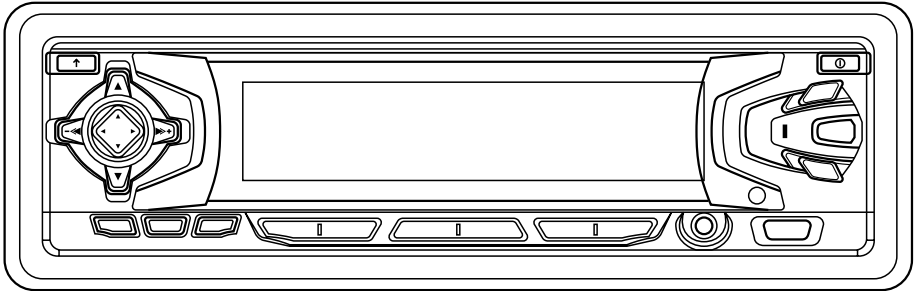


OWNER'S MANUAL

Marine Audio System



- **PLL Synthesizer Stereo Radio**
- **Digital Compact Disc Player**
- **Automatically Memory Storing**
- **Fold Down Full Detachable Panel**
- **Auxiliary Input Function**
- **CD Changer Control**
- **Preset Equalization**
- **Remote Control**

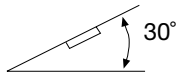
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INSTALLATION

Notes:

- Choose the mounting location where the unit will not interfere with the normal driving function of the driver.
- Before finally installing the unit, connect the wiring temporarily and make sure it is all connected up properly and the unit and the system work properly.
- Use only the parts included with the unit to ensure proper installation. The use of unauthorized parts can cause malfunctions.
- Consult with your nearest dealer if installation requires the drilling of holes or other modifications of the vehicle.
- Install the unit where it does not get in the driver's way and cannot injure the passenger if there is a sudden stop, like an emergency stop.
- If installation angle exceeds 30° from horizontal, the unit might not give its optimum performance.



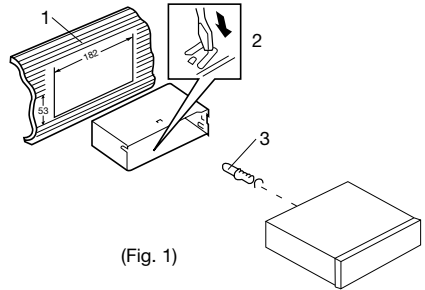
- Avoid installing the unit where it would be subject to high temperature, such as from direct sunlight, or from hot air, from the heater, or where it would be subject to dust, dirt or excessive vibration.

DIN FRONT/REAR-MOUNT

This unit can be properly installed either from "Front" (conventional DIN Front-mount) or "Rear" (DIN Rear-mount installation, utilizing threaded screw holes at the sides of the unit chassis). For details, refer to the following illustrated installation methods.

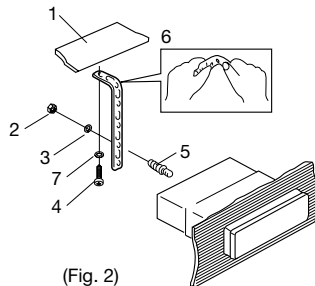
DIN FRONT-MOUNT (Method A)

Installing the unit



(Fig. 1)

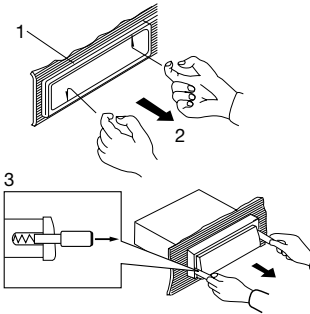
1. Dashboard
2. Holder
After inserting the holder into the dashboard, select the appropriate tab according to the thickness of the dashboard material and bend them inwards to secure the holder in place.
3. Screw



(Fig. 2)

1. Dashboard
2. Nut (5mm)
3. Spring washer
4. Screw (5 x 25mm)
5. Screw
6. Strap
Be sure to use the strap to secure the back of the unit in place. The strap can be bent by hand to the desired angle.
7. Plain washer

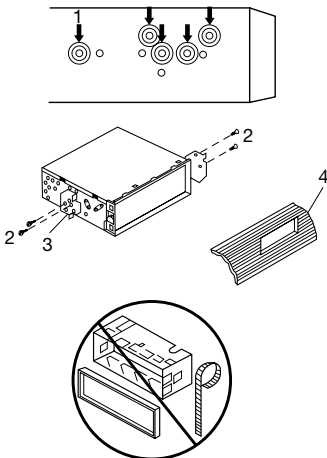
Removing the unit



1. Frame
2. Insert fingers into the groove in the front of frame and pull out to remove the frame. (When reattaching the frame, point the side with a groove downwards and attach it.)
3. Lever
Insert the levers supplied with the unit into the grooves at both sides of the unit as shown in figure until they click. Pulling the levers makes it possible to remove the unit from the dashboard.

