



CD789

CD/MP3 PLAYER WITH FM/AM TUNER

OPERATING INSTRUCTION

Safety Information

PRECAUTIONS

- Use only in a 12-volt DC negative-ground electrical system.
- Disconnect the vehicle's negative battery terminal while mounting and connecting the unit.
- When replacing the fuse, be sure to use one with an identical amperage rating. Using a fuse with a higher amperage rating may cause serious damage to the unit.
- DO NOT attempt to disassemble the unit. Laser beams from the optical pickup are dangerous to the eyes.
- Make sure that pins or other foreign objects do not get inside the unit, they may cause malfunctions, or create safety hazards such as electrical shock or laser beam exposure.
- If you have parked the car for a long time in hot or cold weather, wait until the temperature in the car becomes normal before operating the unit.
- Keep the volume at a level at which you can hear outside warning sounds (horns sirens, etc.).

CD Notes

- Playing a defective or dusty CD can cause dropouts in sound.
- Hold CDs as illustrated.
- Do not touch the unlabeled side.
- Do not attach any seal, label or



data protection sheet to either side of a disc.

- Do not expose a CD to direct sunlight or excessive heat.
- Wipe a dirty CD from the center outward with a cleaning cloth.
- Never use solvents such as benzine or alcohol.
- This unit cannot play 3-inch (8cm) CDs. NEVER insert a 3-inch CD contained in the adapter or an irregularly shaped CD. The unit may not be able to eject it, resulting in a malfunction.

Before Operation

- Do not raise the volume level too much, as this will block outside sounds, making driving dangerous.
- Stop the car before performing any complicated operation.

CAUTION

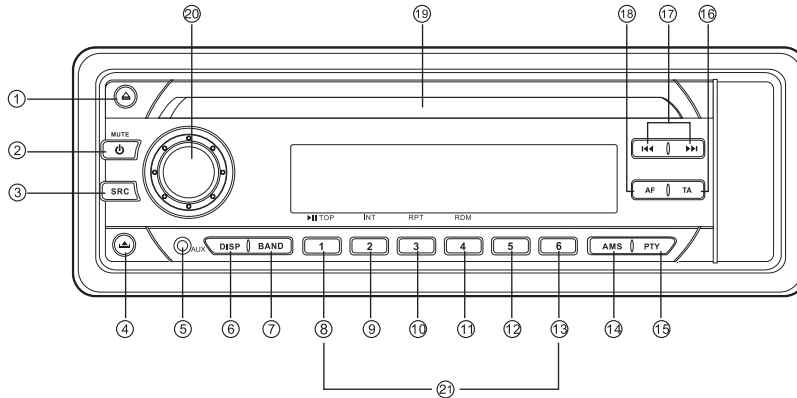
- DO NOT open covers and do not repair yourself. Consult the dealer or an experienced technician for help.
- * In addition to ordinary CDs, this unit can playback a CD-R or CD-RW, MP3.

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Panel Controls

Power on : Press any button on the panel except  and  to turn on the unit.



1. - Disc eject
2. - Power on
 - Mute
 - When on, hold it to power off.
3. Press the button to select a mode from:
 - Radio
 - Disc play (when disc inserted)
 - Aux-in
4. - Panel release
5. - Aux-in jack
6. - Time display/adjust
7. - Band switch:

8. - Button 1: Play/Pause
Top play (press more than 2 sec.)
9. - Button 2: Intro play (10 sec.)
10. - Button 3: Track repeat play
11. - Button 4: Track random play
12. - Button 5: MP3 track -10 down
13. - Button 6: MP3 track +10 up
14. - AMS
Radio preset scan/Radio auto preset
- SEARCH
MP3 track/file/character search

15. - Program type
16. - Traffic announcements identification
17. - Radio tune
- Track seek
18. - Alternative frequency
- REG on/off
19. - Disc slot
20. - Rotate the knob to adjust volume level.
- Push to select VOL/BAS/TRE/BAL/FAD, rotate the knob to adjust level.

