPEN button
Fully closed	Moves display to fully open position.
Fully open	Moves display to fully closed position.

- ① When turning the ACC of the car off, the display is drawn in automatically in about 2 seconds, provided it faces downward. (only when the power is on.)
- ② To draw in the display when it does not face downward, place it in downward position and press OPEN button. (only when the power is on.)

■ Drawing out the Display

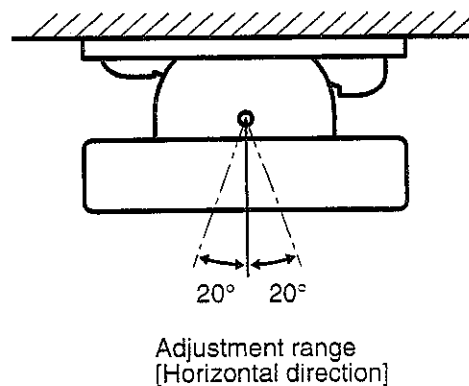
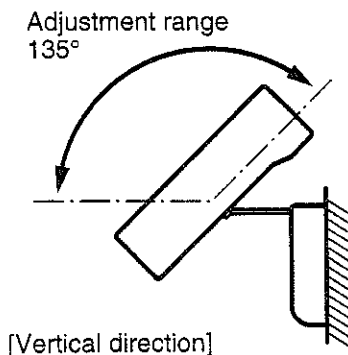
[1] Pressing OPEN button



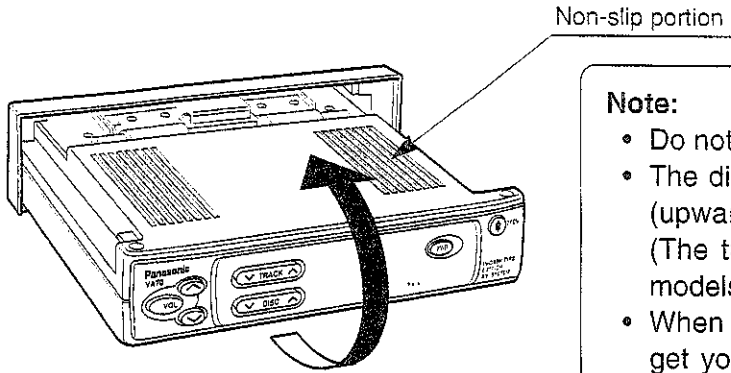
Caution:
Do not try to change the angle of the display when it is not fully drawn out as this will damage the unit. If the display is drawn out only half-way, retract it first by pressing OPEN button, and then press OPEN button again to draw it out completely. (only when the power is on.)

Note:
If you press OPEN button with the display in drawn-out position, the display will be drawn in. If no operation takes place within about 10 seconds, the display will be automatically drawn in. (only when the power is on.)

■ Angle Adjustment



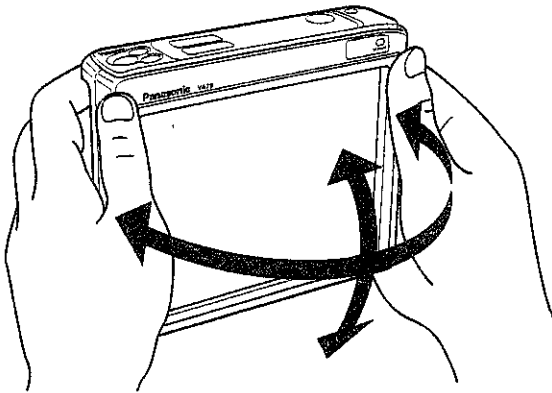
[2] Turning the display upward



Note:

- Do not turn the display forcibly.
- The display can be turned 135° in vertical direction (upward and downward) and 20° to right and left. (The turning angles may be smaller for some car models.)
- When adjusting the display angle, be careful not to get your hands or fingers caught between the display and the panel cutout.
- The display cannot be moved forward or backward in the upright position. Do not push or pull it forcibly.

[3] Adjusting the viewing angle

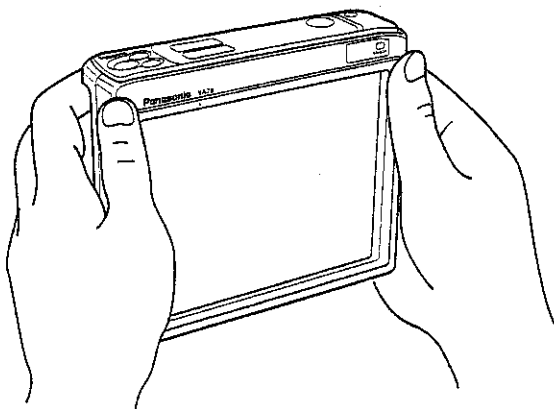


• **Adjusting the right-left angles (manual operation)**

Angle should be adjusted slowly without applying unreasonable force.

• **Before drawing in the display**

Make sure to return the display to center position before drawing it in. It cannot be drawn in with its angles adjusted.

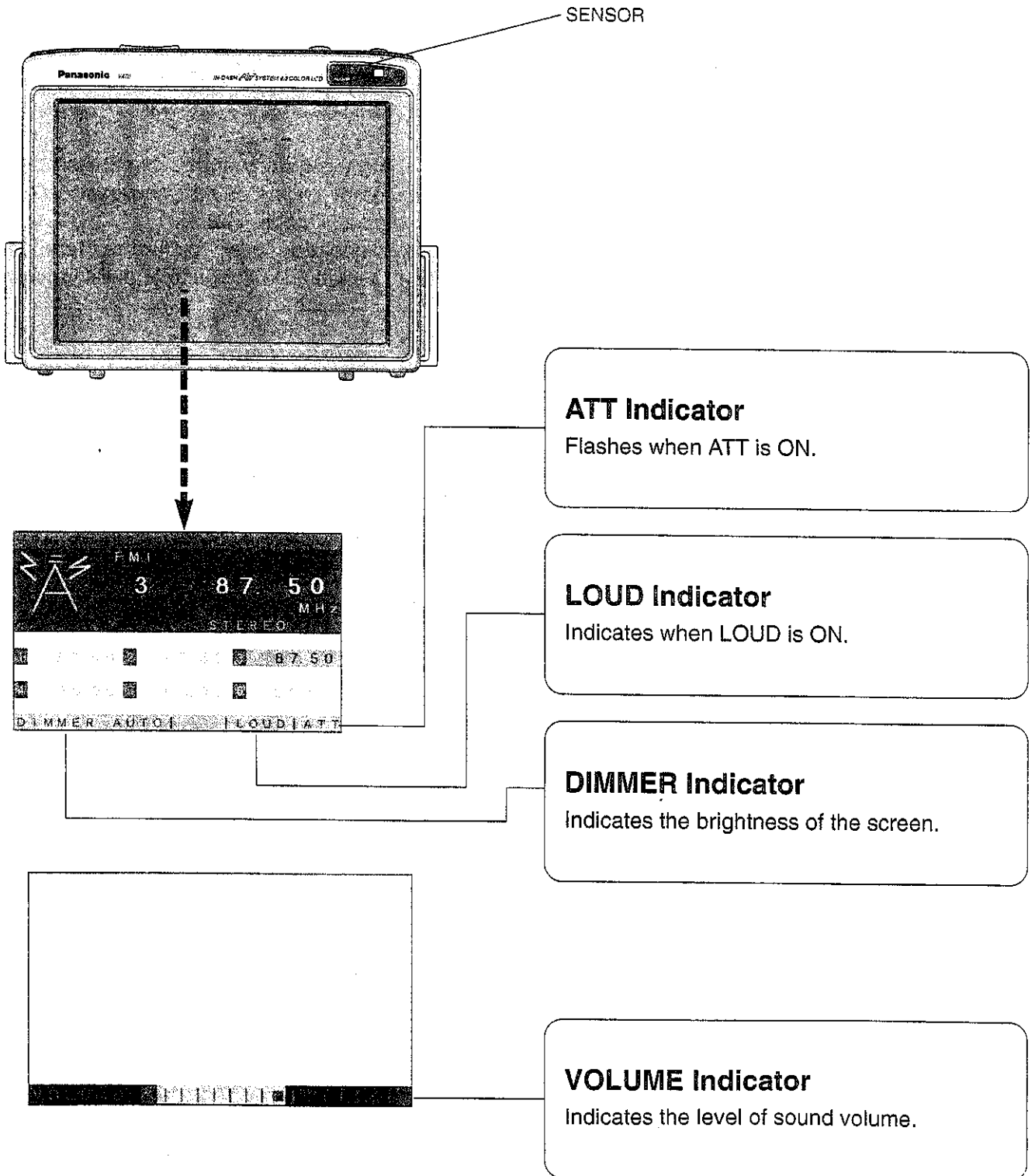


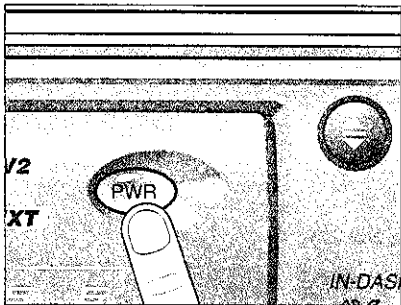
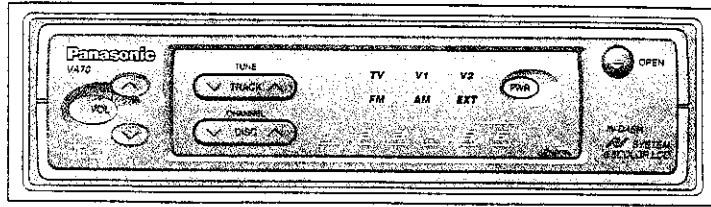
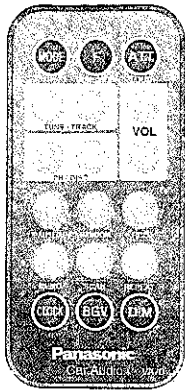
Note:

To move the display, always hold it by the upper half (non-slip portion provided on the rear). If you hold the lower portion, you could get your fingers caught between the display unit and the mechanical parts at the rear.

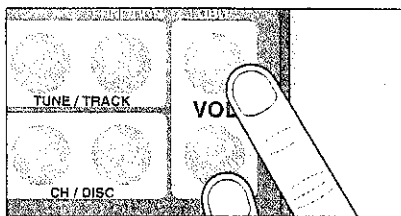
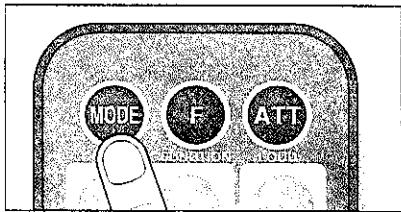
Basic Operation (Display)

For safe driving, TV operation is available only in stopped condition with the parking brake pulled. "WARNING" will be displayed, if you try to switch to TV, VTR1 or VTR2 mode by pressing the MODE button while driving.

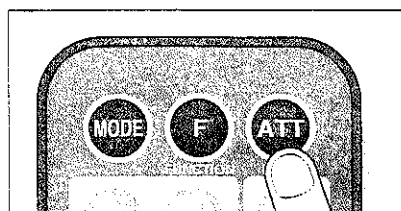




(This operation is not available with the remote control.)



(The corresponding button on the display unit may also be used for this operation.)

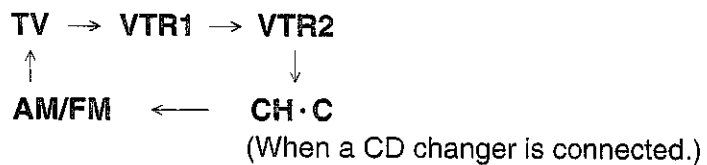


Power

- ① Turn the key in the ignition until the accessory indicator lights.
- ② • Press PWR to switch on the power.
• Press PWR again to switch off the power.

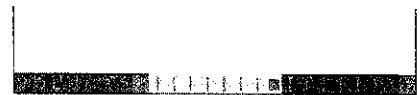
Operation Mode

Press MODE to switch the operation mode as follows.



Volume

Press ^VOL^ to increase or decrease the volume.



Note:

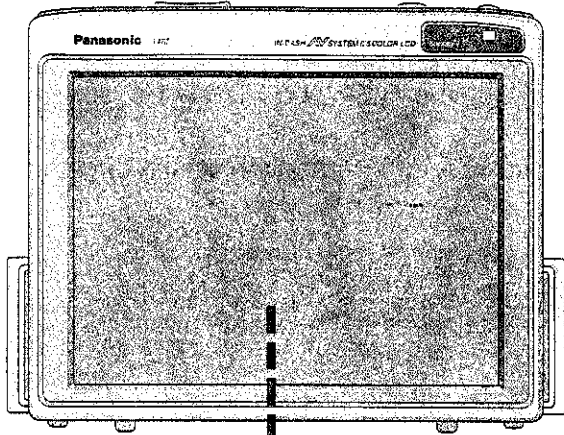
The volume of this set can be adjusted individually for each mode, the TV, VTR, AM/FM and CD changer.

Attenuator

- Press ATT to decrease the volume to about 1/10 of the previous level.
- Press ATT again to cancel.



<Display Unit Control>



PICTURE CONTROL

BRIGHT ██████████

COLOR ██████████

DIMMER AUTO 1 2 3 4

NEXT ▾

- BRIGHT CONTROL indicator
- COLOR CONTROL indicator
- DIMMER CONTROL indicator

AUDIO CONTROL

BASS ██████████

TRE ██████████

BAL ██████████

FAD ██████████

▲ NEXT ▾

- BASS CONTROL indicator
- TREBLE CONTROL indicator
- BALANCE CONTROL indicator
- FADER CONTROL indicator

SETUP

BEEP OFF ON

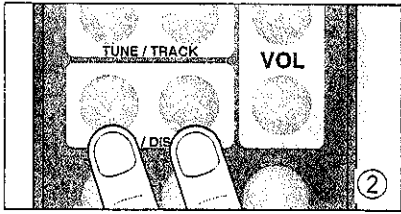
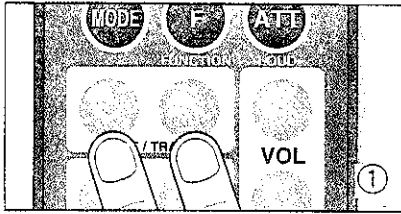
TV CHANNEL SELECT CHINA

▲ NEXT

- BEEP CONTROL indicator
- TV CHANNEL SELECT indicator

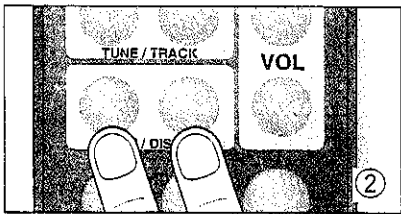
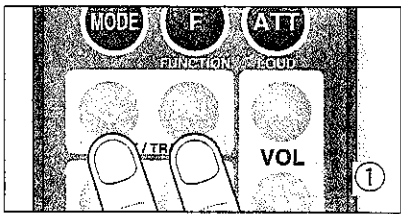
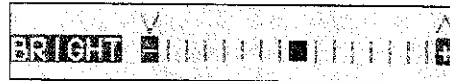
Basic Operation (Display) (Continued)

Display Control



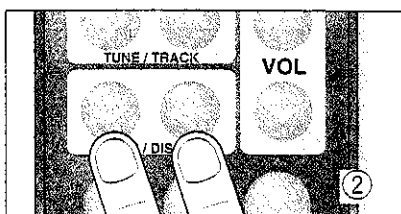
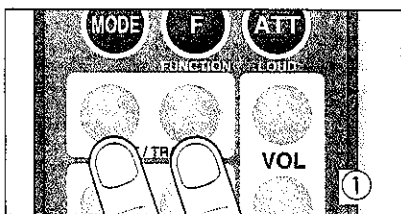
BRIGHT (Brightness) Control

- ① Press ∇ TUNE/TRACK \wedge on the DISPLAY CONTROL screen to select BRIGHT.
- ② Press ∇ CH/DISC \wedge to decrease or increase the screen brightness.



