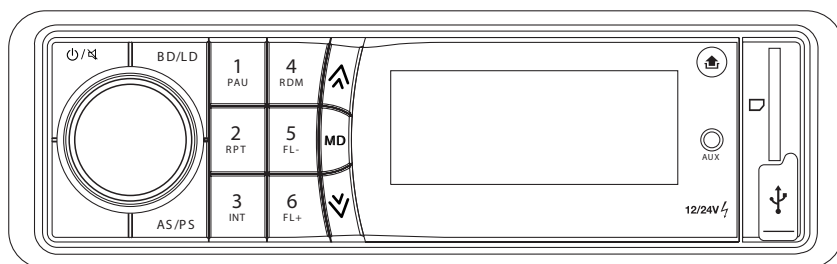# CAR PLL AM/FM STEREO RADIO
WITH MP3/WMA/USB/SD/MMC PLAYER

RU/MP3-219SA

INSTRUCTION MANUAL

PRECAUTIONS

- Carefully choose the mounting location so normal driving is not hindered.
- Avoid installing the unit where it would be subject to high temperatures (direct sunlight or hot air from the heater) or where it would be subject to dust, dirt or excessive vibration.
- Only use mounting hardware supplied for a safe and secure installation.
- Remove the front panel before installing the unit.

Mounting angle adjustment
Adjust the mounting angle to less than 20°.

MOUNTING EXAMPLE
Installation in the dashboard
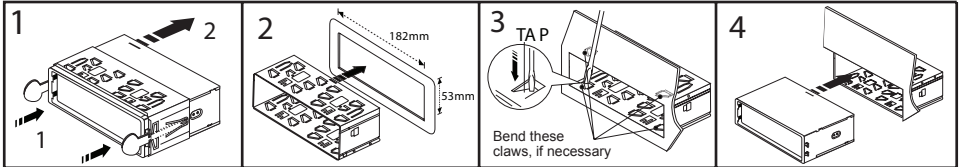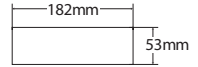
Note: Keep the release key in the safe place as you may need it in future to remove the unit from the car.

Detaching and attaching the front panel
The front panel of this unit can be detached in order to prevent theft.

FOLDING DOWN AND DETACHING/ATTACHING THE FRONT PANEL
Before detaching the front panel, be sure to press the ⏻
Then press the ⏏ button (15), to fully open the front panel. Release the panel by pulling it towards you as illustrated.
- Do not exert unnecessary pressure on the front panel when attaching it.
- Please use the supplied case when the front panel is removed.
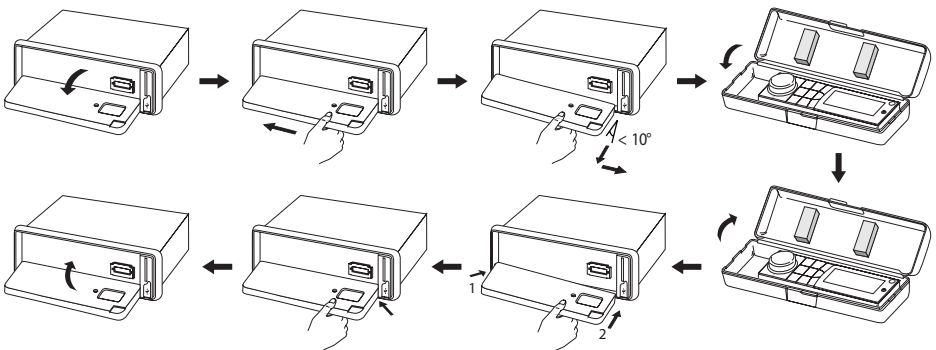
CLEANING THE CONNECTOR
The unit may not function properly if the connectors between the unit and the front panel are contaminated with dirt. In order to prevent this from happening, detach the front panel by pressing the ⏏
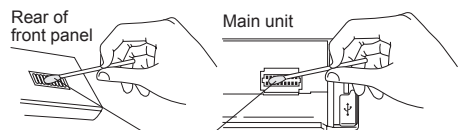
Clean the connector with a cotton swab together with contact cleaner as illustrated. Be sure to clean them carefully pin by pin and make sure not to damage the connecting points.