- Press more than 2 seconds to enter menu mode.
21. - Radio preset button 1~6, press to tune in a preset station.
- Hold for more than 2 seconds to store station.

Button Tips

AMS : Auto Memory Store

Press briefly to scan the preset station 1-6 for 5 seconds each. Hold more than 2 seconds, the 6 strongest available station will be automatically saved in the memory of preset button 1-6.

BUTTON SKIP

Radio: Press [<< / >>] button to tune in the station that you have known its frequency. Hold [<< / >>] more than 2 seconds, tuning will automatically activate and stop when signals of the next station are received.

Disc playback: Press [<< / >>] button to go to the next or previous track. Hold [<< / >>] to reverse back or fast forward the track.

SET CLOCK

Press DISP button, time displays. Press again more than 2 seconds, time display blinks. Rotate the knob to set time.

MP3 Overview

MP3 Overview

- MP3 is short for MPEG Audio Layer 3 and refers to an audio compression technology standard.
- This product allows playback of MP3 files on CD-ROM CD-R or CD-RW discs.
- The unit can read MP3 files written in the format compliant with ISO 9660. However it does not support the MP3 data written by the method of packet write.
- The unit can not read an MP3 file that has a file extension other than ".mp3".
- If you play a non-MP3 file that has the ".mp3" extension, you may hear some noise.
- In this manual, we refer to what are called "MP3 file" and "folder" in PC terminology as "Track" and "Album", respectively.
- Maximum number of directory level is 8, including the root directory. Maximum number of files and folders per disc is 1000.
- The unit may not play tracks in the order of track numbers.
- The unit plays only the audio tracks if a disc contains both audio tracks and MP3 files.
- When playing a disc of 8kbps or VBR*, the elapsed playing time in the display window will not be correct and also the intro play may not function properly. *VBR: Variable Bit Rate.

Note on creating your own CD-Rs or CD-RWs containing MP3 files

- To enjoy high quality sound, we recommend converting to MP3 files with a sampling frequency of 44.1 kHz and a fixed bit rate of 128 kbps.
- DO NOT store more than 1000 MP3 files per disc.
- For ISO 9660-compliant format, the maximum allowable depth of nested folders is 8, including the root directory(folder).
- When CD-R disc is used, playback is possible only for discs which have been finalized.
- Make sure that when MP3 CD-R is burned that it is formatted as a data disc and NOT as an audio disc.
- You should not write non-MP3 files or unneeded folders along with MP3 files on the CD-R otherwise it takes a long time until the unit starts to play MP3 files.
- With some CD-R media, data may not be properly written depending on their manufacturing quality. In this case, data may not be reproduced correctly. High quality CD-R disc is recommended.
- Up to 16 characters are displayed for the name of an Album or a Track. ID3 TAG version 1.x is required.
- Note that the unit may not play tracks in the order that you wrote them to the disc.

MP3 Playback

While playing MP3 disc, the folder/file name and ID3 tag (Song title, Album and Artist) can scroll entirely across the LCD.

Elapsed playing time & Track number -> Folder name & number -> File name & number -> Song title -> Album title -> Artist name ->

MP3 Track Search

- Press AMS button to select "TRACK SCH" mode. Press the knob and LCD display will show "001".
- If your desired track number is less than 100, rotate the knob to select the first digit and press the knob once again and rotate the knob to set the tens digit of the track number. Press the knob again more than 0.5 second to play the track.
- If your desired track number is more than 100, rotate the knob to select the first digit and press the knob to confirm, rotate the knob to select the tens digit and press the knob to confirm, rotate the knob to select the hundreds digit and press the knob to play the track.
- If the track number you enter is beyond the maximum file number, last song will be played.