COLOR (Depth of Color) Control

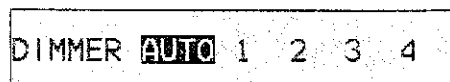
- ① Press ∇ TUNE/TRACK \wedge on the DISPLAY CONTROL screen to select COLOR.
- ② Press ∇ CH/DISC \wedge to darken or lighten the color of the color image.



Dimmer Adjustment

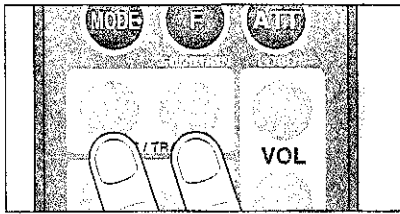
- ① Press ∇ TUNE/TRACK \wedge on the DISPLAY CONTROL screen to select DIMMER.
- ② Press ∇ CH/DISC \wedge to adjust the brightness level of the screen as follows:

AUTO \rightleftarrows 1 \rightleftarrows 2 \rightleftarrows 3 \rightleftarrows 4



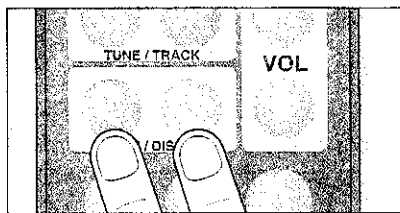
Basic Operation

Audio Control



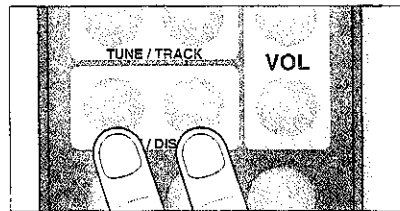
Audio Mode Selection

Press ∇ TUNE/TRACK \wedge to switch to AUDIO CONTROL screen.



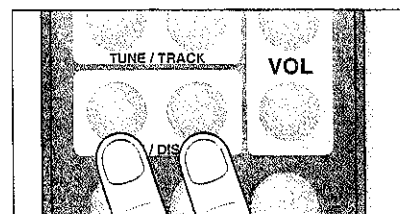
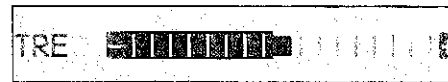
Bass

- ① Press ∇ TUNE/TRACK \wedge on the AUDIO CONTROL screen to select BASS.
- ② Press ∇ CH/DISC \wedge to decrease or increase the bass responds.



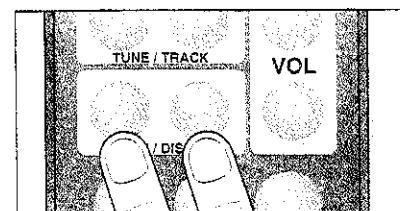
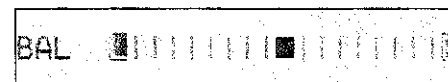
Treble

- ① Press ∇ TUNE/TRACK \wedge on the AUDIO CONTROL screen to select TRE.
- ② Press ∇ CH/DISC \wedge to decrease or increase the treble responds.



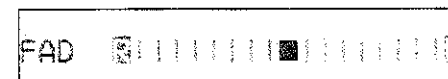
Balance

- ① Press ∇ TUNE/TRACK \wedge on the AUDIO CONTROL screen to select BAL.
- ② Press ∇ CH/DISC \wedge to shift the sound volume to the right or left speakers.



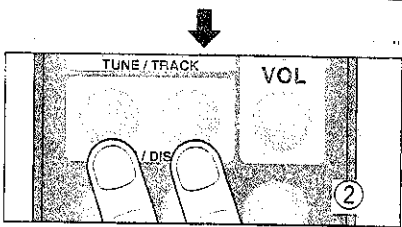
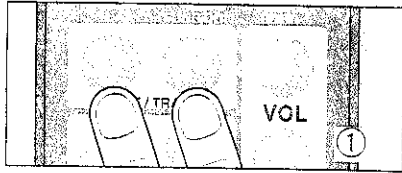
Fader

- ① Press ∇ TUNE/TRACK \wedge on the AUDIO CONTROL screen to select FAD.
- ② Press ∇ CH/DISC \wedge to shift the sound volume to front or rear speakers.



Basic Operation (Continued)

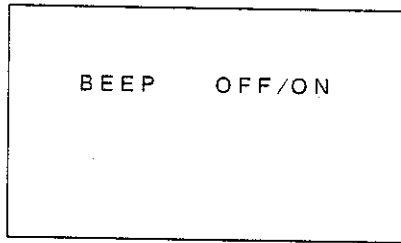
Set Up



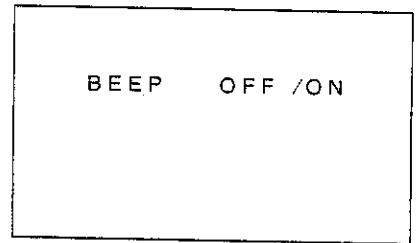
BEEP Setting

- ① Press ∇ TUNE/TRACK \wedge on the SET UP screen to select BEEP.
- ② Press ∇ CH/DISC \wedge to select ON or OFF as desired.

BEEP ON



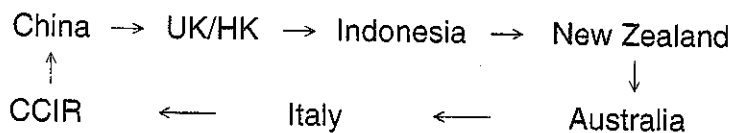
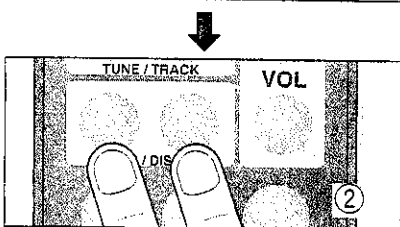
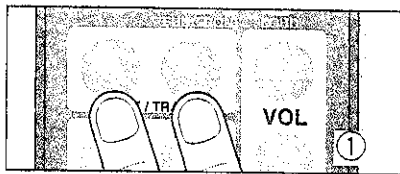
BEEP OFF



Setting TV Channels for Respective Countries

The TV channels vary depending on the country where the unit is used. The TV channels of the following countries can be set as below.
[China, UK/HK (United Kingdom/Hong kong), Indonesia, New Zealand, Australia, Italy, CCIR (U.A.E., Thailand, Kenya, Kuwait, Turkey, Singapore)]

- ① Press ∇ TUNE/TRACK \wedge on the SET UP screen to select TV CHANNEL SELECT.
- ② Press ∇ CH/DISC to select the country as desired.



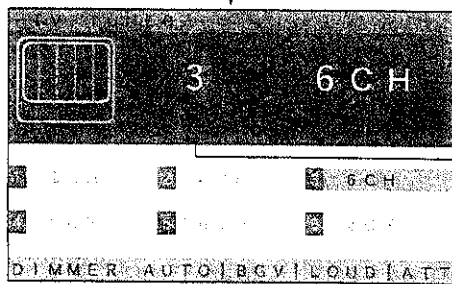
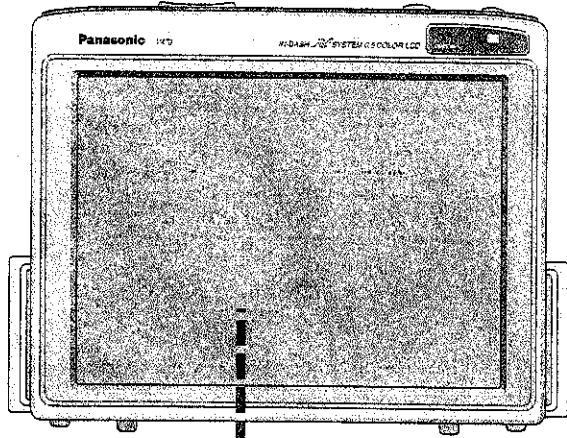
(CH/DISC \wedge : opposite direction)

The CQ-VA70PEW can be set to the following TV channel specifications.

Country	VHF Channels	UHF Channels
China	1 - 12	13 - 57
UK/HK	-	21 - 69
Indonesia	1A - 11	21 - 69
New Zealand	1 - 11	21 - 69
Australia	0 - 12	28 - 69
Italy	2 - 20	21 - 69
CCIR (U.A.E., Thailand, Kenya, Kuwait, Turkey, Singapore)	2 - 12	21 - 69

TV Operation (Display)

Requires the use of a separately available diversity antenna (TY-CA44 or equivalent).



TV channel indicator

Displays TV broadcast channels.

Preset indicator

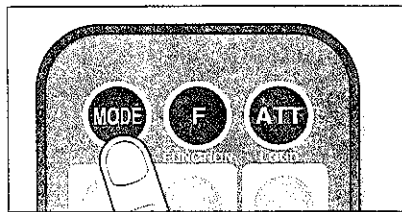
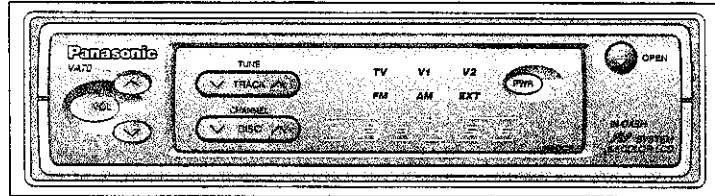
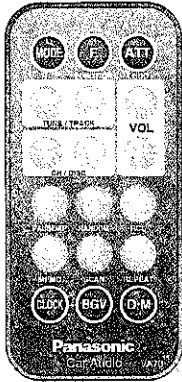
Displays the preset number when the preset button is pressed.

Preset list display

Displays channels currently preset.

TV Operation

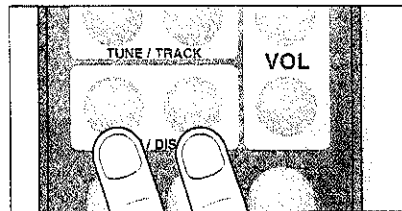
For safe driving, TV operation is available only in stopped condition with the parking brake pulled. "WARNING" will be displayed, if you try to switch to TV mode by pressing the MODE button while driving.



(The corresponding button on the display unit may also be used for this operation.)

Switching to TV Screen

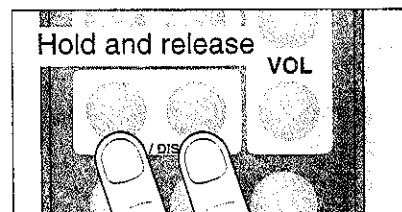
Press MODE to select TV mode.



(The corresponding button on the display unit may also be used for this operation.)

Channel Selection

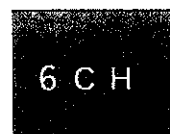
Press ∇ CH/DISC \wedge to move to a higher or lower channel number.



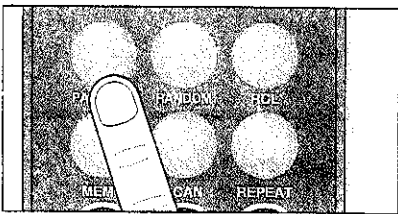
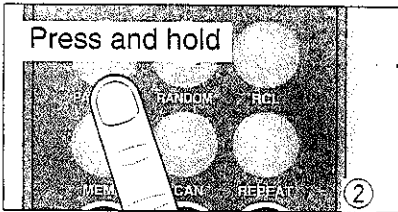
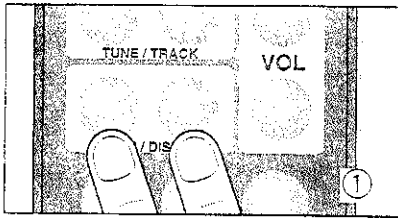
(The corresponding button on the display unit may also be used for this operation.)

Automatic (Seek) Channel Selection

Press ∇ CH/DISC \wedge for more than half a second, then release it. Channel selection will automatically stop at the next station.



TV Operation (Continued)



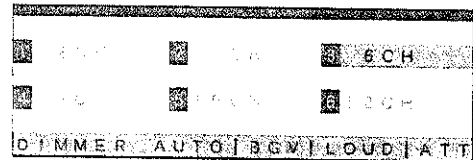
Manual Station Preset

A maximum of 6 stations can be preset in the station memory.

- ① Selection of a broadcast station
Press ∇ CH/DISC \wedge to select a desired station.
- ② Preset button memory
Press and hold one of the preset buttons (1 to 6) until the channel number appears on the preset list display. This completes the storage of the preset channel in the memory.

Preset Channel Selection

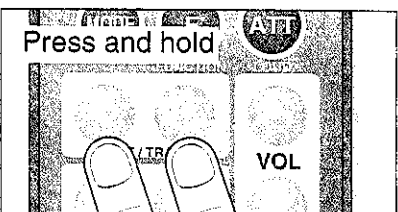
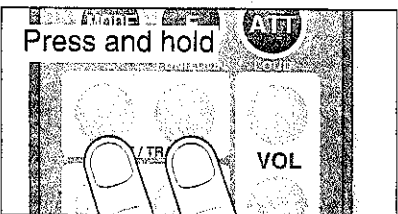
Press any of the preset buttons (1 to 6) to select a channel preset.



