

BOSS[®]
AUDIO SYSTEMS

FULLY
MANAGED

 **Bluetooth**[®]

MGR300B

USER MANUAL

QUICK INSTALLATION GUIDE

BLUETOOTH[®] (AUDIO STREAMING)

MARINE GAUGE DIGITAL MEDIA AM/FM RECEIVER

FEATURING BUILT-IN AMPLIFIER



Thank you for purchasing this **BOSS**
AUDIO SYSTEMS marine gauge radio!

Please read the instructions carefully, so you will know how to operate your product properly. After you have finished reading the instructions, keep this document in a safe place for future reference.

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Important

Read and understand all instructions before you use your product. If you do not follow the instructions in this manual, we are not responsible for injury or damage resulting from improper handling. This will also void the warranty.

Important safety precautions

- **Be sure to observe the following guidelines:**
 - Do not increase speaker volume so high that you cannot hear what is around you.
 - Use caution or temporarily discontinue use in potentially hazardous situations.
- Do not make any adjustment on the product when driving or in other situations where distractions can be hazardous. Responsible and safe driving is your primary responsibility when operating a vehicle.
- Start volume at a low setting then gradually increase the volume until you can hear it comfortably, without sound distortion or ear discomfort.
- In the event of smoke, strange noise or odor emitted from the product or any other abnormal operational signs appearing on the product, disconnect the product from the power supply. Discontinue use and contact your dealer or our technical support. Using the product in this condition may result in permanent damage to the system.
- Servicing must only be carried out by a technician. Contact our technical support for any service question.

Installation precautions

- **WARNING: Always consult a professional installer.**
- Installation must be performed by a professional. Contact our technical support for any installation question.
- Use only installation parts provided with the product.
- Before installation, disconnect the negative terminal of the vehicle battery to prevent damage to the product, fire, and/or possible injury.
- If extending the power cable which connects to the vehicle battery, we recommend to run the extended cable to the battery through a fuse box (not included) with at least 15A.
- The ground cable should be as short as possible. Connect the ground cable to metal parts of your vehicle, or to the battery if your vehicle does not have a grounded chassis frame.
If extending the ground cable to the battery, make sure to use a high quality cable with proper gauge rating.

- Replace the old fuse with the one of the same rating.
- Observe the safety and operating instructions of the devices which are connected to the product.

Care for your product

- Do not use abrasive cleaning materials on the display or bezel.
- This product is waterproof against splashing water. However, never submerge the product to water or other liquids.

Care of the environment

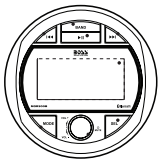
Please inform yourself about the local separate collection system for electrical and electronic products. Do not throw away the product with the normal household waste at the end of its life, but hand it in at an official collection point or recycling. By doing this, you help to preserve the environment.

Introduction

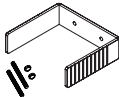
The product is designed as a marine gauge radio with a built-in four channel amplifier. Through Bluetooth connection, audio can be streamed from a mobile phone to this product. Music from an external device (e.g. a USB flash drive, mobile phone or MP3 player) can also be played on this product via USB port or AUX input jacks.

You can also output audio from this product to an external amplifier or powered speakers via RCA outputs.

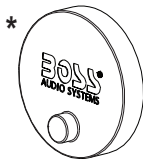
Package Contents



Marine gauge radio



Mounting kit
(1x U-bracket, 2x bolt & nut)



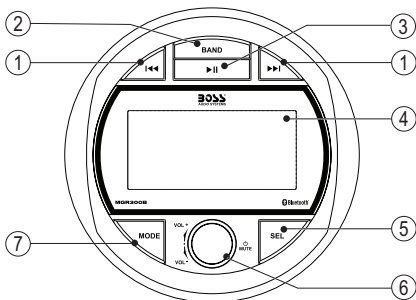
Rubber cover



User manual & warranty card

* The rubber cover is designed to protect the radio's control panel against the harsh marine environment, and additionally UV exposure, water ingress and abrasion.

Control Panel



1 ◀◀/▶▶

- In USB/Bluetooth mode, select the previous/next music file; hold down to fast search .
- In radio mode, tune to a radio station; hold down to enter manual tuning mode.