TO SUPPORT THE UNIT

Dashboard

2. RELEASE CASE
3. DASH
4. HEX NUT
5. LOCK WASHER
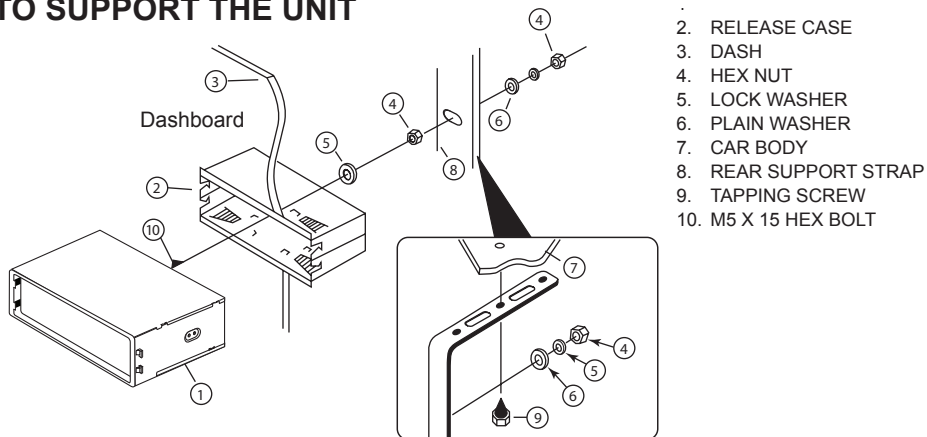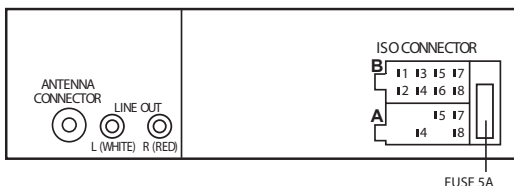6. PLAIN WASHER
7. CAR BODY
8. REAR SUPPORT STRAP
9. TAPPING SCREW
10. M5 X 15 HEX BOLT

WIRE CONNECTION

RCA Jack Line Out:
Red (right)   White (left)

CONNECTOR A
4. MEMORY +24V
5. AUTO ANTENNA OUTPUT
7. +24V (TO IGNITION KEY)
8. GROUND

Note: (connector A no. 7) must be connected by car ignition key in order to avoid that car battery being drained when the car will be not used for long period.

CONNECTOR B
1. REAR RIGHT SPEAKER (+)
2. REAR RIGHT SPEAKER (-)
3. FRONT RIGHT SPEAKER (+)
4. FRONT RIGHT SPEAKER (-)
5. FRONT LEFT SPEAKER (+)
6. FRONT LEFT SPEAKER (-)
7. REAR LEFT SPEAKER (+)
8. REAR LEFT SPEAKER (-)

Maintenance
FUSE REPLACEMENT
If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after the replacement, there may be an internal malfunction. In this case, consult your nearest repair center.
Warning
Use the specified fuse amperes for each lead. Use of a higher fuse amperes may cause serious damage.

TO SUPPORT THE UNIT

Dashboard

1. UNIT
2. RELEASE CASE
3. DASH
4. HEX NUT
5. LOCK WASHER
6. PLAIN WASHER
7. CAR BODY
8. REAR SUPPORT STRAP
9. TAPPING SCREW
10. M5 X 15 HEX BOLT

WIRE CONNECTION

RCA Jack Line Out:
Red (right)   White (left)

CONNECTOR A
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Note: (connector A no. 7) must be connected by car ignition key in order to avoid that car battery being drained when the car will be not used for long period.

CONNECTOR B
1. REAR RIGHT SPEAKER (+)
2. REAR RIGHT SPEAKER (-)
3. FRONT RIGHT SPEAKER (+)
4. FRONT RIGHT SPEAKER (-)
5. FRONT LEFT SPEAKER (+)
6. FRONT LEFT SPEAKER (-)
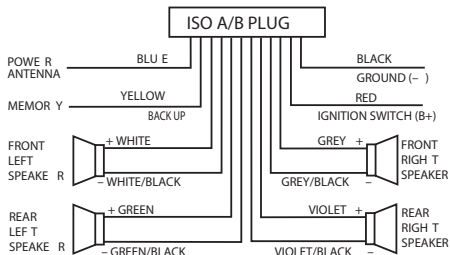7. REAR LEFT SPEAKER (+)
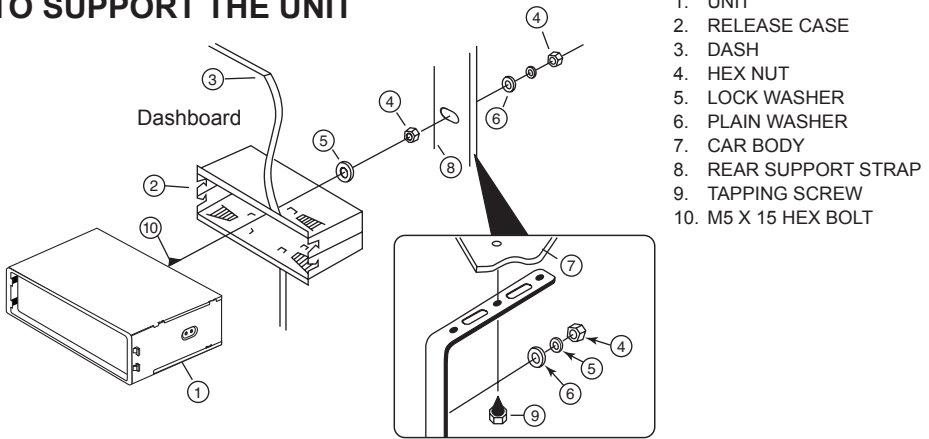8. REAR LEFT SPEAKER (-)