Note: You can change the memory setting by repeating the above procedure.

Panasearch

TV channel numbers can change in each service area. With UHF channels, in particular, it is difficult to find your favorite because there are so many. This search is made easy with the PANASEARCH function. One touch of the PANASEARCH button will store any channel in memory. Use this function when driving in an area where you are not familiar with the channel numbers.



Auto Station Preset

1. Storing channels in memory

Press and hold ∇ TUNE/TRACK \wedge for more than 2 seconds to move to a higher or lower channel number you want to store.

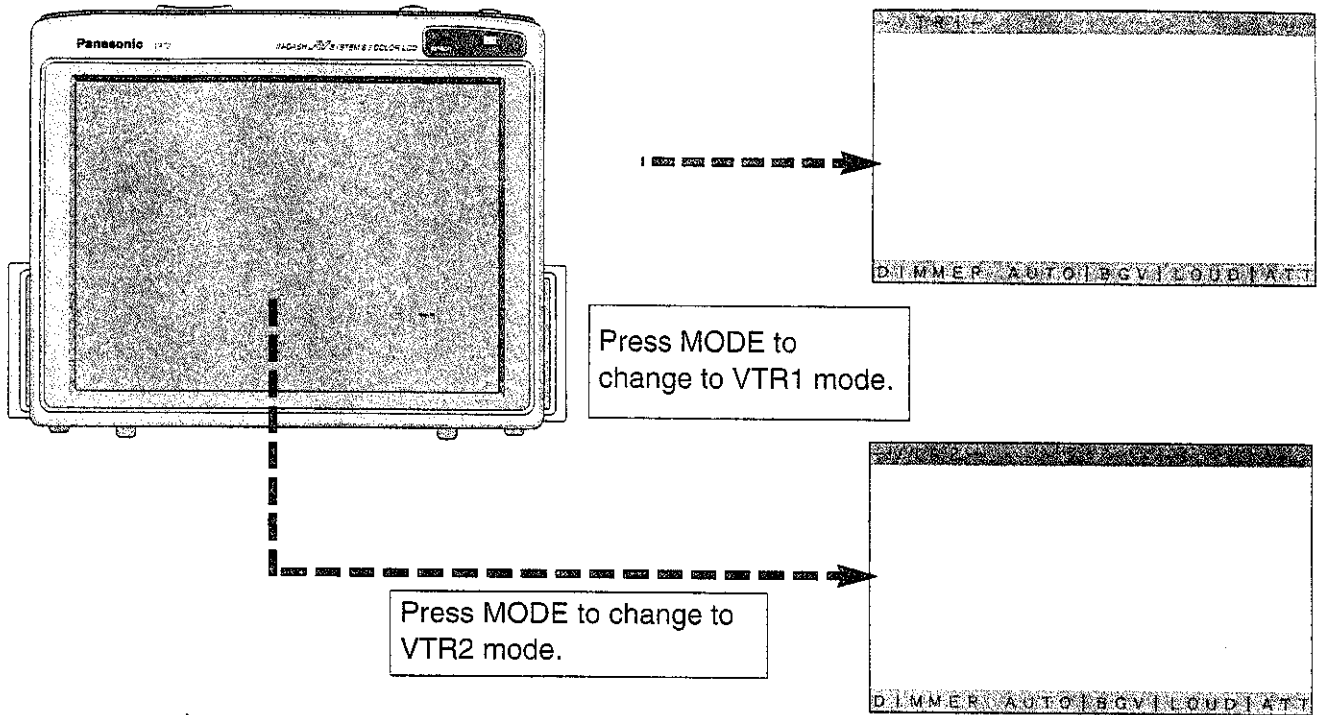
2. Changing to a stored channel

Press and hold ∇ TUNE/TRACK \wedge for more than 2 seconds to move to a higher or lower channel number you want to select. Channels without broadcast services are skipped. Press ∇ TUNE/TRACK \wedge again to cancel PANASEARCH.

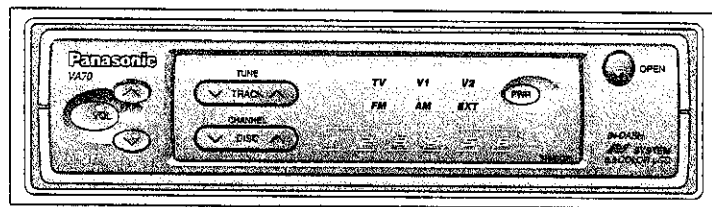
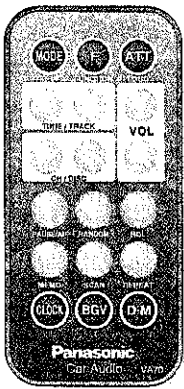
Note:

- PANASEARCH is a function by which search is started and available broadcast stations are stored in the order of channel numbers so that the first stored channel can be seized. (When the channel number stops, search is finished.)
- Undesirable audio noise is cut off during PANASEARCH.
- In areas where TV reception is poor, it may not be possible to store channels in memory with the PANASEARCH button.

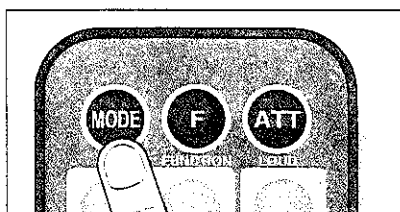
VTR1/VTR2 Operation (Display)



VTR1/VTR2 Operation



To Watch Video Programs



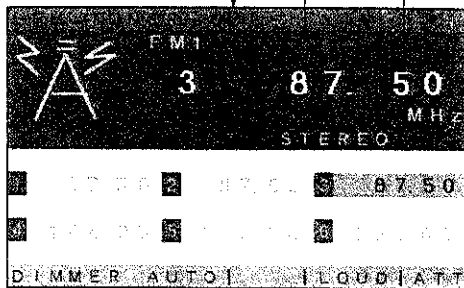
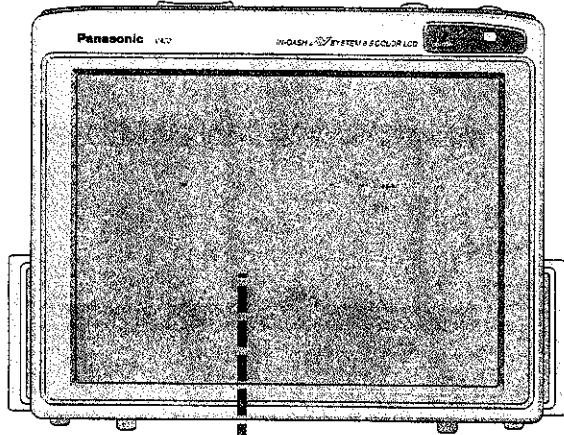
Switching to Video

Press MODE to select VTR mode.

— V T R 1 —

(The corresponding button on the display unit may also be used for this operation.)

Tuner (Radio) Display



FM1/FM2/AM1/AM2 (Band Indicator)
Indicates the band being received.

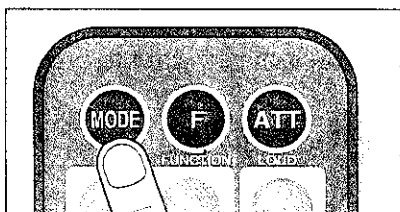
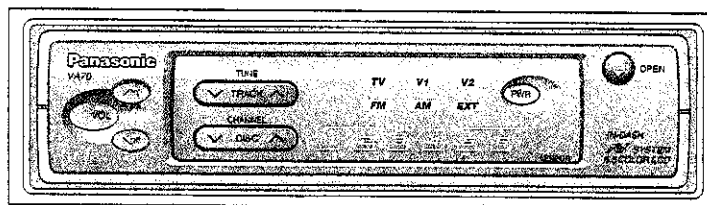
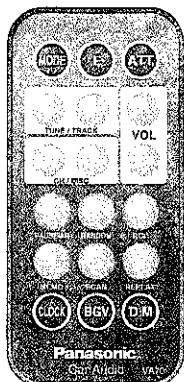
Channel Indicator
Indicates the preset channel number.

Frequency Indicator
Indicates the frequency on which the tuner is operating.

FM STEREO Indicator
Indicates that FM stereo broadcast is being received.

Preset List Display
Shows the current channels preset.

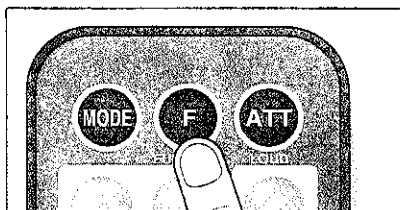
Radio Basics



(The corresponding button on the display unit may also be used for this operation.)

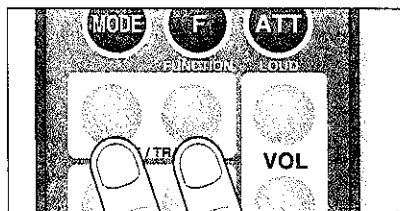
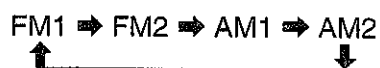
To change Tuner Mode

Press MODE to switch to tuner mode.



Selecting a Band

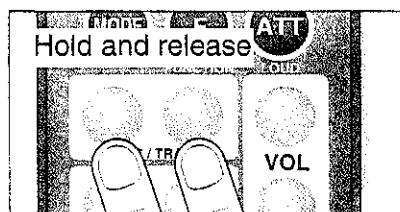
Press F to select a band as follows.



(The corresponding button on the display unit may also be used for this operation.)

Manual Tuning

Press ∇ TUNE/TRACK \wedge to move to a lower or higher frequency.



(The corresponding button on the display unit may also be used for this operation.)

Seek Tuning

Press and hold ∇ TUNE/TRACK \wedge for more than half a second, then release it. The radio automatically stops on the next station.

Radio Basics (Continued)

Preset Station Setting

Up to 24 stations can be preset in the station memory as follows;

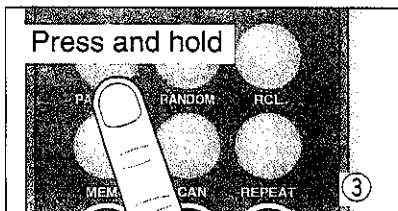
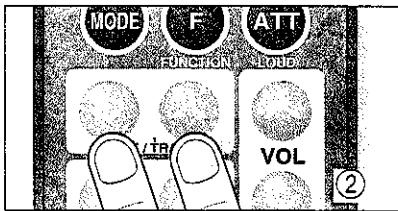
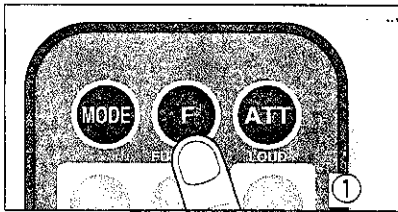
FM1	FM2	AM1	AM2
6 stations	6 stations	6 stations	6 stations

Manual Station Preset

① Press F to select a desired band.

② Use manual or seek tuning to find a station that you want to program into memory.

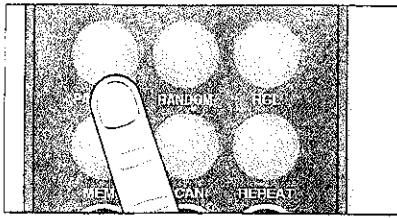
③ Press and hold one of the station selector buttons 1 through 6 until the display blinks.



Note: For safety reasons, do not attempt to program while driving.

Destination country	FM reception frequency step
UK/HK, Italy	50 kHz
Other countries	100 kHz

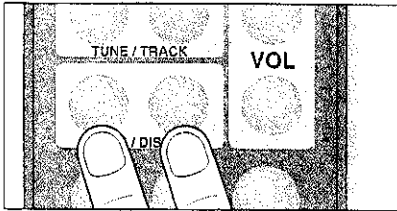
(See page 12)



Tuning in a Station Preset

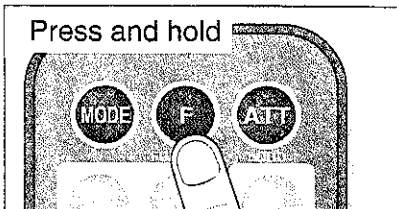
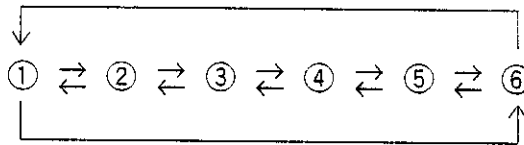
<Direct Tuning>

Press any of the button 1 to 6 to tune in the station preset.



<Sequential Tuning>

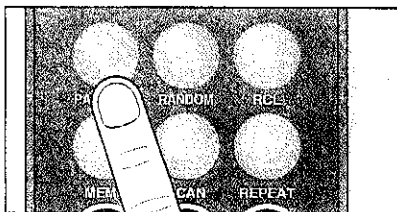
Press ∇ CH/DISC \wedge to tune in to one of the stations preset to the pre-set buttons (1 to 6). The stations change as follows.



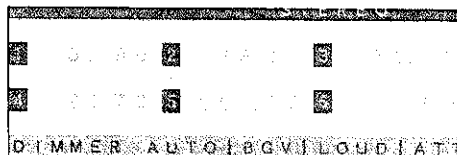
Auto Station Preset

After selecting a band, press and hold F for more than 2 seconds.

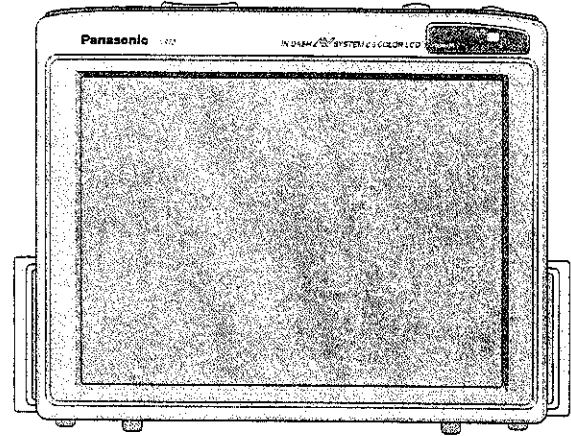
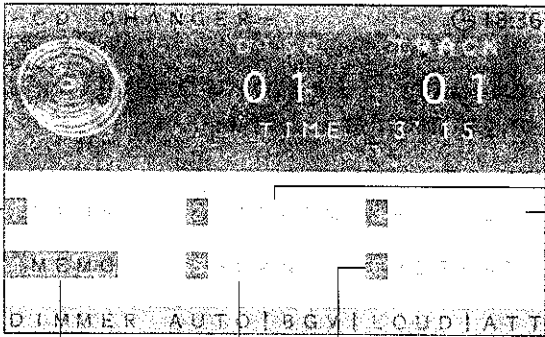
- The 6 strongest available stations will be automatically set in memory on preset button 1 to 6.