DIN REAR-MOUNT (Method B)

Installation using the screw holes on the sides of the unit.



Fastening the unit to the factory radio mounting bracket.

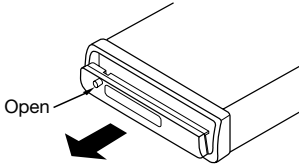
1. Select a position where the screw holes of the bracket and the screw holes of the main unit become aligned (are fitted), and tighten the screws at 2 places on each side.
Use either truss screws (5 x 5mm) or flush surface screw (4 x 5mm), depending on the shape of the screw holes in the bracket.
2. Screw
3. Factory radio mounting bracket
4. Dashboard or Console

Note: The mounting box, outer trim ring, and half-sleeve are not used for method B installation.

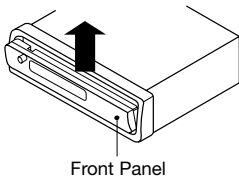
USING THE DETACHABLE FRONT PANEL

To Detach the Front Panel

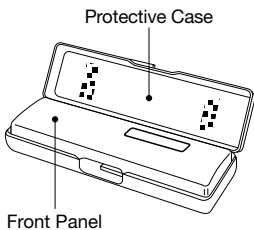
1. Press the **open** button (OPEN), then the front panel will be folded down.



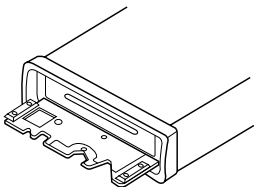
2. Remove the front panel by pulling its middle-hand outward.



3. For safekeeping, store the front panel in the supplied protective case immediately after being removed.

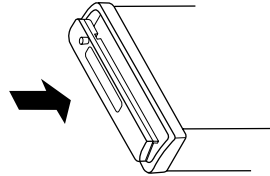


4. Push the front metal plate into the main body. A 'click' sound should be heard.



To Reinstall the Front Panel

1. Push the front panel into the main body. A 'click' sound should be heard.

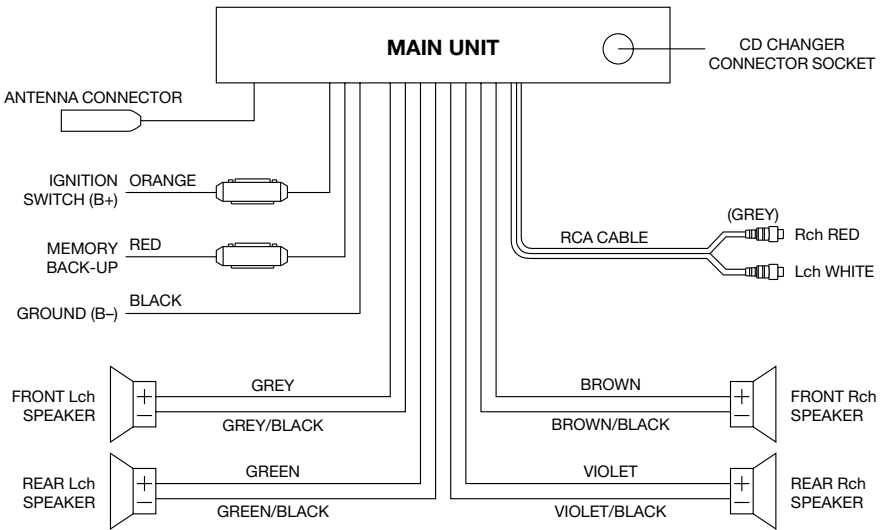


2. Note that if the front panel fails to lock in position properly, press control button may not function and display may be missing some segments. Pressing the **OPEN** button and then reinstall the front panel again.