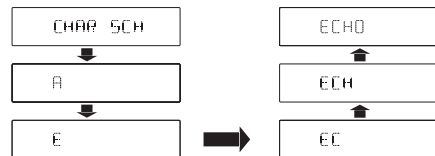
MP3 File Search

- Press AMS button twice to select "FILE SCH" mode. Press the knob to enter. Rotate the knob to select folder.
- If you just want to play songs of this folder, press the knob more than 0.5 second to play the first track of the folder.

- If you want to play desired track of the folder, press the knob and rotate to select the track you want. Press the knob again to play the track.

MP3 Character Playback

- Press AMS button three times to select "CHAR SCH" mode.
- Press the knob and "A" displayed.
- Rotate the knob to select the 1st character of the desired track name and press the knob to confirm.
- Then "A" blinks at the next place, select 2nd and other character of the desired track name as steps above.
- Press the knob more than 0.5 second to play the track of the select name.
For example: To search character "ECHO".



RDS (Radio Data System)

RDS service availability varies with areas. Please understand if RDS service is not available in you area, the following service is not available, either. The following functions are available when receiving RDS stations.

RDS Basics

- AF (Alternative Frequency list)
When reception is poor, an RDS station broadcasting the same program is tuned in automatically.
- PS Display (Program Service name)
The name of station is displayed instead of frequency.
- AF Mode: Press AF button less than 1 second to switch AF mode on and off.
- AFindication on LCD will flash until RDS information is received.
- REG Mode: Press AF button more than 1 second to switch REG mode on and off.
- The frequency is changed only for programs within the region.
- The frequency is changed also for programs outside the region.
- During FM mode when AF is on, radio seek, scan and AMS functions can only receive and save RDS program.

RDS (continued)

CT Service (Clock Time)

When receiving an RDS station, the CT (Clock Time) service automatically adjusts the time.

NO CT is displayed in areas where CT service is not available.

Traffic Announcements

Some RDS FM stations periodically provide traffic information.

- TP (Traffic Program Identification)
Broadcasting of traffic information
- TA (Traffic Announcements Identification)
Radio announcements on traffic conditions
- TA Mode: Press TA button to turn on / off TA.
When TA mode is on and TA indicator on LCD is displayed.

When traffic announcement is transmitted, regardless of the mode, reception will begin at volume level 20 if volume level is below 20.

After the traffic announcement is over, it will return to previous mode and volume level.

When TA is turned on, SEEK, SCAN, AMS function can be received or saved when traffic program identification (TP) code is received.

EON (Enhanced Other Networks)

When EON data is received, the EON indicator lights and the TA and AF functions are expanded as follows.

- TA: Traffic information from the current and other network stations can be received.
- AF: The frequency list of preset RDS stations is updated by EON data. EON enables the radio to make fuller use of RDS information.
- It constantly updates the AF list of preset stations, including that currently tuned in to.
- If you preset a station for from home, you will later be able to receive the same station at an alternative frequency, or any other station serving the same program, EON also keeps track of locally available TP stations for quick receptions.

PTY Reception (Program Type)

RDS FM stations provide a program type identification signal.

Example: news, rock, info, sport, etc.

- PTY Mode: Press PTY button to turn PTY on, previous PTY type is displayed and searched if no button is pressed for 2 seconds.
- If there is no correspond program type. NO PTY is displayed.

PTY Type Preset

- Press PTY once to enter MUSIC type or press PTY twice to enter SPEECH type.
- Then use buttons 1-6 to select the desired program type.

PRESET NO.	MUSIC TYPE	SPEECH TYPE
1	POP M	NEWS
	ROCK M	AFFAIRS
2	M.O.R. M	INFO
	LIGHT M	SPORT
3	CLASSICS M	EDUCATE
	OTHER M	DRAMA
4	JAZZ M	CULTURE
	COUNTRY	SCIENCE
5	NATIONAL M	VARIED
	OLDIES M	WEATHER
6	FOLK M	FINANCE
	FOLK	CHILDREN
		SOCIAL
		RELIGION
		PHONE IN
		TRAVEL
		LEISURE
		DOCUMENT