- Once set, the preset stations are sequentially scanned for 5 seconds each.
- Press the appropriate preset button for the station you want to hear.

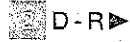


CD Changer Control Display



RANDOM (Random Play) Indicator

Indicates random play.



(Disc random)



(Track random)

RECALL Indicator

Shows RECALL when the disc content is displayed.

REPEAT Indicator

Indicates a repeated playing number.



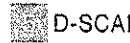
(Disc repeat)



(Track repeat)

SCAN Indicator

Indicates the playing numbers by scanning.



(Disc scan)



(Track scan)

MEMO (Memory) Indicator

① Shows MEMO when a number is stored in the memory.

② Shows M▶ in memory play mode.

PAUSE/AP (Pause/Auto Pause) Indicator

Indicates a pause.

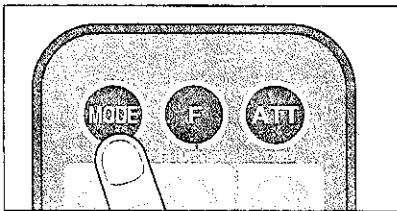
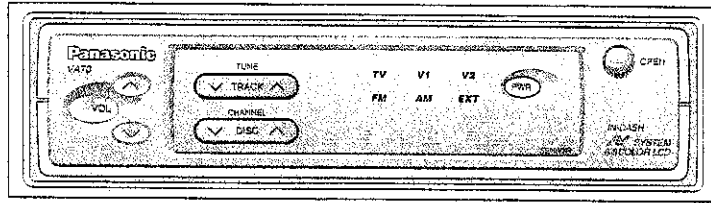
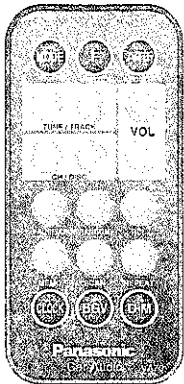


(Pause)



(Auto pause)

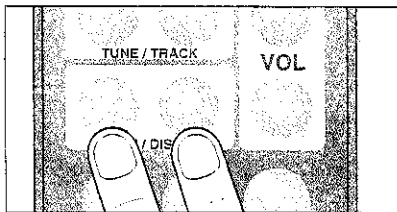
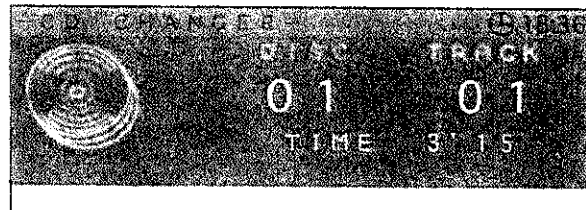
CD Changer Control Operation



(The corresponding button on the display unit may also be used for this operation.)

To start the CD Changer

Press MODE to change to the CD changer mode.



(The corresponding button on the display unit may also be used for this operation.)

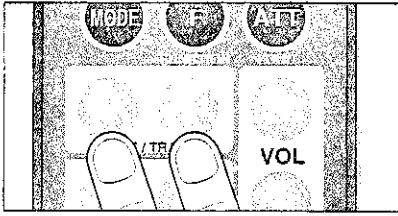
Selecting a Disc

Press ∇ CH/DISC \wedge to select a disc in descending or ascending order.

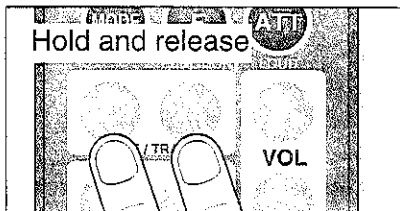
Note:

The " ∇ CH/DISC" or "CH/DISC \wedge " is operated, has priority over that of Random play mode. The Random mode will stop and the disc select function will operate once the " ∇ CH/DISC" or "CH/DISC \wedge " is pressed.

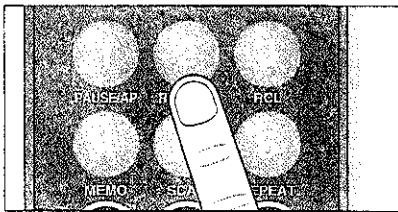
CD Changer Control Operation (Continued)



(The corresponding button on the display unit may also be used for this operation.)



(The corresponding button on the display unit may also be used for this operation.)



Selecting a Track

- Press ∇ TUNE/TRACK \wedge once to go to the next track.
- Press ∇ TUNE/TRACK \wedge once to play from the beginning of the current track.
- Press repeatedly to skip the desired number of tracks.

Searching a Track

Press and hold ∇ TUNE/TRACK \wedge for more than half a second to activate fast forward (\wedge) or reverse (∇) through a track. Release ∇ TUNE/TRACK \wedge to resume the normal CD play.

Random Selection

① Track Random Play

- Press 2 (RANDOM). A random selection of music is played from all available tracks.
- Press 2 (RANDOM) again to cancel.

2 RANDOM

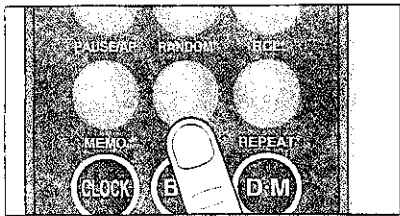
② Disc Random Play

- Press and hold 2 (RANDOM) for more than 2 seconds. A random selection of music is played from all available tracks.
- Press and hold 2 (RANDOM) for more than 2 seconds again to cancel.

2 D-R▶

Note:

- The order of playing numbers is selected by the built-in computer at random.
- If a number selected for track random play is not available on the current disc (for example, if a 12th number is selected when the disc has only 10 numbers), other numbers on the disc will be automatically selected again.
- If there are only a few discs in the magazine, even empty disc trays will be selected, resulting in an interruption of play during that time. Therefore, using the track random play function is not recommended in such a case.



Scanning Tracks

① Track Scan Play

- Press 5 (SCAN). The display blinks and the first 10 seconds of each track on the discs play in sequence.

5 T-SCAN

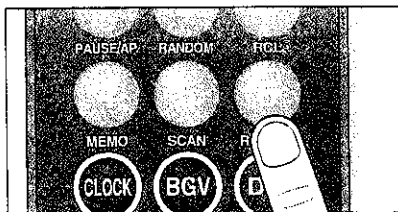
- Press 5 (SCAN) again to cancel.
- Scan mode is also released when the disc has come to the program preceding the original program.

② Disc Scan Play

- Press and hold 5 (SCAN) for more than 2 seconds. The first track of all the discs in the magazine is played for 10 seconds each.

5 D-SCAN

- Press and hold 5 (SCAN) again for more than 2 seconds to cancel.
- Scan mode is also released when the disc has come to the program preceding the original program.



Repeating a Track

① Track Repeat Play

- Press 6 (REPEAT) to repeat the current track.

6 T-REP

- Press 6 (REPEAT) again to cancel.

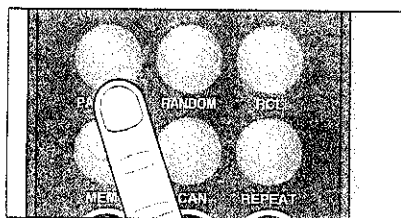
② Disc Repeat Play

- Press and hold 6 (REPEAT) for more than 2 seconds to repeat the current disc.

6 D-REP

- Press and hold 6 (REPEAT) again for more than 2 seconds to cancel.

CD Changer Control Operation (Continued)



Pause

- Press 1 (PAUSE) to stop temporarily while the disc playing.



- Press 1 (PAUSE) again to cancel.

Auto Pause

- Press and hold 1 (PAUSE) for more than 2 seconds to stop temporarily at the head of each track.
Press 1 (PAUSE) again, the disc starts playing again.



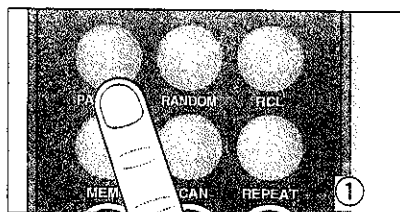
- Press and hold 1 (PAUSE) again for more than 2 seconds to cancel.

Note:

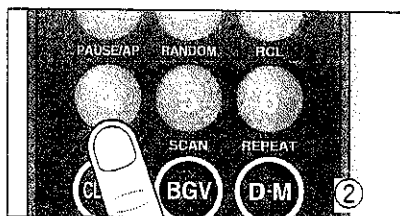
This function is available only for CD changers equipped with Auto Pause.

Storing Tracks in Memory

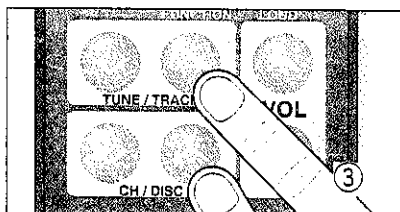
- ① Press 1 (PAUSE) to stop temporarily while the disc playing.



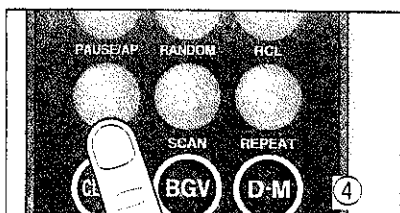
- ② Press 4 (MEMO).



- ③ Press ∇ CH/DISC \wedge and ∇ TUNE/TRACK \wedge to select a desired number.

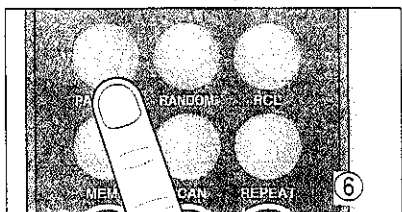


- ④ Press 4 (MEMO) to program the selected number in memory.



- ⑤ Repeat steps ③ and ④ to save one desired number after another in the memory. The word FULL appears if an attempt is made to save beyond the maximum.
- * The maximum of numbers that can be saved in the memory varies with the CD changer used.

MEMO — FULL



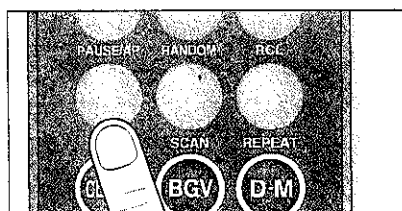
- ⑥ After saving all numbers in the memory, press 1 (PAUSE). Memory play automatically starts with the first number saved in the memory.

Memory Play

- Press 4 (MEMO) to start the memory play.

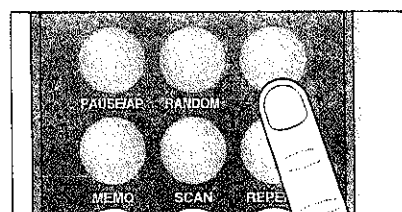


- Press 4 (MEMO) again to cancel.





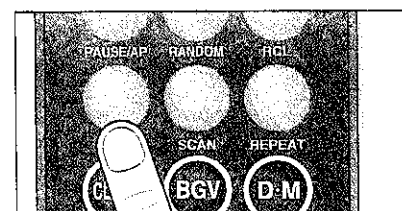
Memory Check

Press 3 (RCL) to check the all memorized numbers on display.



To Clear the Stored Numbers

To delete all numbers saved in the memory, press and hold 4 (MEMO) for more than 2 seconds while the disc is playing.  MEMO or  M▶ on the memory indicator goes out, indicating that the memorized numbers have been all cleared.

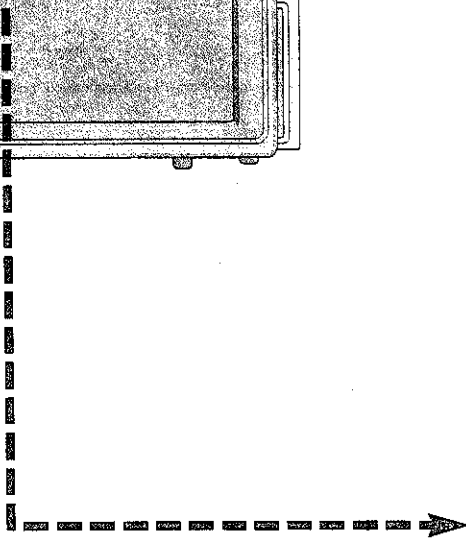
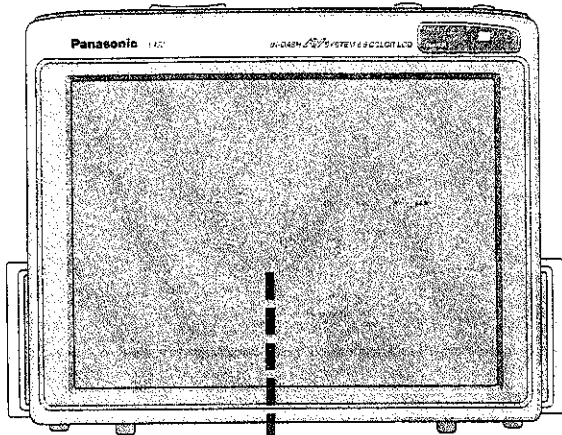


CD Changer Control Operation (Continued)

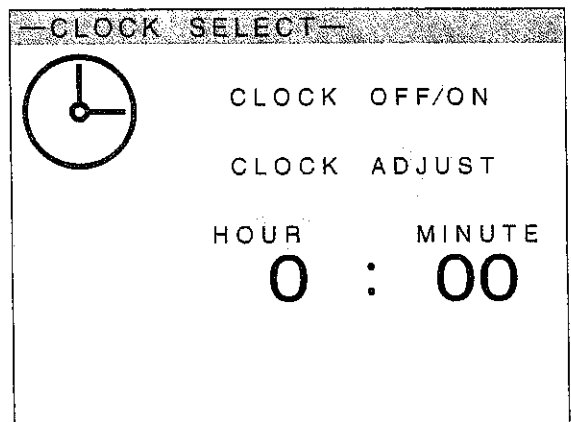
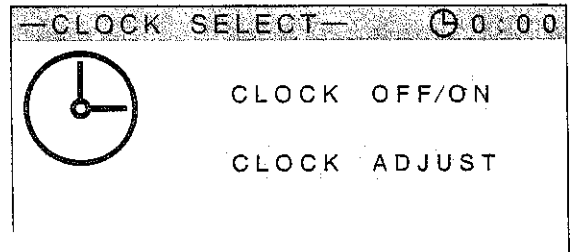
■ **Error Display** Errors are displayed in basic display mode only.