Maintenance
FUSE REPLACEMENT
If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after the replacement, there may be an internal malfunction. In this case, consult your nearest repair center.
Warning
Use the specified fuse amperes for each lead. Use of a higher fuse amperes may cause serious damage.

LOCATIONS OF PARTS
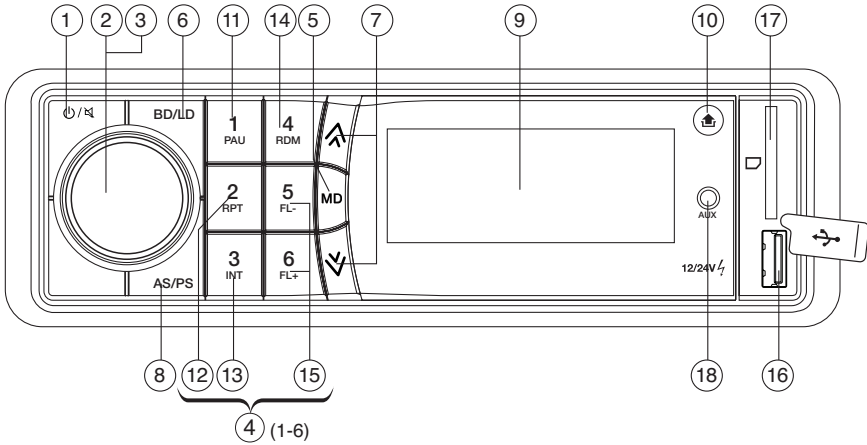
1. POWER ON/OFF (⏻) / MUTE (🔇)
2. FUNCTION SELECT BUTTON:BASS/TREBLE/BALANCE/FADER /
   I-VOL/ADJUST CLOCK/DISP/STEREO/LOC/EQ
3. VOL UP/VOL DOWN FOR BASS/TREBLE/BALANCE/FADER
4. PRESET STATIONS (1,2,3,4,5,6)
5. MODE BUTTON (MD)
6. BAND/LOUDNESS BUTTON (BD/LD)
7. AUTOMATIC OR MANUAL TUNING (FREQ UP ⋀ OR FREQ DOWN ⋁) /
   TRACK/SEARCH BUTTON
8. AUTO SEEK SEARCH TUNING (AS/PS)
9. LCD DISPLAY
10. OPEN PANEL BUTTON (⏏)
11. PAUSE BUTTON
12. REPEAT BUTTON
13. INTRO BUTTON (Preview all Tracks)
14. RANDOM BUTTON
15. PREVIOUS/NEXT FOLDER SELECT: (In case of MP3/WMA files)
16. USB PORT
17. MULTI-MEDIA CARD (MMC) / SD CARD SLOT
18. AUX IN

OPERATING INSTRUCTIONS

1. **POWER ON/OFF**
   Press any key to power the unit. Press and hold ⏻ to turn off.
   MUTE
   If you just press this button briefly, it will turn to MUTE. To return to sound, press it briefly again.

2. **FUNCTION SELECT BUTTON:BASS/TREBLE/BALANCE/FADER /**
   I-VOL/ADJUST CLOCK/DISP/STEREO/LOC/EQ

3. **VOLUME UP/DOWN**
   Turing the VOL knob to right or left (3) to control the VOLUME. To select other functions, hold the VOL knob down until the desired functions is shown on the display. Figure 1 shows how control functions are selected using the VOL knob.
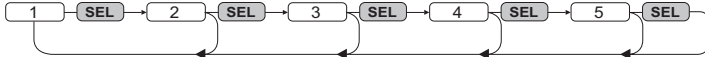

   Fig. 1 Selection of sound control functions

   1. VOLUME   2. BASS   3. TREBLE   4. BALANCE   5. FADER

   These buttons can be used to adjust the BASS, TREBLE, BALANCE and FADER.

