

USER'S MANUAL MR1650UA

FULLY MARINIZED
IN-DASH MP3/CD AM/FM RECEIVER
FEATURING WEATHER BAND RECEPTION AND
REAR USB INPUT

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BOSS®

AUDIO SYSTEMS

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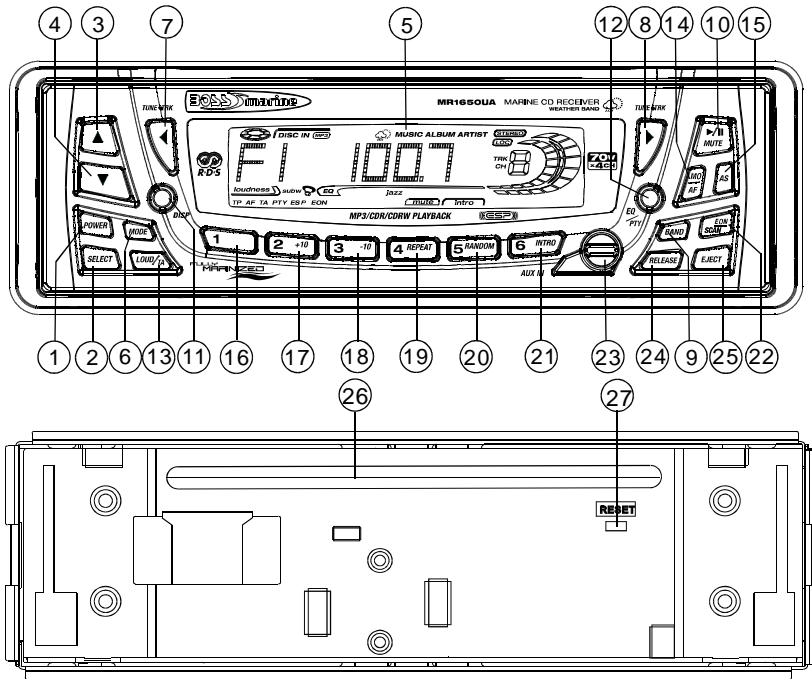


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LOCATION AND FUNCTION OF CONTROLS



1. POWER BUTTON

When the unit is powered off, it will switch on by pressing any button except the EJECT and RELEASE button. When the unit is ON, Press and hold POWER button to turn it off.

2&3&4. SEL BUTTON (Select) AND VOL CONTROL BUTTON

a) Press the SEL button briefly, it is activated as selecting each mode of E. VOL.

-> VOLUME ->BASS ->TREBLE -> BALANCE -> FADER ->

When selecting a desired audio mode, press the VOL+ (▲)VOL-(▼) button to adjust the audio effect.

In each mode, the waiting time is about 5 seconds, and when the waiting time is over, it returns to the last display mode.

The control mode of E. VOL is operated with following numeric display.

- VOL: (MIN) 01,.....46, (MAX).
- BASS/TRE: -07, -06, ..., 00, ..., +06, +07
- BAL: 0LR9, 1LR9, ..., 9LR9, ..., 9LR1, 9LR0
- FAD: 0FR9, 1FR9, ..., 9FR9, ..., 9FR1, 9FR0

b) Press SEL button and hold for about 5 seconds to turn on TA SEEK/TA ALARM mode, then press SEL button briefly and repeatedly to select PI SOUND/PI MUTE, RETUNE L/RETUNE S, MASK DPI/MASK ALL, BEEP ON/BEEP OFF, USER SET (FLAT/CLASSIC/ROCK/POP), SUBW ON/SUBW OFF, VOL LAST/VOL DEFA, STEREO/ MONO (in RADIO mode), LOUD OFF/LOUD ON, DX/LOCAL (in RADIO mode), CLK 12/24 mode. After selecting the desired mode, press the VOL + (▲) or VOL- (▼) button to select one setup item of the desired mode.

1) TA SEEK/TA ALARM:

TA SEEK mode: when newly tuned station does not receive TP information for 5 seconds, the radio retunes to next station which has a different PI to the last station,

but has the TP information.

When TP information gets lost at the current station for retune time which is set by RETUNE SHORT(90 seconds) or RETUNE LONG(150 seconds), the radio starts to retune to next same PI station. When same PI station does not receive in 1 cyclic search, the radio retunes to next station with TP information.