Display	Description
FULL	This appears when the maximum is reached in saving numbers for memory play.
E1	This indicates either a dirty disc or a disc placed the wrong side out. In this case, the changer automatically proceeds to the next disc.
E2	This indicates a damaged disc. The changer automatically proceeds to the next disc.
E3	This appears if the set fails to operate due to some cause. Press the EJECT button on the changer.
NO DISC	This appears if no disc is in the magazine.

Clock Basics (Display)



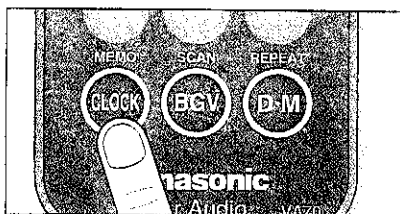
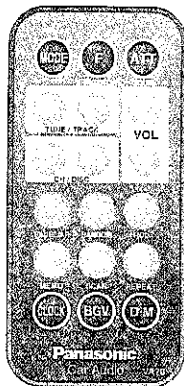
Press
CLOCK
button



<Time Setting Mode>

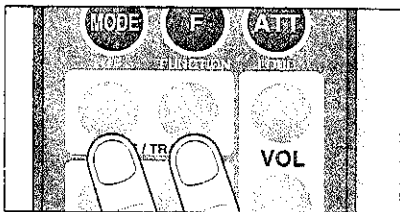
Clock Basics (24-hour clock)

The set has a 24-hour clock built in.



To Read the Clock

- Press CLOCK to select CLOCK SELECT mode.
- Press ∇ CH/DISC \wedge to set the clock function ON or OFF.
ON position: The present time (24-hour system) is displayed.



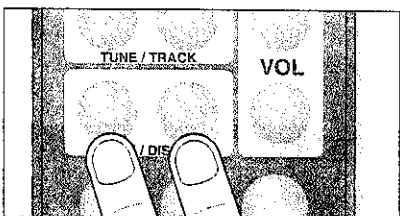
Clock Adjustment

- ① Press ∇ TUNE/TRACK \wedge to select CLOCK ADJUST.

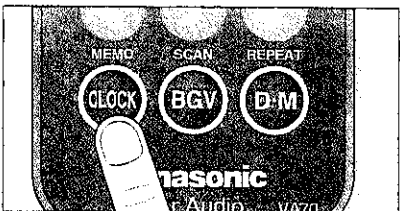
For initial adjustment For second or subsequent adjustment

HOUR
0

HOUR
20



- ② To set hours, press ∇ CH/DISC.
To set minutes, press CH/DISC \wedge .



- ③ Press CLOCK again after setting to switch to normal mode.

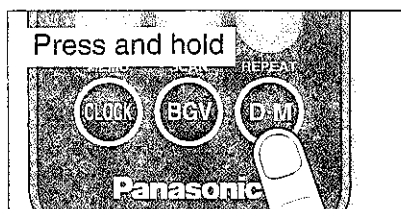
Note:

Press ∇ CH/DISC or CH/DISC \wedge during clock adjustment, then hour or minute is continuously increased.

Useful Features

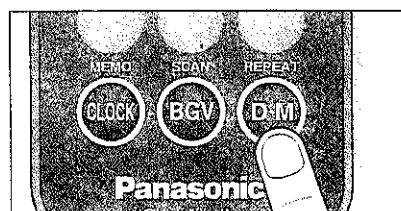
Direct Memory Function

The set has a direct memory function which calls back a station from the memory and receives it when you press a button in any mode. It is convenient for listening to traffic information.



Direct Memory (D•M)

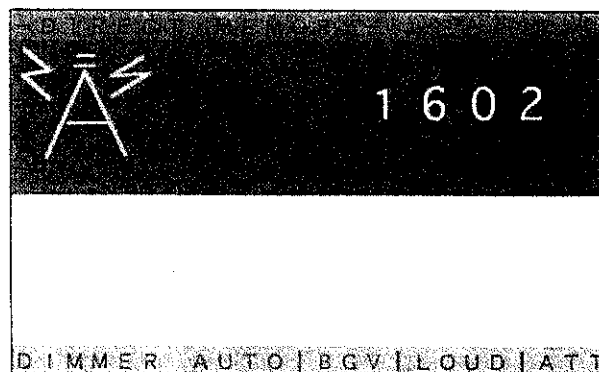
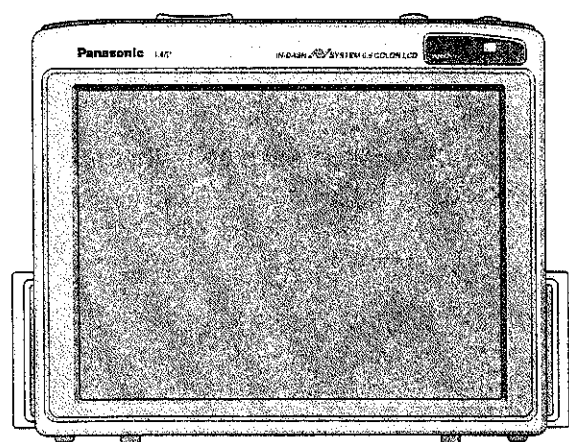
Select a desired station to be programmed in the memory in tuner mode. Then press and hold D•M for more than 2 seconds until the display blinks to program the selected station in the direct memory.



Direct Memory Recall

Press D•M to switch to D•M mode as follows.
(D•M default : FM 87.50 MHz)

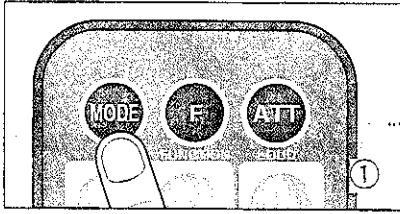
Normal mode ↔ D•M (User memory)



Useful Features (Continued)

Background Visual (BGV)

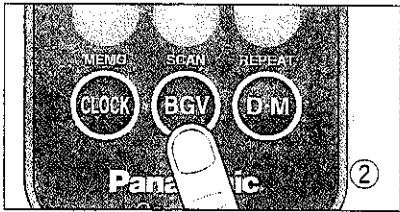
The BGV (Background Visual) function allows you to keep watching your favorite video tape program and change only the audio sound. It is available in all TV and VTR modes.



① Press MODE and select your favorite video tape program from any TV or VTR mode.

② Press BGV to change to BGV mode. "BGV" appears in the display.

B G V



③ Press MODE to select a favorite audio program from TV, VTR or CD changer.

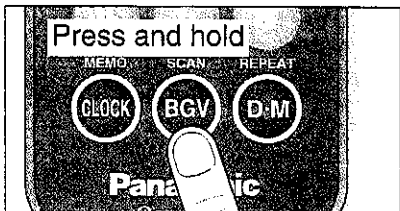
④ Press BGV again to cancel.

Note:

- Any button operated in BGV mode will only affect audio operation.
- The radio will be silent while selecting TV images in BGV mode.

Color Selection

The colors of the function display can be adjusted.



Press and hold BGV for more than 2 seconds each time, the next four different color patterns are selected.

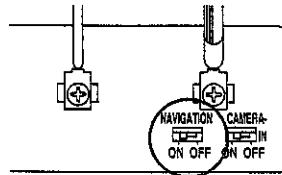
Setting for System Upgrading

Setting for Video Output Type Car Navigation System

To use a video output type car navigation system, connect it to the VTR2 terminal. The navigation screen appears when the NAVIGATION switch is turned on without the parking brake pulled. (Select VTR2 with the MODE button.)

* Set the NAVIGATION switch to match the equipment connected to the VTR2 terminal as shown in the table below.

Equipment connected to VTR2	Position of NAVIGATION switch
Car navigation system	ON
Video playback equipment, such as video deck	OFF



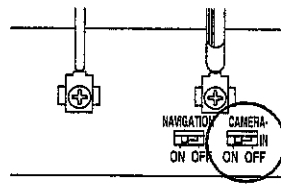
NAVIGATION Switch

(The NAVIGATION switch is originally set to the OFF position when shipped from the factory.)

Setting for System Upgrading (Continued)

Setting for Connection of a Car Backup Camera

Use the VTR1 terminal to connect the car backup camera. When CAMERA switch is set to ON position and the reverse cord is connected, the camera operation will be interlocked with the reverse gear of the car. In this arrangement, the display will change automatically to the car backup camera screen whenever the car goes into reverse gear.



CAMERA Switch

(The CAMERA switch is originally set to OFF position when shipped from the factory.)

Batteries for Remote Control

Battery Replacement:

1. Remove the battery holder.

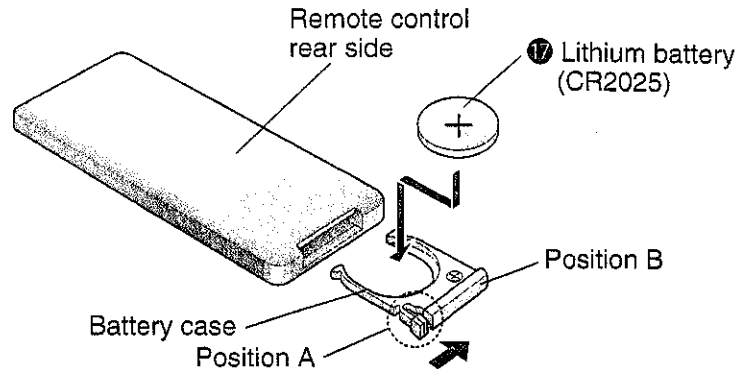
Pull the holder by the Position B while pushing Position A in the direction indicated by the arrow.

2. Replace the battery.

Set a new battery properly with the (+) side up as illustrated.

3. Insert the battery holder.

Push in the holder to the original position.



Note on Batteries:

Old battery must immediately be removed and disposed.

Battery Information:

- Designated Battery: Panasonic Lithium Battery (CR2025)
- Battery Life: 6 months with normal use (in normal room temperature)

Caution:

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

- Do not disassemble or short the batteries. Do not throw the batteries into the fire.
- To avoid the risk of accident, keep the batteries out of reach of children.

Maintenance and Care

Maintenance

Your product is designed and manufactured to ensure a minimum of maintenance. To clean the exterior of this unit, use a soft cloth to wipe the surface. Do not use benzine, thinner or any other type of solvent.

Product Service

- This unit should only be serviced by qualified technicians. Service information is not provided for customers.
- Should your unit ever require service, refer to the enclosed Panasonic Factory Service center or consult your nearest authorized Panasonic Service Center for detailed instructions.

Replacing the Fuse

Be sure to use a fuse of the specified rating (3A, 10A) when replacing a blown fuse. Fuses with higher capacity ratings, use of any substitute, or connection without a fuse may result in a fire hazard or damage to the unit. If the replacement fuse fails, consult your nearest authorized Panasonic Service Center.

Installation Guide

■ Precautions

If possible, this equipment should be professionally installed. In case of difficulty, please consult with your nearest professional installer.

1. This unit only operates in a 12-volt DC negative ground system.
2. Before performing installation and wiring, remove the negative (-) terminal of the battery. (See Note below.)

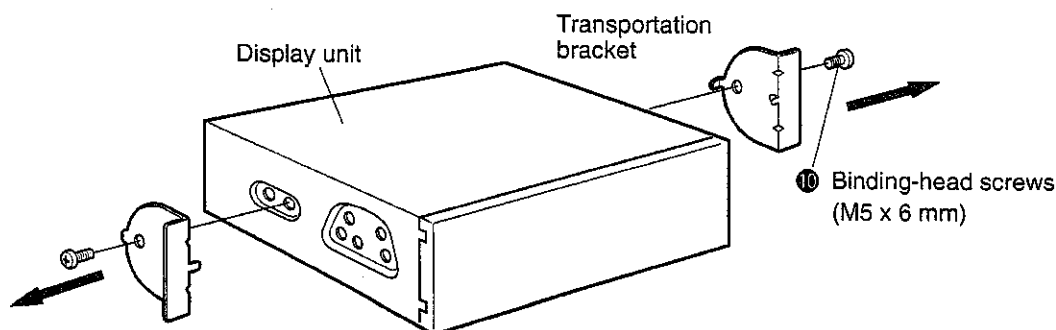
Note:

Do not disconnect the negative battery terminal in vehicles equipped with trip or navigational computers. All electronic memory settings previously registered will be lost. Take extra care to avoid causing short-circuits when installing the unit.

3. Follow the wiring connection diagram carefully to avoid causing damage to the unit.
4. Insulate all exposed wires to prevent short-circuits.
5. Secure all loose wires after installing the unit.
6. Please carefully read the operating and installation instructions of any equipment connected to this unit.

■ Transportation Bracket Removal

Be sure to remove the transportation brackets before use (installation).
Use screws (M5 x 6 mm) with washers for installation.
Be careful not to lose any of these parts.



■ Installation Hardware

(The supplied package contains the following installation hardware.)

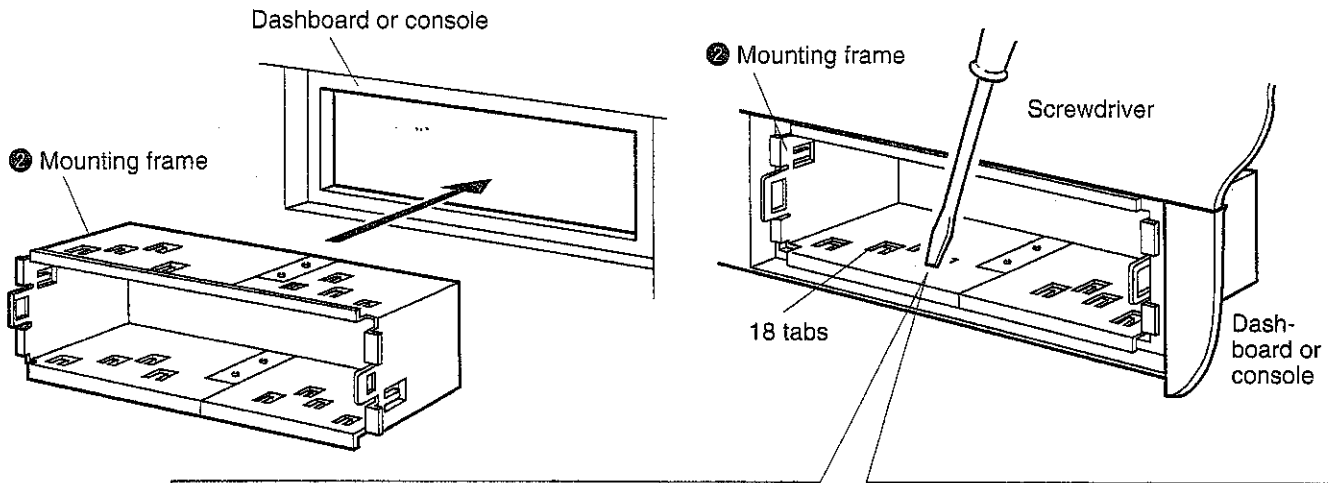
No.	Description	Qty.
①	Trim plate	1
②	Mounting frame	1
③	Mounting spring	2
④	Rubber pad	1
⑤	Mounting bolt (M5)	1
⑥	Flange nut (M6)	1
⑦	Washer assembling hex. bolt (M5 x 10mm)	1
⑧	Washer assembling hex. bolt (M6 x 20mm)	1

No.	Description	Qty.
⑨	Stay	1
⑩	Binding-head screw (M5 x 6 mm)	2
⑪	Flat-head screw (M5 x 6 mm)	4
⑫	Spacer	2
⑬	Double-Faced adhesive tape	2
⑭	Magic tape	2
⑮	TV antenna converting cord	1 set
⑯	Remote control unit	1
⑰	Lithium battery	1

■ Installation

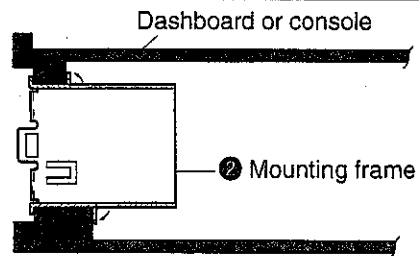
1. Insert the mounting frame into the dashboard or console of the car.