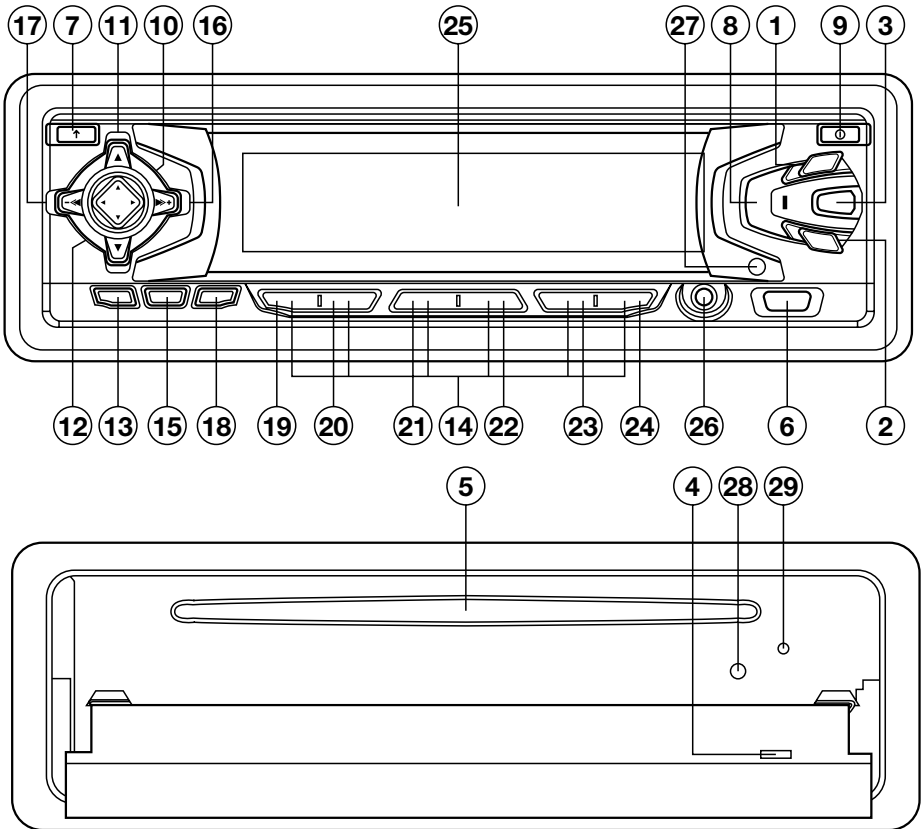
Precautions when Handling

1. Do not drop the front panel.
2. Do not put pressure on the display or control buttons when detaching or reinstalling the front panel.
3. Do not touch the contacts on the front panel or on the main unit body. It may result in poor electrical contact.
4. If any dirt or foreign substances adhered on the contacts, they can be removed with a clean and dry cloth.
5. Do not expose the front panel to high temperatures or direct sunlight in anywhere.
6. Keep away any volatile agents (e.g. benzene, thinner, or insecticides) from touching the surface of the front panel.
7. Do not attempt to disassemble the front panel.

WIRING CONNECTION



OPERATION



GENERAL OPERATION

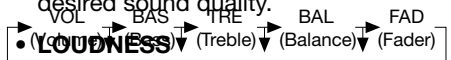
GENERAL OPERATION

- Switch on the unit by pressing any button.
- **ON/OFF/ELIMINATE** button and **SWITCH** button (1) When system is on, press **ON/OFF/ELIMINATE** button (1) and **SWITCH** button (1) to turn off the unit. Press it for several seconds (5) to turn off the unit.
- **FACEPLATE RELEASE** Press **OPEN** button (7) to detach the removable faceplate.
- **FACEPLATE RELEASE** Press **OPEN** button (7) to detach the removable faceplate.
- **SOUND ADJUSTMENT** Press **SEL** button (10) shortly to select the desired adjustment mode. The adjustment mode will change in the following order:



Press **SEL** button (10) shortly to select the desired adjustment mode. The adjustment mode will change in the following order:

- **SOUND ADJUSTMENT**



Press **BND/LOU** button (13) to increase bass output and display will show **MULTI JOG** button (12). It is possible to adjust the desired sound quality.

OPERATION

• SOUNDNESS LOCK

Press **BND/LOUDSPT** button (13), then press the **SKIP/MANU** button (17) to show **LOUD** on the display. Press **SKIP/MANU** >>+ button (16) to change hours.