TA ALARM mode: when this mode is selected, any automatic retune mode is not activated. Only double beep sound(ALARM) will be heard.

When newly tuned station does not have TP information for 5 seconds, beeps are so When TP information gets lost at the current station for retune time, the beep sound will be heard.

When newly tuned station has no RDS signal, PI SEEK is suppressed.

2) PI SOUND/ PI MUTE:

PI SOUND mode: if a car cruises between buildings that could cause reflecting signals, a phenomenon may occur, due to different PI codes being received from the same AF source. when different PI sounds (DIP) are heard occasionally, this will happen for less than 1 second.

PI MUTE mode: under above same situation, a mute sound will be heard for less than 1 second.

3) RETUNE L / RETUNE S:

The initial time of automatic TA search or PI SEARCH mode is selected.

When PI information is not received for retune interval, the radio starts to retune to next same PI station.

When same PI station does not receive 1 cyclic search, the radio goes to last station and waits for 4-5 minutes until PI code is received.

RETUNE L mode: selected as 150 seconds.

RETUNE S mode: selected as 90 seconds.

4) MASK DPI/MASK ALL:

MASK DPI mode: masks only the AF which has different PI.

MASK ALL mode: masks the AF which has different PI and NO RDS signal with high field strength.

5) BEEP ON/BEEP OFF

BEEP ON mode: The beep is generated when any key is pressed.

BEEP OFF mode: The beep sound is disabled.

6) VOL LAST/VOL DEFA

VOL LAST: The radio switches on at the actual volume it had when it was last switched off.

VOL DEFA: After pressing SEL button, AVOL will be displayed. Then you can pre-select a constant switch-on volume by pressing the VOL(▲/▼) button.

5. LCD Display

6. MODE BUTTON

Press it to select RADIO, USB mode(after inserting USB stick), disc playback mode (if disc is loaded) and AUX mode.

Press and hold this button to activated the Frequency Area Mode, then press the VOL+/- (▲/▼) button to select as and then press button 1 to confirm the selecting mode

7&8. TUNE, SEEK, TRACK, SKIP UP / DOWN BUTTONS

a) During Radio mode:

Press the > or < button briefly to manual tune up/down for the desired radio station frequency step by step.

Press and hold the > or < button for about 5 seconds, to automatically tune up/down for the radio station frequency of strong signal.

- b) During disc playback mode or USB mode:
Press the > or < button briefly to play next or previous track.
Press the > or < button and hold to skip forwards or backwards, release to resume normal playback.

9. BAND BUTTON

During radio mode, press the BAND button briefly to select the radio broadcasting band you would like to hear. The AM/FM band is toggled cyclically through the tuning bands: ->FM 1-> FM 2 -> FM 3 ->AM1->AM2 ->WB
Press and hold this button for more than 5 seconds, RESET SYS will display on LCD, then press button 1 to confirm reset the unit and this will erase some stored contents.

10. MUTE AND PLAY/PAUSE BUTTON

In Radio, AUX modes, press this button to silence the audio. Press again to restore the previous audio volume level.
In CD and USB mode, discs or USB stick will begin playback automatically upon insertion. To pause playback, press this button. Press again to resume playback.

11. DISP BUTTON

RADIO mode:
When RDS DATA is received, press the DISP button shortly and repeatedly to display the following items alternatively:
--->PS NAME ---> FREQUENCY ---> PTY
When RDS DATA is not received, press the DISP button shortly and repeatedly to display the following items alternatively:
--->FREQUENCY ---> PTY NONE

12. PTY (PROGRAM TYPE) AND EQ BUTTON

- a) During Radio mode:
Press it briefly and repeatedly to select one of the following mode:
POP M - NEWS
While selecting PTY TYPE, its selection is implemented by preset buttons as described in preset key (press one of the 6 preset buttons shortly and repeatedly to select the PTY TYPE in the preset button). When POP M or NEWS is on, the previous PTY program and PTY word is displayed on LCD. If there are no keys entered for 2 seconds, previously selected PTY is searched. During 1 loop, if desired PTY is not found, NO PTY is flashed, then return to previous normal radio and PTY icon goes off.
Press and hold this button for about 5 seconds repeatedly to select the mode of EQ: -> FLAT -> CLASSIC -> ROCK -> POP -> USER SET (When one EQ mode is selected, it will display on LCD).
- b) During disc playback and USB mode:
Press this button briefly and repeatedly to select as: USER SET -> FLAT -> CLASSIC -> ROCK -> POP modes (When one mode is selected, it will display on LCD).