2. Bend the tabs on the mounting frame with a screwdriver (at least at 6 points).

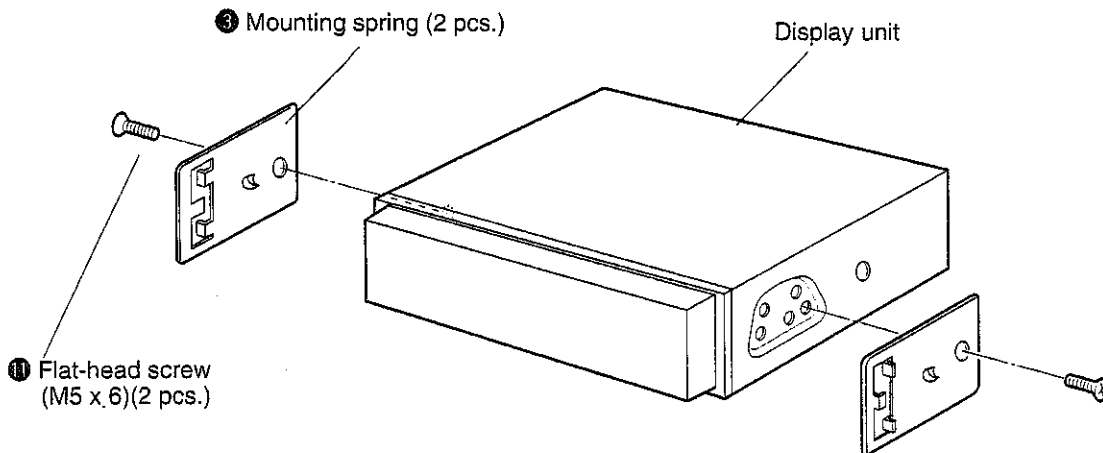


Fastening the Mounting Frame

The tabs to be bent vary with the car. Bend them with a screwdriver to fasten the mounting frame securely in the dashboard or console.

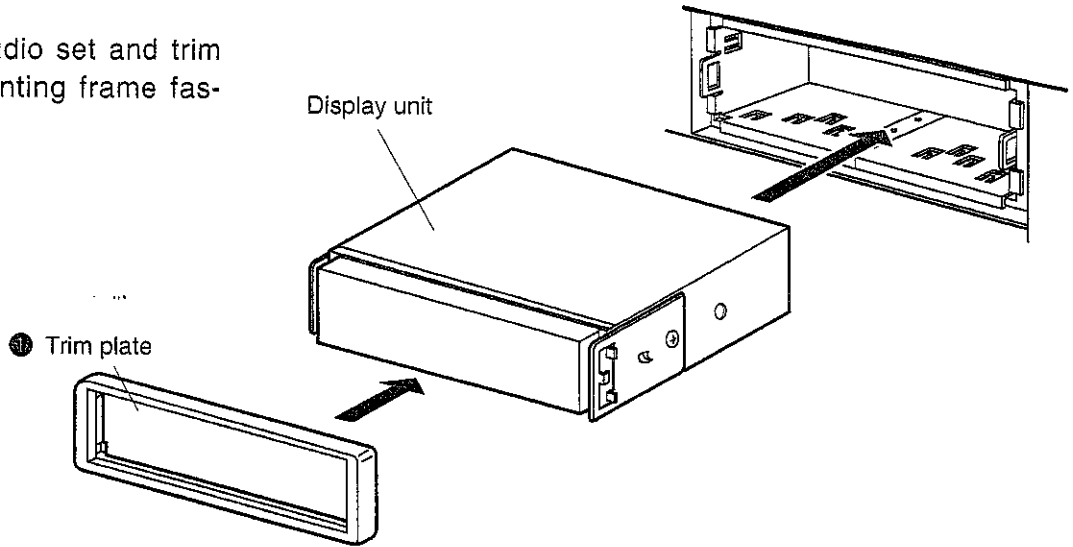


3. Attach the mounting springs to the car audio set.



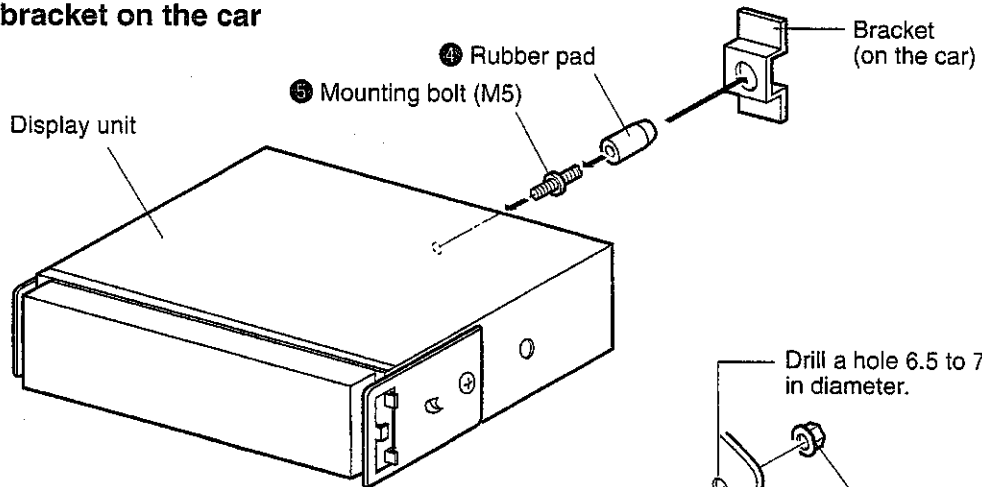
Installation Guide (Continued)

4. Install the car audio set and trim plate in the mounting frame fastened to the car.

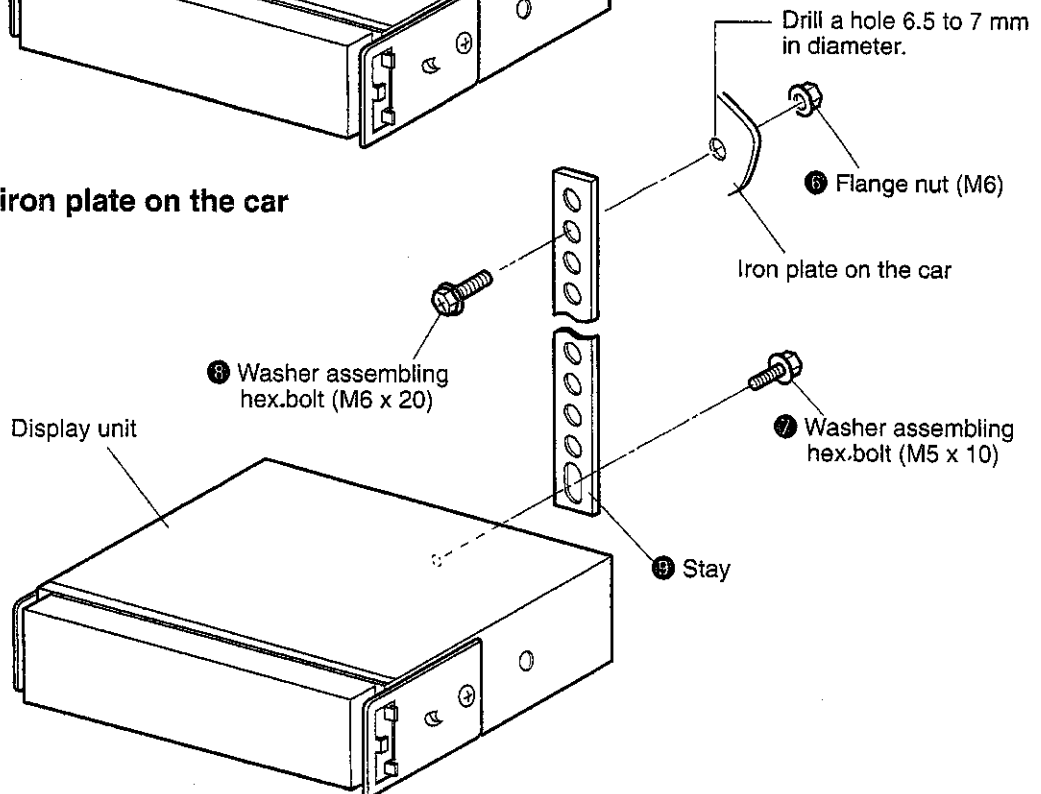


■ There are two ways of fastening the rear of the car audio set.

• Fastening to bracket on the car

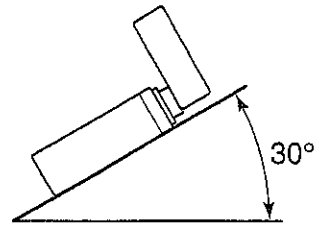


• Fastening to iron plate on the car



- When mounting the unit in a Toyota car, use the lateral side screw holes marked "T".
- Use the brackets on the car for installation.
- An exclusive kit (optional) may be needed according to the year, model, and grade. Please consult a nearby sales agent. An exclusive relay cord (optional) is also available. It facilitates wiring toward the car side.

To maximize performance of this unit, mount it at an angle of within 30 degrees against the horizontal plane.



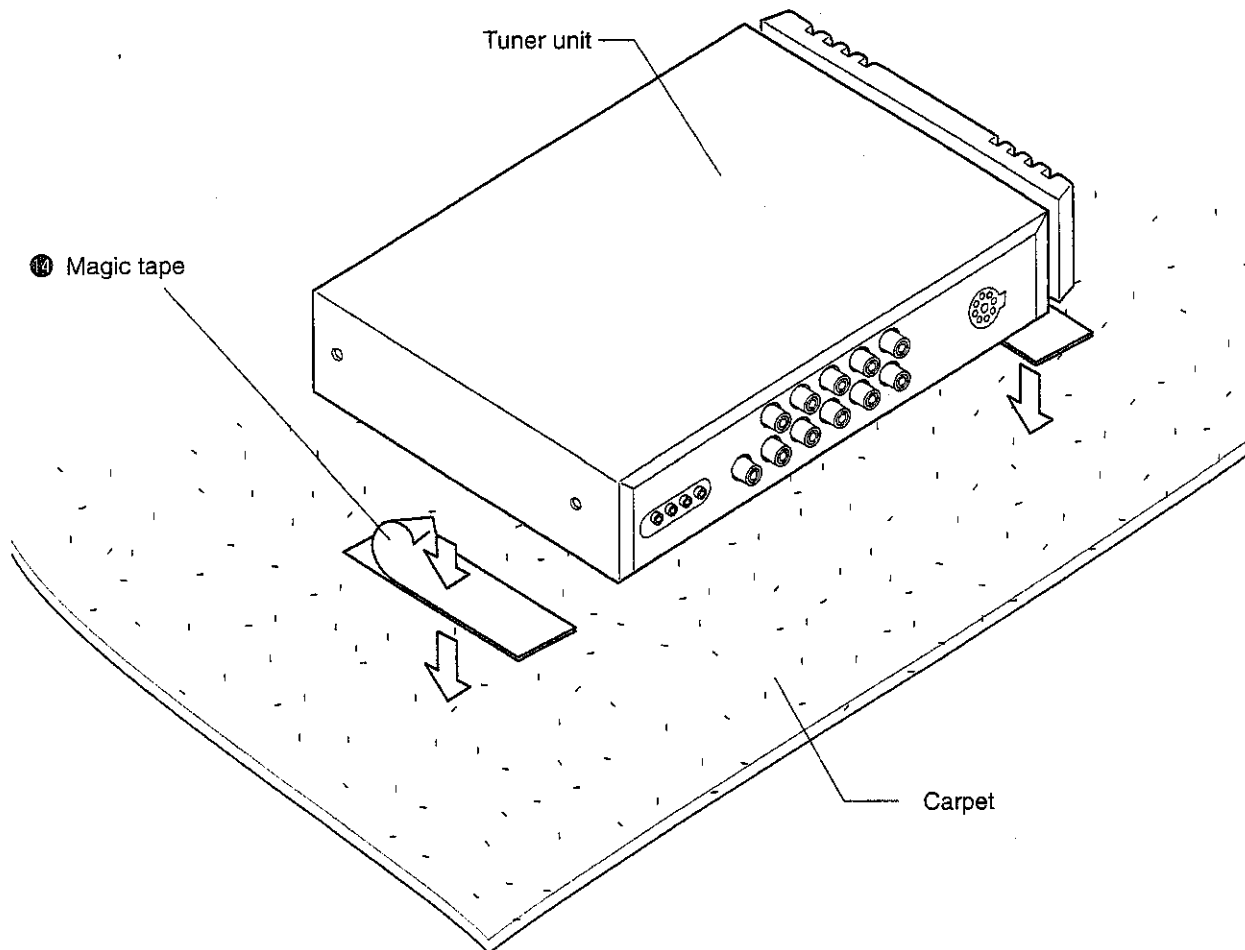
<Mounting the Tuner Unit>

Mounting Example

Stick Magic tape ⑭ on the L-type mounting brackets and mount the tuner on the car carpet.

Note:

Some carpet materials may not be suitable for this mounting method.