2 BAND

- In USB mode, press to enter music folder or file search mode; hold down to activate setting of repeat or shuffle play mode.
- In radio mode, select a radio band (FM1/FM2/FM3/AM1/AM2); hold down to auto search and store radio stations in FM or AM bands.

3 ▶||

- In USB/Bluetooth mode, start, pause or resume play.
- In radio mode, select a preset radio station.

4 LCD display

- Show current status or menu options.

5 SEL

- Navigation menu options, or confirm a selection; hold down to view clock.

6 Function knob

- Press to turn the unit on; press and hold to turn the unit off.
- In power on mode, press to mute or restore volume.
- Rotate to adjust volume.

7 MODE

- Select a source: radio, Bluetooth, AUX In, USB (USB source can only be selected if a USB flash drive is connected and has playable media).

Mounting On Dashboard

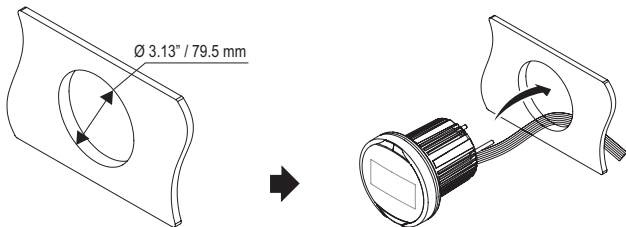


See the section "Installation precautions" on page 2.

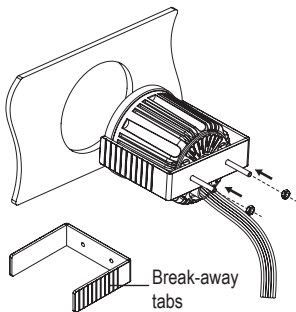
Use only installation parts provided with the product. Using other mounting methods may void the warranty.

Before you drill or cut any holes, investigate your vessel's layout very carefully. Take special care when you work near the gas tank, fuel lines, hydraulic lines and electrical wiring.

1. Cut a mounting hole (Φ 3.13" / 79.5 mm) in the dashboard.
2. Slip the unit through the mounting hole in the dashboard.



3. Fasten the unit to the dashboard with the supplied U-bracket and two bolts and nuts. If needed, remove one or more break-away tabs on the U-bracket to shorten the bracket for firm fastening to the dashboard.



Wiring



See the section "Installation precautions" on page 2.

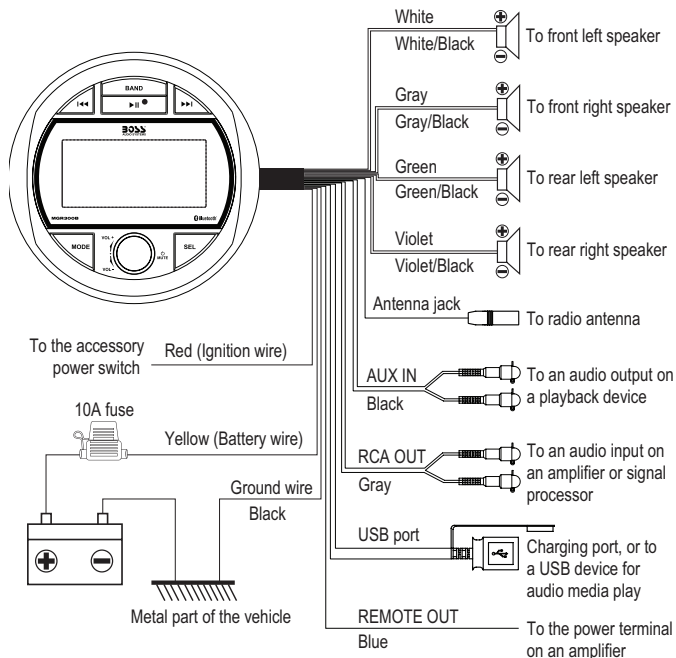
Disconnect the negative terminal of the vehicle battery prior to wiring.

Connect the unit to a 12V DC battery and negative ground only.

Connect speaker wires to speakers with 4 - 8 Ω .

Never ground or short the speaker wires.

Insulate all bare wires and unconnected wires with electrical tape.