13. TA [TRAFFIC ANNOUNCEMENT] AND LOUD BUTTON

- a) When pressing this button, TA mode is switched on or off.
When TA mode is on (TA is displayed on LCD), it will begin to seek TA station and TA SEEK will be displayed on LCD for a while.
When traffic announcement is transmitted:
1) If the unit is in USB or disc playback mode, it will switch to radio mode temporarily.
2) If volume level is below 20, volume level is raised to 20, and returns to its previous mode and volume level when the traffic announcement is over.
If volume is adjusted during traffic announcement, only the traffic announcement volume is valid.

SPECIFICATION

GENERAL

| | |
|-----------------------|-----------------------------------|
| Supply Voltage | DC 12V. Negative Ground |
| Current Consumption | Max.10A |
| Power Output | 70Watts X 4(measured at DC 14.4V) |
| Number of channels | 4 channels. |
| Dimensions(w x h x d) | 7"W x 2"H x 6.5"D. |

FM SECTION

| | | |
|-----------------------|---------------------|----------|
| Frequency Coverage: | 87.5Mhz - 108Mhz | (Europe) |
| | 87.5 Mhz - 107.9Mhz | (U.S.A.) |
| I.F Frequency | 10.7Mhz | |
| Effective sensitivity | 3uV | |

AM SECTION

| | | |
|-----------------------|------------------|----------|
| Frequency Coverage: | 522Khz - 1620Khz | (Europe) |
| | 530khz - 1710Khz | (U.S.A.) |
| I.F Frequency | 450Khz | |
| Effective sensitivity | 40dB | |

RCA LINE OUT

| | |
|--------|----------|
| Output | 1.2V RMS |
|--------|----------|

CD PLAYBACK

| | |
|---------------------------|--|
| System | MP3 audio system. |
| Suitable CDs | MP3, WMA, CD, CD-R,CD-RW Disc |
| Frequency characteristics | 20Hz -100Hz <=5dB 10KHz-20KHz <=5dB |
| Signal to noise CD | 50dB [1KHz] |

* TA interruption function:

The current traffic announcement is cancelled by pressing this key. But the TA mode will not be off.

* When TA is on, SEEK, (SCAN), AUTO MEMORY function can be received or saved only when traffic program identification code has been received.

When TA is ON, traffic program identification code is not received during specified time b) press and hold it for more than 5 seconds to turn on or turn off loudness. (LCD will display LOUD if you select LOUD ON).

14. AF [ALTERNATIVE FREQUENCIES] AND MO BUTTON

a) When pressed briefly, AF switching mode is selected and the state of AF switching mode is displayed by AF segment in display.

Segment off: AF switching mode off.

Segment on: AF switching mode on, and has RDS information.

Segment flashing: AF switching mode on, but RDS information is not received yet

When AF switching mode is selected, the radio checks the signal strength of AF all the time. The interval of checking time of each AFs depends on the signal strength of current station, from a few minutes for a strong station to a few seconds for weak station. Every time that new AF is stronger than current station, it switches over to that frequency for very short time, and NEW FREQUENCY is displayed for 1-2 seconds.

Because the mute time of AF switching or checking time is very short, it is almost inaudible in case of normal program.

During FM mode, when AF is on, SEEK, (SCAN), AUTO-MEMORY function can only receive and save RDS program.

b) Press and hold this button for more than 5 seconds to select stereo or mono mode. (ST or MO will display on LCD).