Note:

- Never mount the tuner in any of the following locations to avoid damage due to overheating:
 1. Near the heater port
 2. Places like the dashboard or rear tray, where it may be exposed to direct sunlight.
- Do not mount the tuner near the door, where it could be exposed to rain.

Electrical Connection

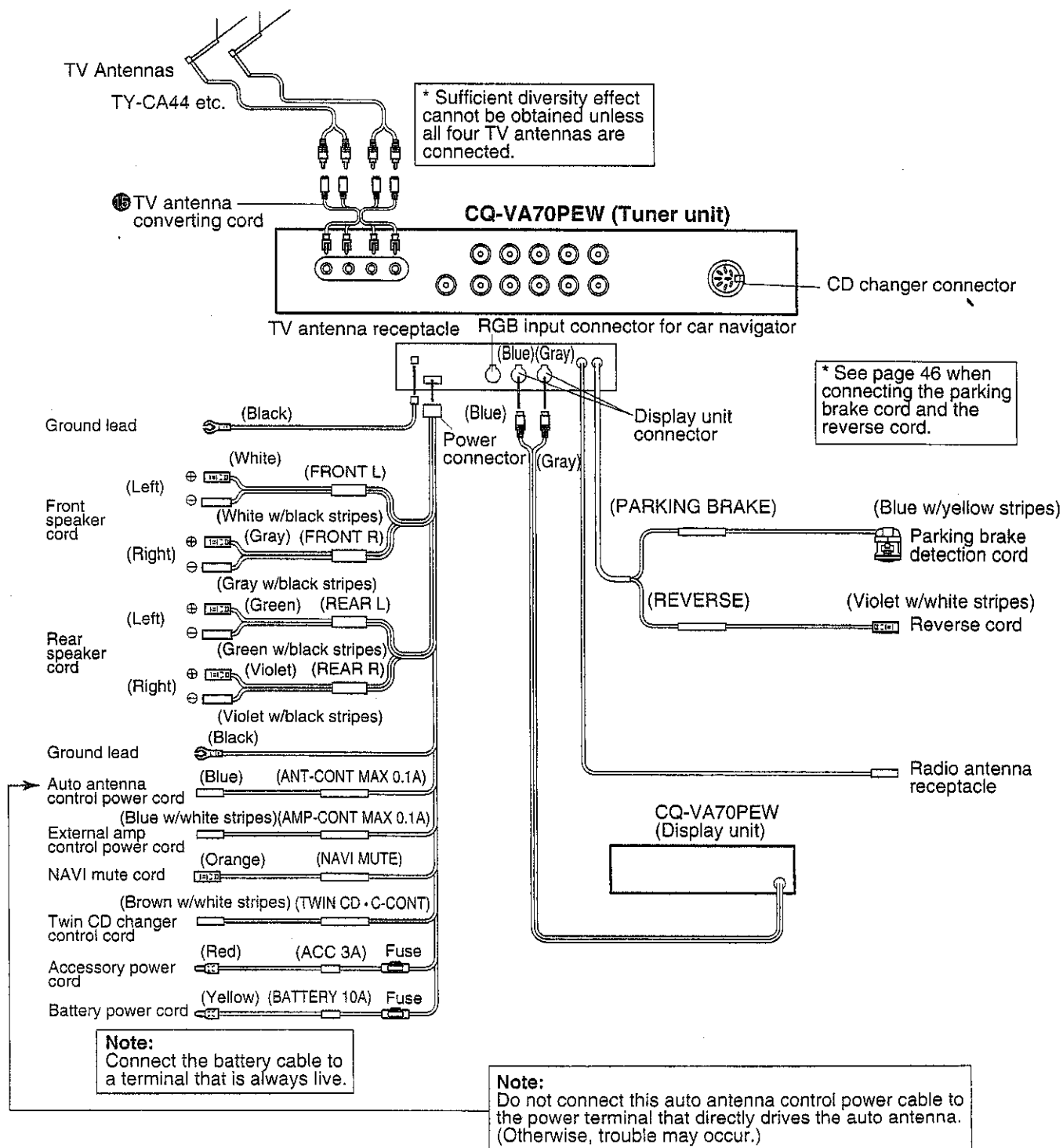
Before Wiring

- To prevent damage to the unit, be sure to follow the connection diagram below.
- Be sure to insulate any exposed wires against possible short-circuit from the car chassis. Bundle all cables and should not be disconnected. Therefore, extra care should be taken to prevent short-circuits.
- Do not insert the power connector into the unit until the wiring is completed.

Note:

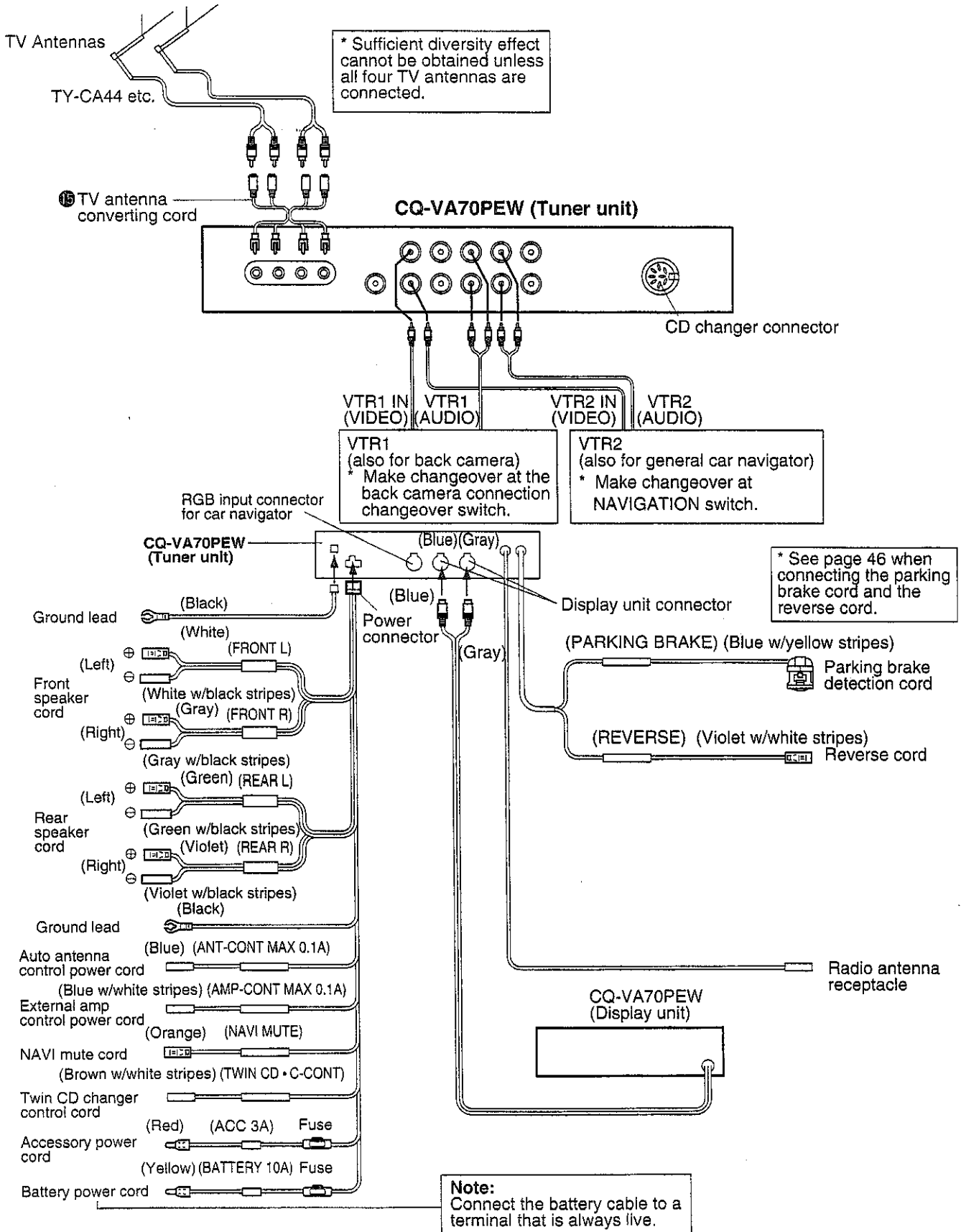
For installation in cars with trip or navigational computers, all electronic memory settings previously registered in the computer will be lost when the battery terminal is disconnected. Do not disconnect the battery in vehicles equipped with these units. Therefore, extra care should be taken to prevent short-circuits.

<Basic Wiring>



<System Upgrading Example 1>

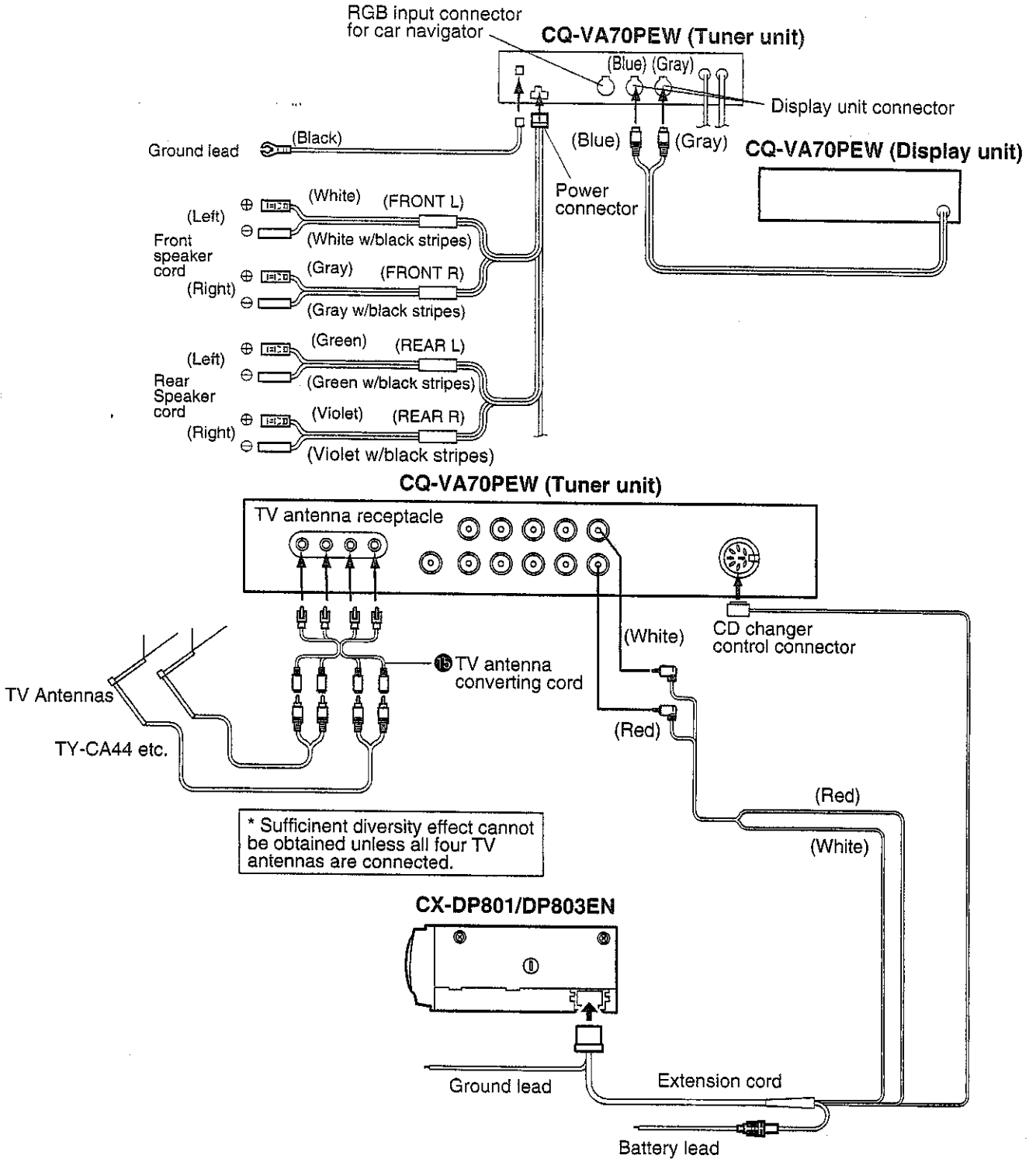
Connecting VTR1 (or a car backup camera) and VTR2 (or a general car navigator) to the CQ-VA70PEW



Electrical Connection (Continued)