Menu Function

Press the knob more than 2 seconds to enter menu mode , then each press changes the mode as follows:

TA mode -> MASK mode -> TA VOL -> RETUNE mode -> DSP mode -> ESP mode -> MULT ON/OFF -> LOUD ON/OFF -> BEEP ON/OFF -> SEEK1/2 mode (only in tuner mode) -> STEREO / MONO mode -> LOCAL / DX mode -> VOL mode

TA mode:

- Rotate the knob to choose TA ALARM or TA SEEK mode, When TA is turned on and no traffic program identification code has been received during the specified time, no TA/TP is displayed and according to the MENU SELECT, alarm is set off, or TA SEEK is activated.
- TA ALARM mode: NO TA/TP is displayed and alarm is set off.
- TA SEEK mode: TA SEEK is activated.

MASK mode:

- Rotate the knob to choose MASK DPI or MASK ALL mode.
- MASK DPI mode: Only the AF which has different program identification is masked.
- MASK ALL mode:
The AF which has different program identification and NO RDS signal with high field strength is masked.

TA VOL:

Rotate the knob to adjust TA volume.

RETUNE mode:

- Rotate the knob to choose RETUNE-S or RETUNE-L.
- RETUNE-S or RETUNE-L is time length selection of TA SEEK retune interval.
- RETUNE-S: Short, TA SEEK retune interval is 45 seconds.
- RETUNE-L: Long, TA SEEK retune interval is 180 seconds.
- Remark: RETUNE mode functions for TA during TA SEEK mode only.

DSP mode:

Rotate the knob to choose DSP sound effect:
POP->ROCK->CLASSIC->FLAT-> DSP OFF

EPS mode:

ESP 12s: Selected as CD-ESP time 12 seconds, MP3-ESP time >100 seconds.
ESP 45s: Selected as CD-ESP time 45 seconds, MP3-ESP time >100 seconds.

MULT ON/OFF:

Multi Session ON/OFF. (Multi session OFF: mixed CD, ONE session CD; Multi session ON: Mixed, Extra, multi session CD)

LOUD ON/OFF :

Rotate the knob to select loudness on or off.

BEEP ON/OFF:

Rotate the knob to choose beep sound on or off.

SEEK 1/2 mode:

- Rotate the knob to choose radio seek mode 1 or 2 .
- SEEK 1: Searching station will stop when next station is received.
- SEEK 2: Searching station will stop when **◀◀** or **▶▶** button is released and next station is received.

STEREO/MONO mode:

Rotate the knob to select FM stereo/mono mode.

LOCAL/DX mode:

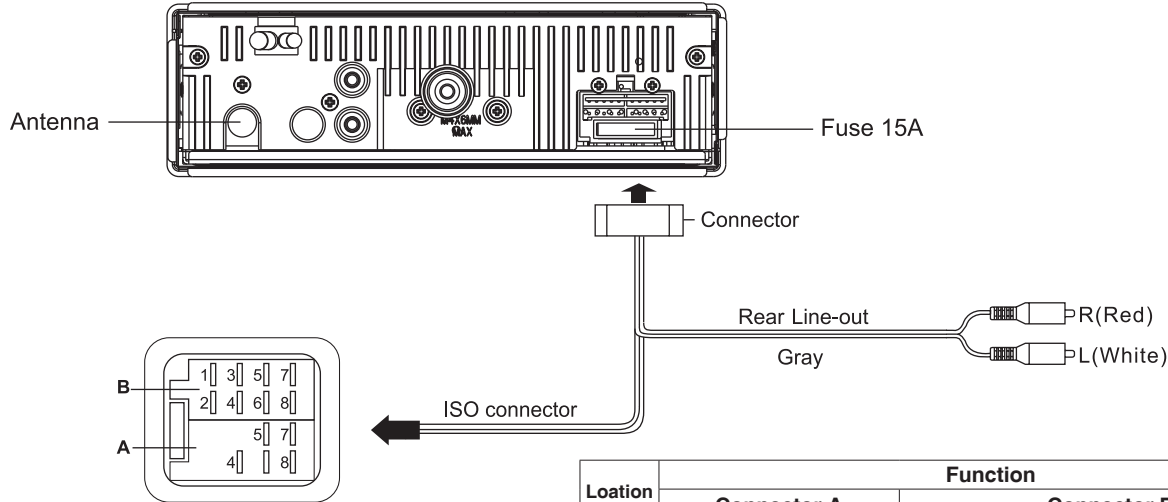
Rotate the knob to select radio local/distant mode.