15. AS/PS BUTTON(Auto-storage/Preset scan)

a) During radio mode:

- 1) When pressing and holding for more than 5 second, the radio searches from the current frequency and checks the signal strength level until 6 station are found. And then the 6 stations are preset to the corresponding preset memory numbered bank. The auto-storage operation is implemented in each selected band. When the auto-storage operation is finished, the radio executes the Preset scan.
- 2) When briefly pressing, the radio searches for each preset station in the current band and holds at that preset number for 5 seconds while releasing mute, and then searches again.

b) During MP3/WMA file in disc or USB mode:

Press the AS/PS button, this activates TRACK SEARCH mode:

In TRACK SEARCH mode, the LCD will display TRK T "0" and flashes the biggest digit 0 that the disc or USB stick contains.

Then press the VOL+ (▲) or VOL- (▼) button to select the number of the flashing digit from 0 ~ 9. Then press AS/PS button to confirm the number and flash next smaller digit 0. With the same means, select the number of the flashing digit with VOL button After finishing selecting the number of all flashing digit, press SEL button to play the track of the selected serial number.

16-21. PRESET STATION MEMORY AND, +/-10, INT, RPT, RDM BUTTONS

a) During radio mode:

When pressed briefly, these buttons select a preset station directly. If the six button are pressed for more than 5 seconds, the station currently being listened to is memorized into the selected preset button.

b) During disc or USB mode:

Press the button 1 briefly to play the first file in the CD or USB stick.
 Press button 2(+10) and button 3(-10) to move up and down 10 tracks at a time.
 When the remaining total tracks are less than 10, then both buttons are inactive.
 Press the REPEAT button to play the current track repeatedly, and the LCD will display RPT ONE.
 Press again to cancel this function, and the LCD will display RPT OFF.
 Press the REPEAT button twice continuously to play the tracks in the current folder repeatedly and the LCD will display RPT ABM.
 Press the RANDOM button to play all tracks in random order, and the LCD will display RDM ON.
 Press again to cancel this function, and the LCD will display RDM OFF.
 Press the INTRO button to play the first 10 seconds part of each track, and the LCD will display INT ON.
 Press again to play the currently selected track and the LCD will display INT OFF.

22. SCAN BUTTON AND EON BUTTON

Press the SCAN button to scan the radio frequency. If a valid signal has been detected, the current frequency will hold and begin blinking for 5 seconds, then press SCAN again to stop scan and remain on the current frequency; otherwise, the radio will go on to scan the other radio frequency 5 seconds later.
 Press and hold this button for more than 5 seconds to show EON.

23. AUX INPUT JACK

Press the mode button to select auxiliary input playing mode. You can connect any matched external audio device to the auxiliary input jack. Use the volume button to adjust volume.
 When no needing to do AUX operation, please cover the plastic cover cap.

24. RELEASE BUTTON

Press the RELEASE button to fold down the front panel. Then a disc can be inserted into the disc slot or ejected by pressing the EJECT button.
 To remove the front control panel from the main body, press the RELEASE button.

25. EJECT BUTTON

In the power on state, the loaded disc can be ejected by pressing the EJECT button.

26. CD SLOT

27. RESET BUTTON

Before operating the unit for the first time, or after replacing the car battery or changing the connections, you must reset the unit.
 First remove the front control panel, then open the metal cover cap and you can see RESET button in, press this button with a cuspidal object. This operation will erase the clock setting and some stored contents.

TROUBLE SHOOTING

Before using the check list please make all the connections first.

If you still have questions after going through the checklist, please consult your local customer service representative.