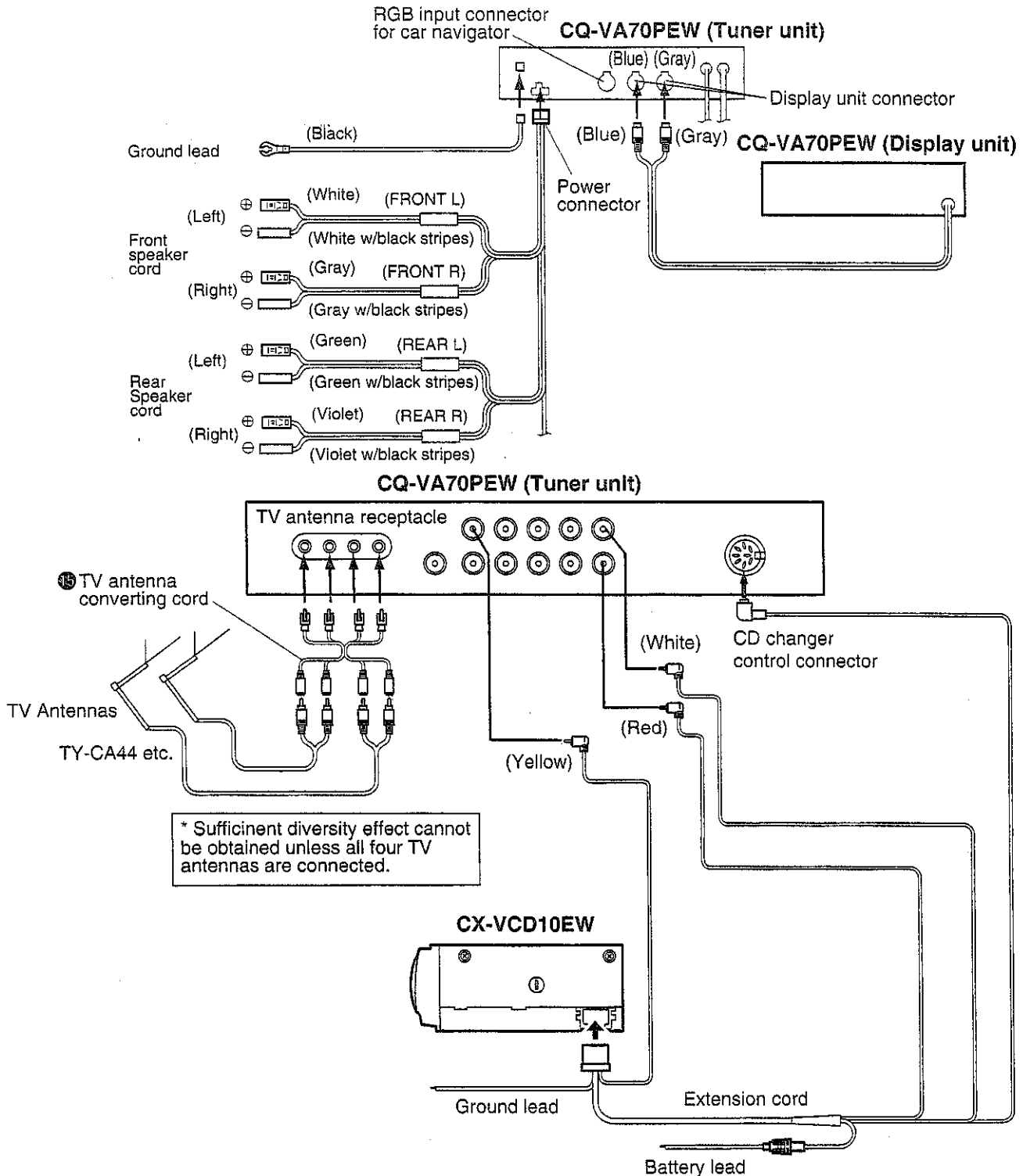
<System Upgrading Example 2>

System upgrading by combining CQ-VA70PEW with CX-DP801/DP803EN



<System Upgrading Example 3>

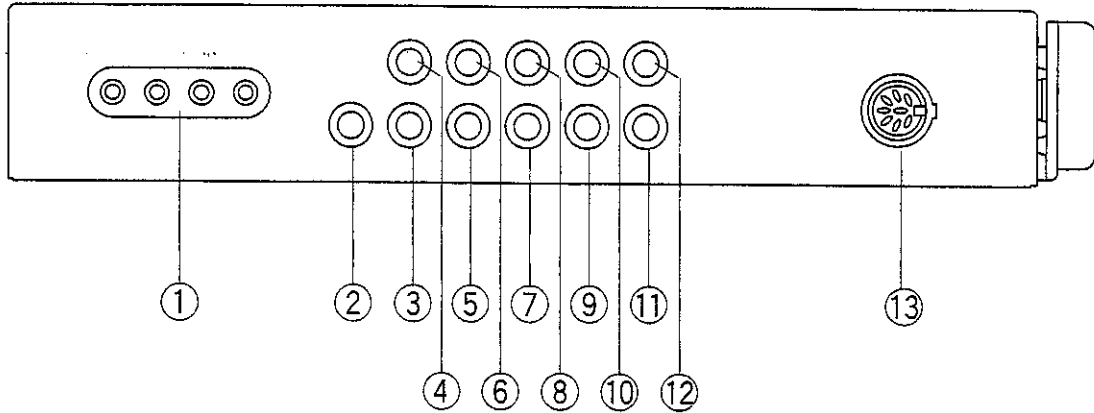
System upgrading by combining CQ-VA70PEW with CX-VCD10EW



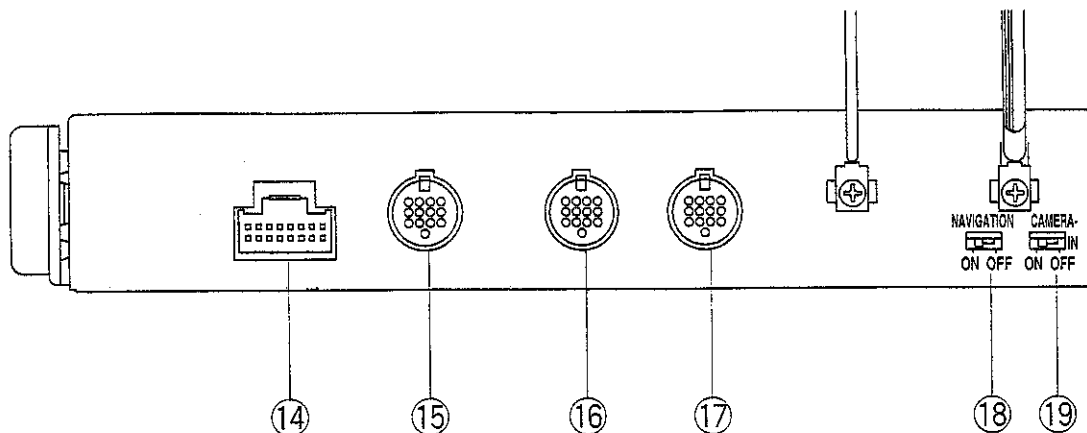
Electrical Connection (Continued)

Description of Tuner Unit Connectors and Switches

- These are connectors and switches used to upgrade the system by connecting various units.
- Refer to the system upgrading examples on pages 41 to 43 for connections.



- | | |
|---|--|
| <p>① TV antenna terminal
For connecting a TV antenna</p> <p>② VIDEO-OUT
Outputs a video signal for an external monitor.</p> <p>③ VIDEO2-IN
Accepts the video input from VTR2.</p> <p>④ VIDEO1-IN
Accepts the video input from VTR1.</p> <p>⑤ PRE OUT (R)
Supplies the right channel audio output.</p> <p>⑥ PRE OUT (L)
Supplies the left channel audio output.</p> <p>⑦ VTR1 (R)
Accepts the right channel audio input from VTR1.</p> <p>⑧ VTR1 (L)
Accepts the left channel audio input from VTR1.</p> | <p>⑨ VTR2 (R)
Accepts the right channel audio input from VTR2.</p> <p>⑩ VTR2 (L)
Accepts the left channel audio input from VTR2.</p> <p>⑪ EXT-IN (R)
Accepts external audio input for the right channel.</p> <p>⑫ EXT-IN (L)
Accepts external audio input for the left channel.</p> <p>⑬ CH • C
For connecting a CD changer</p> |
|---|--|



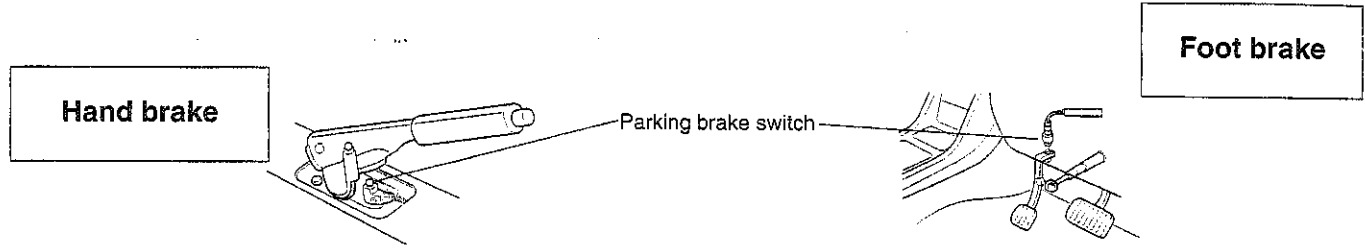
- ⑭ **Power Terminal**
For connecting the power connector of the CQ-VA70PEW
- ⑮ **NAVI-RGB**
For connecting a navigation system
- ⑯ **DISPLAY UNIT-A**
For connecting an exclusive display unit
- ⑰ **DISPLAY UNIT-B**
For connecting an exclusive display unit
- ⑱ **NAVIGATION CHANGEOVER Switch**
Set this switch to the ON position when using a navigation system.
- ⑲ **CAMERA CHANGEOVER Switch**
Set this switch to the ON position when using a rear-view camera.

Electrical Connection (Continued)

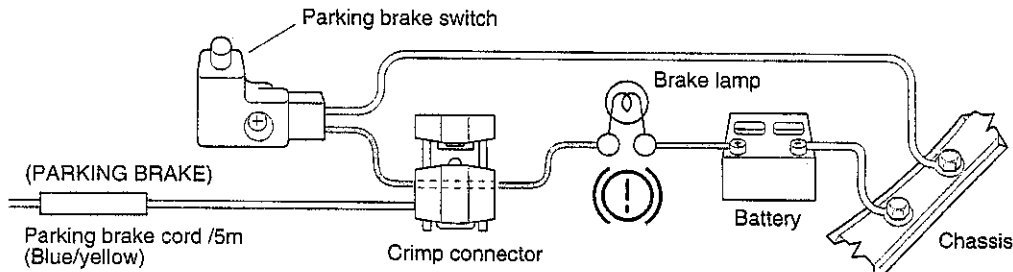
Connecting the Parking Brake Cord

Note:
Make sure to connect the parking brake cord to ensure safety and prevent accidents.

- * Out of the two cords coming from the parking brake switch, connect the cord that is normally not earthed on the chassis (when the parking brake is released.)

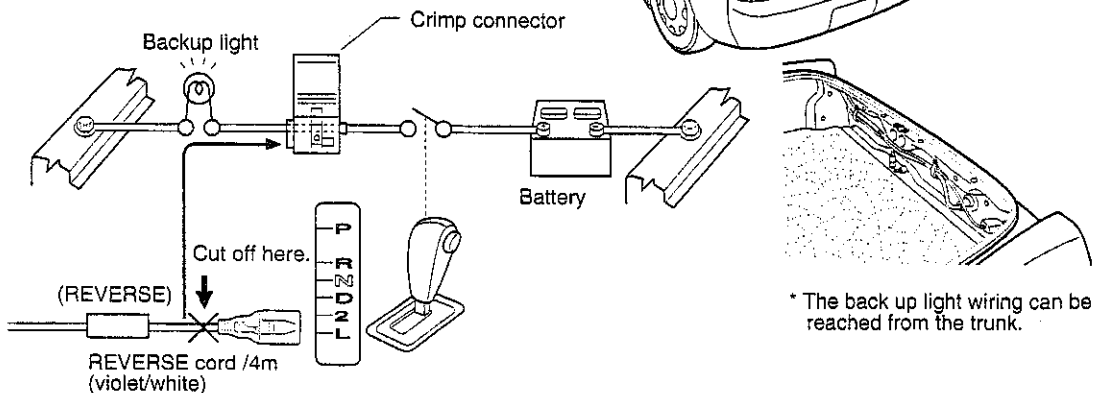
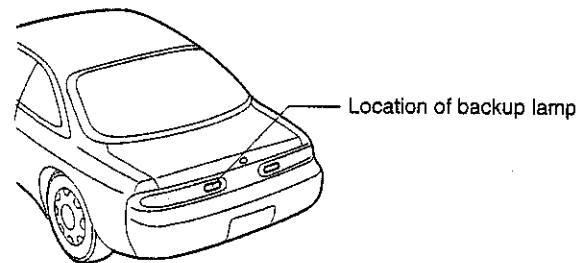


- * Make sure to connect the parking brake cord (blue/yellow) to the wiring of the parking brake switch.
- * The position of the parking brake switch can differ according to the car model. An example is shown below. Detailed information is obtainable from the car dealer.



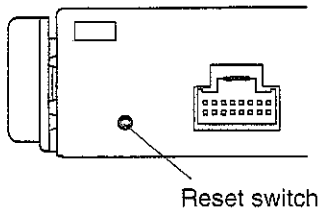
Connecting the Reverse Cord

- * Connect the reverse cord (violet/white) to the plus wire of the backup light. The backup light (with a clear lens) is located at the rear of the car and lights when the gear lever is put into reverse (R).



In Case of Irregular Operation

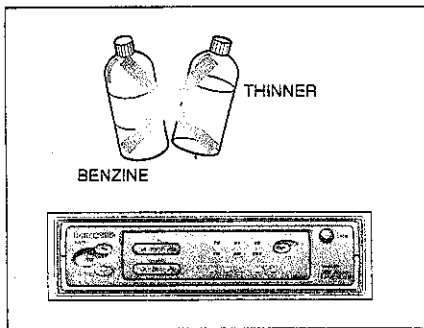
Tuner unit



<Reset Switch>

Pressing this switch after recovery from an irregularity resets the circuit to its initial condition. Use a fine but strong enough tool like a thin bar to press the switch. Note, however, that resetting will clear all memory contents.

Maintenance



<Cleaning the Unit Casing>

- Wipe the unit casing clean with dry soft cloth. Do not use benzine or thinner because the casing and coating may deteriorate.
- If you use chemical cleaning cloth, follow its usage instructions.

Specifications

General

Power supply		: DC 12V (11V - 16V); test voltage, 14.4V; negative ground
Current consumption		: 8.0A (at rated TV operation output)
Bass adjustment		: ±12 dB (100 Hz)
Treble adjustment		: ±12 dB (10,000 Hz)
Rated output power		: 12W x 4CH (1,000 Hz, 1%, 4Ω)
Maximum output power		: 30W x 4CH
Suitable speaker impedance		: 4Ω
Audio input impedance		: 10kΩ
Audio input sensitivity		: 600 mV
PRE-OUT output voltage		: 600 mV
PRE-OUT output impedance		: 600Ω
Video input signal		: Composite video signal, 1.0 V[p-p], 75Ω
Video output signal		: Composite video signal, 1.0 V[p-p], 75Ω
External dimensions	Display Unit	: 178(W) x 50(H) x 160(D) mm
	Tuner Unit	: 260(W) x 40(H) x 160(D) mm
Weight	Display Unit	: 2.3 kg
	Tuner Unit	: 1.7 kg

Tuner Block

FM tuner block

Transmission frequency	: 87.5 - 108.0 MHz
Practical sensitivity	: 12 dB/μV
S/N 50 dB quieting sensitivity	: 15.2 dBf
Total harmonic distortion (monaural)	: 0.3% (1 kHz)
Auditory correction S/N ratio	: 70 dB
Frequency response	: 20 - 15,000 Hz ±3 dB
Separation	: 40 dB (1 kHz)
Effective selectivity	: 75 dB

AM tuner block

Transmission frequency	: 531 - 1,602 kHz
Practical sensitivity	: 33 dB/μV (S/N 20 dB)
Image rejection ratio	: 65 dB

TV Block

Receiving channel	: See page 12
Practical sensitivity	: 42 dB/μV

Display Block

Display	: 6.5 type (17cm)
No. of pixels	: 224,640 (Vertical 234 x Horizontal 960) Effective pixel rate 99.99% or more
Driving system	: TFT (thin-film transistor) active matrix system
Light source	: Internal light (small FL incorporated)