• SELECT MODE

Press **MODE/DSP** button (6) to (15) then press the **SKIP/MANU** -<< button (17) (e.g. change mode to **CD** **SKIP/MANU** >>+ button (16) for **AtX** mode)

• SELECT MODE

Press **MODE** button (8) to obtain the desired listening mode. Press again to release the (e.g. radio mode to **CD** (MP3) mode to **CD** mode)

• LIQUID CRYSTAL DISPLAY (FOR

• LCD VERSION ONLY)

VACUUM FLUORESCENT DISPLAY (FOR VFD VERSION ONLY) Press the **EQ** button (8) to release the **EQ** mode. Press the **EQ** button (8) to release the **EQ** mode. Press the **EQ** button (8) to release the **EQ** mode. Press the **EQ** button (8) to release the **EQ** mode.

• EQUALIZATION

Press the **EQ** button (8) to play (25) on equalization function and to select

desired audio mode. There are four kinds of mode as below.

Press **EQ** button (8) to turn on equalization function and to select desired audio mode. There are four kinds of mode as below:

▶ FLAT ▶ CLASSICS ▶ POP ▶ JAZZ ▶ DSP OFF

• REMOTE SENSOR

Point the remote control handset to the remote sensor **IR** (27).

• REMOTE SENSOR

Press the function keys on the handset to control the remote control handset to the remote sensor **IR** (27).

AUXILIARY INPUT Press the function keys on the handset to control the system.

AUXILIARY INPUT The unit can be connected to a portable audio player through the **AUX IN** jack (26).

FLASHING LED The unit can be connected to a portable audio player through the **AUX IN** jack (26).

FLASHING LED If the front panel does not install in the main unit, the **LED** (28) will be flashing.

FLASHING LED If the front panel does not install in the main unit, the **LED** (28) will be flashing.

• RESET

Reset button (29) is placed on the front panel and must be activated with either a ball point pen or thin metal object. The reset button is to be activated for the following reasons:

- Initial installation of the unit when all wiring is completed.
- All the function buttons do not operate.
- Error symbol on the display.

Note: If press **RESET** button (29), the unit can't work yet, please use a cotton swab soaked in isopropyl alcohol to clean the socket on the back of the front panel.

RADIO OPERATION

• BAND SELECTION

At tuner mode, press **BND/LOU** button (13) to select the desired band.

The reception band will change in the following order:



• STATION SELECTION

Press **SKIP/MANU** >>+ button (16) or **SKIP/MANU** -<< button (17) shortly to activate automatic seek function.

Press for several seconds until "MANUAL" appeared on the display, the manual tuning mode is selected. If both buttons have not pressed for several seconds, they will retune to seek tuning mode and "AUTO" appeared on the display.

• LOCAL/DISTANCE

Press **LOC** button (2) shortly to select between local and distant stations. Local setting for reception of strong station, and a distant setting for reception of weaker stations.

OPERATION

This function is effect during AUTO SEEK operation.

- **MONO/STEREO**

Press **MON** button (1) to select mono or stereo mode. You can sometimes improve reception of distant stations by selection of mono operation

- **AUTOMATICALLY MEMORY STORING & PROGRAM SCANNING**

- Automatic Memory Storing
Press **AS/PS** button (18) for several seconds, the radio searches from the current frequency and checks the signal strength until one cycle search is finished. And then 6 strongest stations are stored into the corresponding preset number button.

- Program Scanning
Press **AS/PS** button (18) shortly to scan preset station. When the field strength level is more than the threshold level of stop level, the radio is holding at that preset number for several seconds with releasing mute, then searches again.

- **STATION STORING**

Press any one of the preset buttons (14) (M1 to M6) to select a station which had been stored in the memory. Press this button for several seconds, current station is stored into the number button.

CD OR CDC OPERATION

- **SELECT TRACKS**

During CD or CDC operation, press **SKIP/MANU** ← button (17) or **SKIP/MANU** → button (16) to move to the previous track or the following track. Track number shows on display. During CD or CDC operation, hold **SKIP/MANU** ← button (17) or **SKIP/MANU** → button (16) to fast reverse or fast forward. CD play starts from when you release the button.

- **PAUSE PLAYING**

Press **PAU** button (19) to pause CD player. Press it again to resume play.