   Press and hold **VOL** knob to adjust below function:

   I-VOL
   Turn the VOL knob to set the volume level, with which the device is to be set when turned on.

   ADJUST CLOCK
   Turn VOL knob to right for hours and turn VOL knob to left for minutes.

   DISPLAY
   Time show on display

   STEREO/MONO
   When FM signal is weak or distorted, reception may improve by turn VOL knob to select MONO.

   LOCAL
   "Local" position in areas with strong signal will cause radio to stop at only strong stations. During manual tuning (LOC appears). Select Distant position in areas with weak signal. Turn the "VOL" knob to set the LOCAL ON/OFF.

   EQ MODE
   Turn VOL knob to select one of the settings EQ OFF/CLASS/ROCK/POP/EQ FLAT.

4. **PRESET STATIONS (1,2,3,4,5,6)**
   (A) RADIO MODE:
   Six numbered preset buttons store and recall stations for each band.
   Storing a station:
   1. Select a band (if needed)
   2. Select a station
   3. Hold a preset button longer than one second. Preset numbers appear in the display when station is saved.
   Recall a station:
   1. Select band (if needed)
   2. Press a preset button for less than one second to select stored station.

   (B) MP3 PLAYER MODE:
   1. PAUSE   2. REPEAT   3. INTRO   4. RANDOM

5. **MODE BUTTON (MD)**
   Press this key, to select AUX/TUNER/USB or MMC/SD mode..

6. **BAND SELECTOR / LOUDNESS BUTTON (BD/LD)**
   Press this button to toggle through the preset Radio FM1(OIRT)---FM2---FM3---AM1---AM2.
   LOUDNESS: Press and hold the button to select LOUDNESS mode.

7. **AUTOMATIC OR MANUAL TUNING (FREQ UP ⋀ OR FREQ DOWN ⋁)**
   (A) RADIO MODE
   When pressed for less than 1 second, the unit operates in automatic tuning mode.
   When pressed longer than 1 second, the unit operates in manual tuning mode.
   If the keys are not pressed again within 3 seconds, the unit will return to SEEK mode.
   (B) MP3/WMA PLAYER MODE
   When pressed for less than 1 second, they will operate as TRACK UP or TRACK DOWN mode.
   When pressed longer than 1 second, they will operate as CUE or REVIEW mode.

8. **AUTOMATICALLY STORE STATIONS (AS/PS)**
   Select six strong stations and store them in current band.
   1. Select a band (if needed)
   2. Hold **AS/PS** button for more than three seconds. The new stations replace those already stored in that band.
   Preset Scan
   To scan stations stored in current band.
   1. Select a band (if needed)
   2. Press **AS/PS** for more than one second but less than three. The radio pauses for five seconds at each statio. Press **AS/PS** again to stop scanning when desired station is found.

9. **LCD DISPLAY**
   The Liquid Crystal Display will show the current settings of the unit.

10. **OPEN THE FRONT PANEL**
    Press ⏏ button and the front panel will open.

MP3/WMA CONTROL LOCATION OF PARTS

11. **PAUSE BUTTON**
    During "PLAY", press (11) 'PAU' button to "PAUSE". Press gain to resume play.

TRACK/SEARCH BUTTON (7)
FORWARD AND REVERSE TRACK SEARCH (or changing songs)
Press and release to advance to next track or to return to the beginning of the current track (track number will be displayed.) Press and hold to ⋁ or ⋀ . Play will begin at the point where you release the button.

12. **REPEAT BUTTON 'RPT'**
    When this button is pressed, 'RPT' is displayed and the selected track will play continually. Press again to listen to all tracks.

13. **INTRO BUTTON (Preview all Tracks)**
    When this button is pressed, 'INT' is displayed and the first few seconds of each track on the disc play. Press again to stop 'intro' and listen to track.

14. **RANDOM BUTTON 'RDM'**
    When this button is pressed, 'RDM' is displayed and each track is played in random instead of normal sequence. To cancel RANDOM mode, press 'RDM' button again.