Power On/Standby

- To switch the unit on, press briefly the function knob.
When switched on, the unit switches to the last selected source and the button backlights are illuminated.
- To switch the unit to standby, press and hold the function knob.
When switched to standby, clock is displayed and the button backlights are off.

Set Clock

1. In power on mode, press **SEL** repeatedly until the clock option/hour digits is selected.
2. When hour digits flash, rotate the function knob to set the hour.
3. Press the function knob (or **SEL**) to confirm. Minute digits flash.
4. When minutes flash, rotate the function knob to set the minute.
5. Press the function knob (or **SEL**) to confirm. 12 or 24 hour format prompts for selection.
6. Rotate the function knob to select 12 or 24 hour format.
7. Press the function knob (or **SEL**) to confirm. The clock is set.

To view clock

In power on mode, press and hold **SEL** to display clock. The clock is displayed briefly.

Adjust/Mute Volume

- To increase or decrease volume, rotate the function knob.
- To mute volume, press briefly the function knob.

Reset The Unit

If the unit fails to operate properly, reset the unit. After resetting, all the settings will be restored to the default.

1. In power on mode, press and hold **MODE** for five seconds to reset the unit.
"RESET" is displayed briefly. The unit will switch to standby after resetting.

Listen To Radio

You can listen to FM and AM radio, and store the radio stations. The stored radio stations can be retained if the unit is disconnected from the vehicle battery.

Select a radio band

1. Press **MODE** repeatedly to select radio. "FM" or "AM" is displayed.
2. Press **BAND** repeatedly to select FM1, FM2, FM3, AM1 or AM2.

Tune to a radio station

1. Switch the unit to a radio band.
2. Press briefly **I◀◀/▶▶I**. The unit automatically tunes to a station with strong reception.
3. Repeat the steps above until you find your desired station.

To tune to a weak station

1. Press and hold **I◀◀/▶▶I** to enter manual tuning mode. "MANUAL" is displayed briefly.
2. Press repeatedly **I◀◀/▶▶I** to adjust radio frequency until you find optimal reception.
 - Manual tuning mode will automatically exit after three seconds of button inactivity. Then "AUTO" is displayed briefly.

Store radio stations automatically

Each radio band (FM1/FM2/FM3/AM1/AM2) can store six radio stations.

1. In radio mode, press **BAND** to select an FM or AM band.
2. Press and hold **BAND** for two seconds to search and store stations.
 - All FM or AM stations will be searched and stored in FM or AM bands.

Store radio stations manually

Each radio band (FM1/FM2/FM3/AM1/AM2) can store six radio stations.

1. Select a radio band and tune to a radio station.
2. Press and hold **▶II** for two seconds to activate program mode.
3. When "SAVE P1" is displayed, rotate the function knob to allocate a number (1-6) to this radio station. Then press the function knob (or **SEL**) to confirm.
 - If there are three seconds of button inactivity, program mode will automatically exit without programming the radio station.
4. Repeat the steps above to store more radio stations.

Select a stored radio station


Each radio band (FM1/FM2/FM3/AM1/AM2) can store six radio stations.

1. Select a radio band.
2. Press briefly **▶||** to select a stored radio station. A preset number is displayed.

Play Audio Through Bluetooth

Pair with a mobile phone

Before you can stream music from your mobile device to the unit, you must pair the unit with your mobile phone through Bluetooth.

1. Switch the unit to Bluetooth source. Press **MODE** repeatedly until the display shows "BT MUSIC". Then "UNPAIRED" is displayed. This indicates that the unit is not connected to a mobile device and is currently in pairing mode.
2. On your mobile phone, enable Bluetooth then select "BOSS AUDIO SYSTEMS MGR300B" to pair the unit with your mobile phone. If prompted for password, input "0000" on your mobile phone.
 - When the unit connects to your mobile phone,  is displayed.
 - The unit automatically connects to the last paired device each time the two are powered on. To connect to a second device, you have to disconnect the currently connected device then repeat the steps above to pair with a second device.