- **REPEAT THE SAME TRACK**

During CD operation, press **RPT** button (21) to continuously repeat the same track. Press again to stop repeat. During CDC operation, press **RPT** button (21) shortly to continuously repeat the same track. Press and hold **RPT** button (21) for several seconds to continuously repeat all tracks on the current disc. Press it again to stop repeat.

- **PREVIEW ALL TRACKS**

During CD operation, press **SCN** button (20) to play first several seconds of each track on the current disc. Press again to stop intro and listen to track.

During CDC operation, press **SCN** button (20) shortly to play first several seconds of each track on the current disc. Press it for several seconds to play first several seconds of the first track on each disc in the CD magazine. Press it again to stop intro and listen to track.

- **PLAY ALL TRACKS**

During CD operation, press **SHF** button (22) to play all tracks on CD in random order. Press again to cancel the function.

During CDC operation, press **SHF** button (22) shortly to play all tracks on the current disc. Press it for several seconds to select a disc in random and play the selected disc in random order. Press it again to cancel the function.

- **SELECT DISC**

During CDC operation, press **D.DN** button (23) to select previous disc and **D.UP** button (24) to select next disc.

OPERATION

EJECT

When the front panel is sliding down, press **EJECT** button (4) to stop CD playing and eject the disc from the disc slot (5).

NOTE ON CD-R/CD-RW DISCS

- On this unit, in addition to an audio CD, you can play your original CD-R or CD-RW that contain audio titles.
- However, depending on the conditions of the recording equipment or the CD-R/CD-RW disc itself, some CD-Rs or CD-RWs cannot be played on this unit.
- DO NOT stick paper or tape, etc. onto the label side or the recording side of any CD-R/CD-RW, as it may cause a malfunction.

MP3 OPERATION

During MP3 operation, these buttons serve the followings:

- “Searching track directly” in Digital Audio CD.
- “Searching File Name” in Digital Audio CD.
- “Searching File or directory” by file directory structure in Digital Audio CD.

AS/PS button is assigned as Digital Audio Modeselection button in single CDP mode. When pressed, it is activated as selecting each mode of Digital Audio.

“Searching track directly” -> “Searching File Name” -> “Searching File or directory”

- Press **AS/PS(MP3)** button for one time. It enters into “Searching track directly” in Digital Audio CD. The unit searches the track selected by following buttons:
M1-M6, MODE(7), SKIP/MANU DOWN(8), SKIP/MANU UP(9), DSP(0).
- Press **AS/PS(MP3)** button for two times. It enters into “Searching File

Name” in Digital Audio CD.

The unit searches files and directories which have the same character which is inputted by the user.

The unit shows these sorted files and directories by all the buttons listed on the Table 1 below.

The selected file can be played by pushing **BND(ENTER)** button.

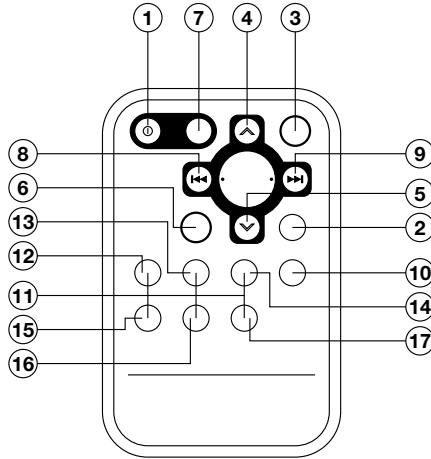
- Press **AS/PS(MP3)** button for three times. It enters into “Searching File or directory” by file directory structure in Digital Audio CD. The unit searches files or directory in file directory structure by **SKIP/MANU UP/DOWN** buttons. The selected file can be played by pushing **BND(ENTER)** button.

KEY Assigned IN Searching mode (Table 1)

AS/PS	Mode Select
BND	ENTER
M1	A, B, C, 1
M2	D, E, F, 2
M3	G, H, I, 3
M4	J, K, L, 4
M5	M, N, O, 5/10 TRACK DOWN
M6	P, Q, R, 6/10 TRACK UP
MODE	S, T, U, 7
SKIP/MANU DOWN	V, W, X, 8
SKIP/MANU UP	Y, Z, SPACE, 9
SEL	CHARACTER SHIFT RIGHT
DSP	_, -, +, 0
VOL UP/DOWN	CHARACTER SELECT (A, B.....8, 9, 0)

M5 and M6 is assigned as 10 TRACK when Normal play and Searching File or directory.