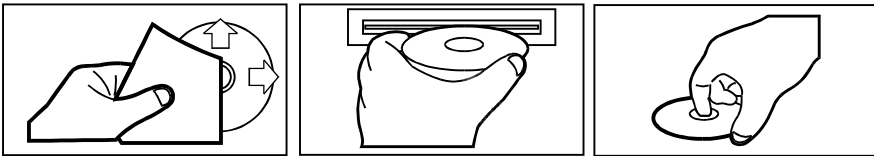
| Common Symptoms | Cause | Solution |
|---|---|--|
| There is no power. | The car ignition is switched off. | If the power supply is properly connected to the car accessory, switch the ignition key to " ON " or " ACC " . |
| | The fuse has blown. | Replace another fuse according to the wiring diagram. |
| The CDs cannot be loaded. | Presence of CD disc inside the player | Remove the disc in the player then put a new upward |
| The CDs are loaded only halfway into the CD tray. | The transport screws have not been removed. | Remove the transport screws before using. |
| The device does not work correctly (EJECT, LOAD, PLAY) | Inserting the disc in upside down | Insert the compact disc with the label facing upward |
| | The surface of CD is extremely dirty or it is damaged. | Clean the CD or try another CD, if this works correctly, the first CD is properly damaged. |
| | Temperature inside the car is too high. | Cool off until the ambient temperature returns to normal |
| There is no sound. | The volume control is set too low. | Turn up the volume properly. |
| | The device has not been correctly connected. | Check the power and earth connection according to the wiring diagram. |
| The operation keys do not work | 1.The built-in microcomputer is not operating properly due to noise | 1. Switch the device off and on again. Or press the RESET button to resume the program. |
| | 2.Front panel is not properly fix into its place | 2. Reinstall the front panel |
| The sound of the CD player skips | The installation angle is more than 30 degrees | Adjust the installation angle to less than 30 degrees |
| | The surface of the road is uneven. | Wait until the road becomes smoother before playing the CD. |
| | The surface of CD is extremely dirty or it is damaged. | Clean the CD or try another CD, if this works correctly, the first CD is properly damaged. |
| No radio reception. | The antenna cable is not connected. | Insert the antenna cable firmly into the antenna socket of the device. |
| In automatic search mode the radio does not stop at a transmitting station. | The transmission signals are too weak. | Tune in to a radio station manually. |

About CD-R/CD-R/W discs:

In addition to commercially-recorded audio CD's, this unit can play CD-R and CD-R/W discs. In some cases, particularly when recorded on older CD burners, some CD-R and CD-R/W discs may not play. Also, whenever you are recording a CD for playback in this receiver, it is recommended that you record at 24x or slower speed for CD-R and 4x or slower for CD-R/W to achieve higher signal quality and better playback performance.

To keep the disc clean:

- Do not attach any sticker or adhesive tape on the disc.
 - Handle the disc by its edge to keep the disc clean and do not touch the surface.
 - Before playing a disc, wipe it off with a clean, dust-free cleaning cloth.
 - Wipe the disc outwards from the disc centre.
- When one has already been inserted. Doing so may damage the unit. Insert a disc with labelled surface up, or it will damage the unit.
 - Do not expose the disc to direct sunlight or nearby heat sources such as heating vents caliduct which can cause the disc to warp.
 - Do not leave disc in a car if it is parked in direct sunlight as that will lead to a considerable rise in the temperature inside the car.
 - Do not use any secondhand or rented disc, usually, there is glue on the surface of those discs, it will stop the unit working and damage it.
 - Always store the disc in its case for protection. Scratched up discs will produce poor sound performance and cause CD player to skip.
 - In raining day or wet area, the moisture may form on the disc or the optical parts, the playback may not be possible. If moisture forms on the disc, wipe it off with a soft cloth. If moisture forms on the optical parts of the unit, allow the unit to sit for about one hour with power on.
 - Do not use solvents such as benzine or thinners. Commercially available cleaners or anti-static spray will damage the unit.



Remote Control Unit

1. POWER

Use to turn the unit on or off.

2. MODE

Press to choose desired audio source:
RADIO > Disc Playback > AUX > USB >
Press and hold to choose Frequency Area: MID EAST > AMERICA3 > AMERICA2 > AMERICA1 > JAPAN > RUSSIA > AUST > EUROPE >

3. BAND

Press briefly, repeatedly to select between the radio bands:
FM1 > FM2 > FM3 > AM1 > AM2 >
Press and hold it to activated RESET SYS mode, then press button 1 to confirm clear all the stored memories.

4. SCAN/EON ON/OFF

In Radio Mode, when you press this button briefly the tuner will scan up the band until it detects a strong station. Then it will stop, and the frequency of that station will be displayed in a flashing pattern for about 5 seconds. If you wish to hear this station, press SCAN again. If you do not press SCAN, it will scan up to the next station and repeat the same pattern. Press and hold this button to activated EON function. Press again to cancel it.