Playback control through Bluetooth

1. When the unit is connected to your mobile phone, play audio files on your mobile device. Music will be streamed and played through the speakers which are wired to the unit.
 - For best sound performance, set the volume of your mobile device to maximum, then adjust the volume through volume control on the unit.
2. Control playback as follows.
 - To pause or resume playback, press **▶||**.
 - To select the previous or next music file, press **I◀◀/▶▶I**.
 - During playback, the display scrolls the music title of the file being played.
 - If there is an incoming call during play, music play will automatically pause. Music play will automatically resume after the call ends.

Play Audio From USB

This unit can play audio files stored in a USB storage device.

1. Insert a USB storage device to the USB port on the unit.
2. The unit will automatically switch to USB source. Audio files from the USB device will be played automatically.
 - If a USB device is not inserted and has no playable media, USB source will not be selected.
 - During playback, the display scrolls the following information: file name, folder name, file format, ID3 tag (if available), track number and elapsed track time.
 - Press **MODE** repeatedly to switch between USB source and other sources.
3. Control playback as follows.
 - To pause or resume playback, press **▶II**.
 - To select the previous/next music file, press **I◀◀/▶▶I**.
 - To search fast backward or forward, press and hold **I◀◀/▶▶I**.

Select play mode

1. During USB play, press and hold **BAND** to activate play mode setting.
2. Rotate the function knob to select a play mode. The display shows the following play mode options. Three seconds of button inactivity confirms selection.
 - RPT ALL: play all the tracks repeatedly.
 - RPT ONE: play the current track repeatedly. (1) is displayed.
 - RPT FOLD: play the current music folder repeatedly. (F) is displayed.
 - RDM ON: play all the tracks randomly. ∞↻ is displayed.
 - RDM OFF: cancel random play mode.

Search by folder

You can select a music folder from a USB storage device and start audio playback from the selected folder.

1. During USB play, press **BAND** once. "DIR SCH" is displayed.
2. When "DIR SCH" is displayed, rotate the function knob to select a music folder stored on the USB device. The display shows a selected folder name accordingly.
3. Three seconds of button inactivity confirms selection. Playback will automatically start from the first track in the selected folder.

Search by track number

You can select a music file stored in a USB storage device and start playback from the selected file.

1. During USB play, press **BAND** two times. The display shows "NUM SCH" briefly, then "NUM xxxx" ("xxxx" indicates a four-digit track number).
2. When "NUM xxxx" is displayed, rotate the function knob to input a digit (0-9) in each digit position. To input a digit in a digit position, wait three seconds until the digit position flashes.
For example, to select a track number of seven, the number input should be "0007". So do "0027" or "0127".
3. Press the function knob (or **SEL**) to confirm. Playback will start from the selected track number.

Play Audio From AUX

You can play audio from a playback device (e.g. CD/DVD player or VCR) through the speakers which are wired to the unit.

1. Using an audio cable (not included) with RCA plugs, connect a playback device with two channel audio outputs to the audio inputs marked "AUX IN" on the unit.
2. Press **MODE** repeatedly until "AUX IN" is displayed. Start playback on the connected device and audio will be played through the speakers which are wired to the unit.

Output Audio

You can output audio from the unit to an external amplifier or powered speakers.

1. Using an audio cable with RCA plugs (not included), connect the audio outputs marked "RCA OUT" on the unit to the RCA audio inputs on an amplifier or powered speakers.
2. Start play on the unit and audio will be output to the connected device.

Change Settings

The unit has menu options for you to change sound settings and other settings.

1. In power on mode, press **SEL** repeatedly to select a menu option. A selected option is displayed.
2. When a menu option is selected/displayed, rotate the function knob to adjust values or settings. Settings will be made if there are three seconds of button inactivity, and display will return to the normal status.

Sound settings

- **BAS:** Change output level for bass sound (available only when EQ is set off).
- **TRE:** Change output level for treble sound (available only when EQ is set off).
- **BAL:** Adjust left to right speaker output balance.
- **FAD:** Adjust front to rear speaker output balance.
- **EQ:** Select a preset sound mode (a preset equalizer setting): EQ1, EQ2, EQ3, EQ4 or EQ OFF.
- **LOUD ON/OFF:** Enable or disable loudness function. You can boost output level of low and high frequencies when loudness is enabled.
- **BEEP ON/OFF:** Enable or disable beep tone each time you press a button.
- **P-VOL:** Set a startup volume level. If the volume at the last shutdown is less than the set startup volume, the volume at the last shutdown will be used when rebooting. If the volume at the last shutdown is greater than the set startup volume, the set startup volume will be used when rebooting.
- **DX/LOC:** Select "DX" when most radio stations in your area are weak. FM stations with strong and weak signals will be received.
Select "LOC" when most radio stations in your area are strong enough. FM stations only with strong signals will be received.
- **STEREO/MONO:** Select "MONO" when the radio signal is weak to improve sound quality (FM stereo effect will be lost). Select "STEREO" to receive FM stereo broadcast.