REMOTE CONTROL HANDSET



FUNCTION KEYS & CONTROL

- 1. PWR = Power ON/OFF Button
- 2. DSP (0) = Display Button (, -, +, 0 For MP3 Operation)
- 3. SEL = Select Button (Character Shift Right For MP3 Operation)
- 4. VOL ^ = Volume Up Button (Character Select (A,B~8,9,0) For MP3 Operation)
- 5. VOL v = Volume Down Button (Character Select (A,B~8,9,0) For MP3 Operation)
- 6. BND (ENTER) = Band Select Button (Enter Button For MP3 Operation)
- 7. MOD (7) = Mode Button (S, T, U, 7 For MP3 Operation)
- 8. TUNE/SEEK◀◀ = Tune/Seek Down Button (V, W, X,8 For MP3 Operation)
- 9. TUNE/SEEK▶▶ = Tune/Seek Up Button (Y, Z, SPACE, For MP3 Operation)
- 10. AMS (MP3) = Automatically Memory Storing & Program Scanning Button (Mode Select Button For MP3 Operation)
- 11. M1 - M6 = Preset Buttons (A~R, 1~6 For MP3 Operation)
- 12. PAU = Pause Button (A, B, C, 1 For MP3 Operation)
- 13. SCN = Scanning Button (D, E, F, 2 For MP3 Operation)
- 14. RPT = Repeat Button (G, H, I, 3 For MP3 Operation)
- 15. SHF = Shuffle Button (J, K, L, 4 For MP3 Operation)
- 16. DISC - = CD Down Button (For CD Changer Version Only); M, N, O, 5/10 TRACK DOWN (For MP3 Operation)
- 17. DISC + = CD Up Button (For CD Changer Version Only) P, Q, R, 6/10 TRACK UP (For MP3 Operation)

SPECIFICATION

GENERAL

Power Supply Requirements	: DC 12 Volts, Negative Ground
Chassis Dimensions	: 178 (W) x 165 (D) x 50 (H)
Tone Controls	
- Bass (at 100 Hz)	: ± 10 dB
- Treble (at 10 KHz)	: ± 10 dB
Maximum Output Power	: 4 x 40 Watts
Current Drain	: 15 Ampere (max.)

CD PLAYER

Signal to Noise Ratio	: More than 60 dB
Channel Separation	: More than 60 dB
Frequency Response	: 20 Hz - 20 KHz

RADIO

FM

Frequency Coverage	: 87.5 to 107.9 MHz
IF	: 10.7 MHz
Sensitivity (S/N = 30 dB)	: 3 μ V
Stereo Separation	: > 30 dB

AM

Frequency Coverage	: 530 to 1710 KHz
IF	: 450 KHz
Sensitivity (S/N = 20 dB)	: 32 dBu

TROUBLE SHOOTING

Before going through the check list, check wiring connection. If any of the problems persist after check list has been made, consult your nearest service dealer.

Symptom	Cause	Solution
No power.	The car ignition switch is not on.	If the power supply is properly connected to the car accessory circuits, but the engine is not moving, switch the ignition key to "ACC".
	The fuse is blown.	Replace the fuse.
Disc cannot be loaded or ejected.	Presence of CD disc inside the player.	Remove the disc in the player, then put a new one.
	Inserting the disc in reverse direction.	Insert the compact disc with the label facing upward.
	Compact disc is extremely dirty or defective disc.	Clean the disc or try to play a new one.
	Temperature inside the car is too high.	Cool off or until the ambient temperature return to normal.
	Condensation.	Leave the player off for an hour or so, then try again.
No sound.	Volume is in minimum.	Adjust volume to a desired level.
	Wiring is not properly connected.	Check wiring connection.
Sound skips.	The installation angle is more than 30 degrees.	Adjust the installation angle less than 30 degrees.
	The disc is extremely dirty or defective disc.	Clean the compact disc, then try to play a new one.
The operation keys do not work.	The built-in microcomputer is not operating properly due to noise.	Press the RESET button. Front panel is not properly fixed into its place.
The radio does not work. The radio station automatic selection does not work.	The antenna cable is not connected.	Insert the antenna cable firmly.
	The signals are too weak.	Select a station manually.