5. TUNE/TRACK

6. PLAY/PAUSE AND MUTE BUTTON

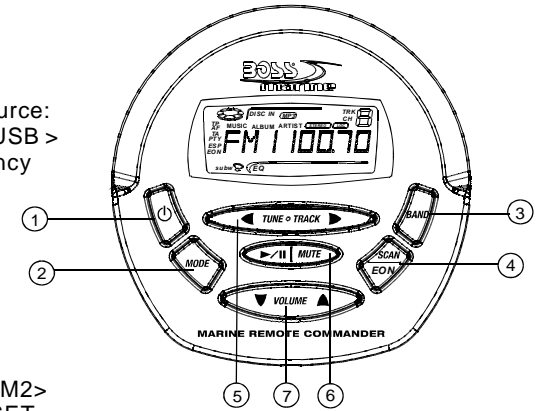
During Radio or AUX mode:
Press this button to silence the audio. Press again to restore the previous audio volume level.

During Disc Playback or USB mode:
Press briefly to pause playback. Press again to resume normal playback.

Press and hold this button to silence the audio. Press again to restore the previous audio volume level.

7. VOLUME

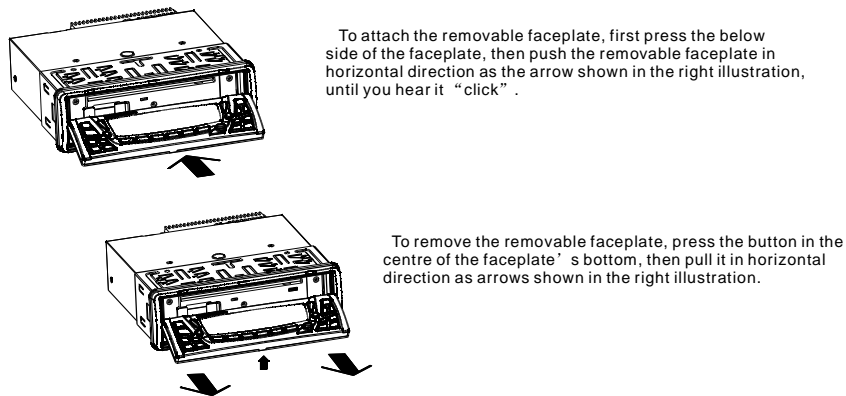
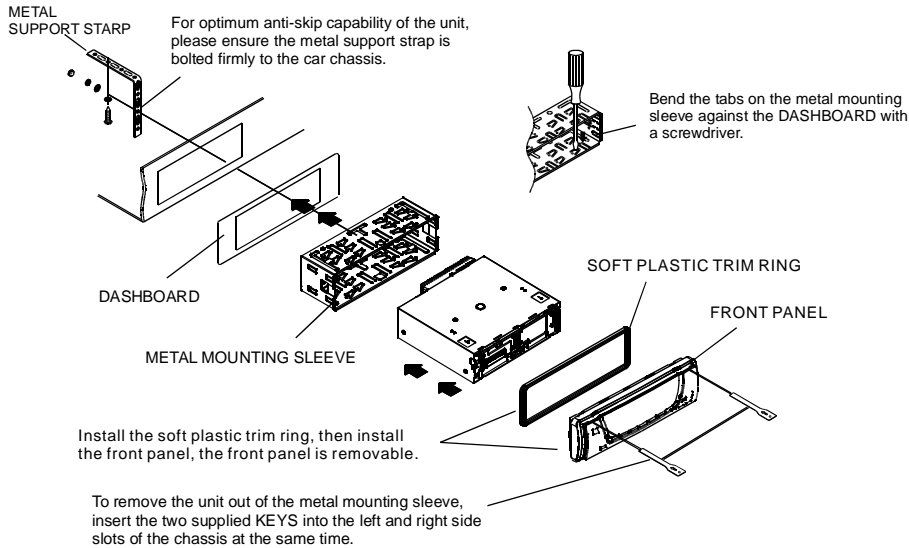
8. **NOTE: This unit is compatible with the radio frequency remote MRF90 (sold separately). Using radio frequency, you do not have to be in direct sight with the unit for it to read remote commands.**



INSTALLATION

INSTALLATION METHOD

This is an anti-theft installation method. The main unit has a METAL MOUNTING SLEEVE. Please connect the wiring, eg, the Power Supply, the Speakers and the Antenna according to the requirements of this Instruction Manual, then install the metal mounting sleeve into the car as per the diagram illustrated below.



Wiring connection diagram