15. **PREVIOUS/NEXT FOLDER SELECT: (In case of MP3/WMA files)**
    M5: Previous Folder / M6: Next Folder

HOW TO SELECT MP3/WMA FILES

Note: During playback the information from the ID3 tag of the MP3 files are read and are shown successively in the display.
Press briefly BD/LD button to turn ON or OFF the ID3 tag.

MP3/WMA music function:
Note: In all operation, use "SEL" button to choose the BAS, TRE, BAL FAD, and VOL functions, respectively.
• Press and hold **"AS/PS"**.

Folder Select: (Music paused in operation)
• Press and hold **"AS/PS"** to activate the Folder search. Then turn the Volume knob to select the folder, and press the "SEL" button to enter the folder.
• Press ◄◄ / ►► button to select the desired folder. The song will automatically play.

Song Number Select: (Select in current folder)
- Press **"AS/PS"** for the 2nd time to activate the Song Number search.
- Press ⏮ / ⏭ button to select the desired track. The song will automatically play.

Folder Number Select: (eg. Dir 1, 2,.... etc)
- Press **"AS/PS"** for the 3rd time to activate the Folder Number search.
- Press ⏮ / ⏭ button to select the desired Folder number. The song will automatically play.

Song Name Select: (Music paused in operation)
- Press **"AS/PS"** for the 4th time to activate the Song Number search.
- Press ⏮ / ⏭ button to select the desired Song number. The song will automatically play.

Connecting it to Portable MP3 Player
16,17. USB/ SD/MMC MEMORY CARD
The device is equipped with a USB interface and a memory card reader for SD/MMC cards. MP3 or WMA files stored on these media can be played.
1. Plug your USB storage medium into the USB port.
2. If you use a memory card, insert it into the memory card reader.
3. The player automatically switches to the input used and starts playback.
4. See the section on operations common for audio files on how to control USB or memory card playback.
Note:
- *Due to the great variety of devices with USB and SD/MMC card interfaces that sometimes have manufacturer-specific functions, we cannot guarantee that all media will be recognized and that all operational functions will be available with this device.*
- *You cannot operate USB hard drives on the device.*

18. FRONT AUX IN
An external audio source (e.g. portable MP3 player) can be connected to the AUX IN socket to be played back by the vehicle loudspeakers. Press the **MD** button to select the *AUX IN* mode.
- Connect the AUX IN socket with the audio output of the external device.

MEMORY BACKUP
This unit is equipped with built-in memory I.C. (Integrated Circuits) to save user settings such as tuner preset stations and audio control settings. Whenever power is unplug, these settings will not be lost.

CAUTION & MAINTENANCE

This detachable panel AM/FM car radio with MP3/WMA player is an example of superior design and craftsmanship. The following suggestions will help you care for the product and experience many years of enjoyment.

1. Do not touch the contacts on the front panel or the unit body.
2. The product can only operate on 10.8V-32V DC power supply, negative ground.
3. Avoid exposing your product to high temperature and humidity.
4. Handle the product with care. Dropping it can damage circuit boards and cause the product to malfunction.
5. Modifying or tampering with internal components can cause damage and may invalidate the warranty.

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	SOLUTION
No sound or power	Speaker cord disconnected. Bad power connection	Check to see that all the power and speaker leads are securely connected.
	Blown fuse.	Replace fuse with same amperage.
No sound in one channel	Mis-adjusted balance control	Check balance control.
	Damaged speaker wire or speaker	Reverse left and right channel speaker leads If no sound from other side, check or replace speaker wire. If no sound from both sides, replace both speakers.
Poor FM reception	Insensitive or defective antenna.	Replace with a good sensitivity antenna.
Sound distortion & unstable	Used speaker 4 Ohm impedance or lower, Cause power amplifier over heat.	Recommend used 8 ohm or equivalent speaker impedance.

TECHNICAL SPECIFICA TIONS

MP3/WMA PLAYER SECTION
Signal to noise ratio   > 60 dB
Channel separation   > 50 dB (1kHz)
Frequency response   60Hz - 15 kHz

TUNER (FM)
Frequency range   65-74 MHz
Channel step   30 kHz

Frequency range   87.5-108 MHz
Channel step   50 kHz
Sensitivity   4 µV
Stereo separation   30 dB
Signal to noise ratio   50 dB

TUNER (AM)
Frequency range   522-1620 KHz
Usable sensitivity   50 µV

LINE-OUT
Output   5V (max.)
Impedance   10k Ohm

GENERAL
Power supply   24V DC (10.8-32V allowable)
Speaker impedance   4 or 8 ohm
Output power   4 x 18 Watts
Fuse   5A

Note: Specifications and design may be subject to change without prior notice