VOL mode:

- VOL LAST: the turn-on volume level is the volume level of latest power off.
- VOL ADJ: At volume adjust mode, press the knob to enter A-VOL mode, then rotate the knob to set the turn-on volume level.

Electrical Connections

Wiring Diagram



Location	Function	
	Connector A	Connector B
1		Rear Right (+) / Purple
2		Rear Right (-) / Purple with Black Stripe
3		Front Right (+) / Gray
4	Battery 12V(+) / Yellow	Front Right (-) / Gray with Black Stripe
5	ANT/AMP control / Blue with white stripe	Front Left(+) / White
6		Front Left(-) / White with Black Stripe
7	ACC+ / Red	Rear Left (+) / Green
8	Ground / Black	Rear Left (-) / Green with Black Stripe

Installation Guide

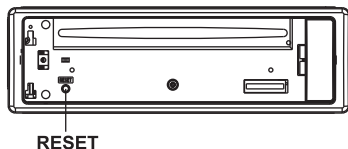
Installation Procedures

First complete the electrical connections, and then check them for correctness.

Reset

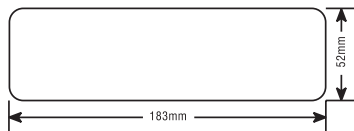
Press the RESET button with a pointed object to reset the unit to the original status.

Note: Press the RESET button will erase the clock setting and stored stations.

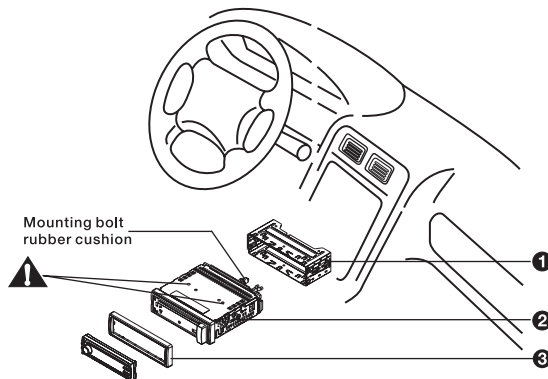


Installation Opening

This unit can be installed in any dashboard having an opening as shown below. The dashboard should be 4.75mm - 5.56mm thick in order to be able to support the unit.



Important:
Remove these two screws before installation. Otherwise, the player will not work.



1. Insert mounting collar into the dashboard, and bend the mounting tabs out with a screwdriver.

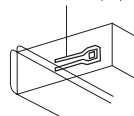
Make sure that lock lever(※) is flush with the mounting collar. (Not projecting outward)

2. Secure the rear of the unit.

After fixing mounting bolt and power connector, fix the rear of the unit to the car body by rubber cushion.

3. Insert trim plate.

Lock lever(※)

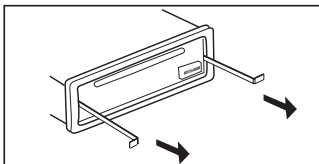
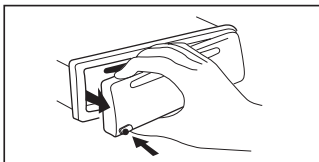
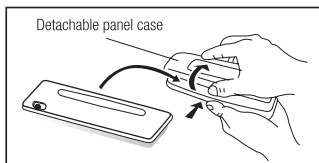


Anti-Theft System

This unit is equipped with a detachable panel. Removing this panel makes the radio totally inoperable.