Clock setting

See the section "Set Clock" on page 7 for details.

Other settings

- **AREA USA/EUR:** Select the region (America or Europe) you are in to receive radio.
- **LED ON/OFF:** Turn the button backlight on or off when the unit is switched on.

Specifications

Audio

Max output power.....	60 W x 4CH
Speaker impedance.....	4 - 8 Ω
Frequency response.....	20 Hz-20 kHz
Signal-to-noise ratio.....	>65 dB
AUX input sensitivity.....	1000 mV
Pre-amp output.....	Front, 1.5 V, full range

FM Tuner

Frequency range	87.5 – 107.9 MHz (USA) 87.5 – 108 MHz (Europe)
Frequency step.....	200 kHz (USA) 50 kHz (Europe)
Usable sensitivity.....	4 μ V (S/N=30dB)
Stereo separation	>25 dB

AM Tuner

Frequency range	530 – 1710 kHz (USA) 522 – 1620 kHz (Europe)
Frequency step.....	10 kHz (USA) 9 kHz (Europe)
Usable sensitivity.....	36 dB μ V (S/N=20dB)

Bluetooth

Bluetooth version.....	4.2
Bluetooth profiles.....	A2DP, AVRCP
Bluetooth frequency.....	2402 - 2480 MHz
Transmission power.....	<4 dBm
Transmission distance.....	Up to 33 ft /10 m (line of sight)

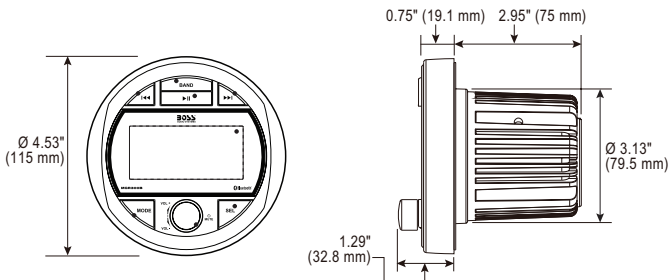
USB

Compatibility	Type A, USB 2.0 (High-Speed)
File system	FAT16, FAT32
Audio playback	MP3, WMA
USB charging	5V DC, 1A (not for mobile device playback)

General

Power supply	12V DC
Current consumption	max 10A
Fuse.....	ATO type, 10A
Operation temperature	-4 to 140°F / -20 to 60°C
Storage temperature.....	-4 to 158°F / -20 to 70°C
Unit weight.....	0.61 kg / 1.34 lbs

Dimension Drawings



Specifications are subject to change without notice.

Troubleshooting

If you have problems using this product, check the following points before you request service. If you still have a problem, contact our technical support.

Problem	Solution
No power	The fuse is blown. Replace with a new fuse with the same type and rating.
	The ACC switch of the vehicle is not engaged. Turn the ACC switch on.
No sound	Volume is muted or playback is paused. Adjust volume or check playback status.
	Incorrect source input. Press MODE to select the correct source.
Poor radio reception	Make sure an antenna is connected to the unit.
	Fine tune the radio station (see "Tune to a radio station" on page 8).
	Set FM radio to "MONO" and DX" for better radio reception (see "Change Settings" on page 12).
Cannot connect through Bluetooth	Bluetooth function on the device is disabled. Enable the device's Bluetooth.
	Make sure the device is within Bluetooth range.
	The unit is already connected with another Bluetooth device. Disconnect the current Bluetooth connection.
Audio quality from Bluetooth connection is poor.	Move the device closer to the unit, or remove obstacles or sources of interference that are affecting Bluetooth reception
USB device not supported	Files are not playable, or the USB device is not compatible with the unit.
No response	Reset the unit (see "Reset The Unit" on page 7).

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