Remove the detachable Panel

1. Switch off the power of the unit.
2. Remove the detachable panel.
3. Gently press the button of the case and open the cover. Place the panel into the case and take it with you when you leave the car.



Install detachable panel

1. Fix right part of face plate in the right part of panel slot of the unit.
2. Press down the left side of the face plate until it clicks into the panel slot of the unit.

Remove the unit

1. Switch off the power of the unit.
 1. Remove the panel and the trim plate.
2. Insert both L-Keys into the hole on the front of the set until they lock.
3. Pull out the unit.

Troubleshooting

If you suspect something is wrong, immediately switch power off. Do not use the unit in abnormal condition, for example without sound, or with smoke or foul smell can cause fire or electric shock. Immediately stop using it and call the store where you purchased it. Never try to repair the unit yourself because it is dangerous to do so.

General

No power or no sound

- Car's engine switch is not on. Turn your car's key to ACC or ON.
- Cable is not correctly connected. Check connection.
- Fuse is burnt. Replace fuse.
- Check volume or mute on / off.
- If the above solutions cannot help, press the RESET button.

Disc

Disc is inside but no sound.

- Disc is upside down.
Place disc in the correct direction, and the label side up.
- Disc is dirty or damaged.
Clean disc or change another disc.

Disc sound skips, tone quality is low.

- Disc is dirty or damaged.
Clean CD or change another CD.

Troubleshooting (continued)

Sound skips due to vibration.

- Mounting angle is over 30°. Adjust mounting angle to less than 30°.
- Unstable mounting. Mount the unit securely with the mounting parts.

Radio

Much noise in broadcasts.

- Station is too far, or signals are too weak. Select other stations of higher signal level.

Preset station lost.

- Battery cable is not correctly connected. Connect the battery cable to the terminal that is always live.

Error Display Messages

- Display show NO FILE: Disc is not CD or contains no MP3 files.
- Display show ERR-7: Disc upside down.
- Display show ERR-11: MP3 error, check the disc.
- Display show ERR-3 or ERR-4:
- Disc mechanism error. Press **▲** button to eject the disc.

In case that the disc cannot be ejected by pressing **▲** button, press the RESET switch and press the **▲** button again. If still not ejecting, consult your dealer.

Specifications

General

Power supply:	12V DC(11V-16V) Test voltage 14.4V, negative ground
Maximum power output:	40Wx4 channels
Continuous power output:	20Wx4 channels (4 Ω,10% T.H.D.)
Suitable speaker impedance:	4-8 ohm
Pre-Amp output voltage:	2.0V (CD play mode: 1KHz, 0 dB, 10 KΩ load) 15A
Fuse:	15A
Dimensions(WxHxD):	178x50x155mm
Weight:	1.8kg
Aux-in	≥300mV

FM Stereo Radio

Frequency range:	87.5-108.0 MHz (EUROPE) 87.5-107.9 MHz (USA)
Usable sensitivity:	8 dBμ
Quieting sensitivity (S/N=50dB):	12 dBμ
Frequency response:	30Hz-15kHz
Stereo separation:	30dB(1kHz)
Image response ratio:	50dB
IF response ratio:	70dB
Signal/noise ratio:	55dB

MW(AM) Radio

Frequency range:	5 2 2 - 1 6 2 0 K H z (EUROPE) 530-1710 KHz (USA)
Usable sensitivity (S/N=20dB):	30 dBμ

Disc Player

System:	Disc digital audio system
Frequency response:	20Hz-20kHz
Signal/noise ratio:	>80 dB
Total harmonic distortion:	Less than 0.20% (1kHz)
Wow and flutter:	Below measurable limits
Channel separation:	>55 dB

Components

Mounting collar	1
Machine screws M5x6mm	4
Mounting bolt (50mm)	1
Wire connector	1
Removable face plate case	1
Trim plate	1
L-key	2
Operating instructions	1
Rubber cushion	1

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

