

User's Manual

# MR1600W MR1600S

MARINE CD RECEIVER

RDS MODEL WITH  
SWITCHABLE  
USA/EUROPEAN FREQUENCIES



MR1600W • MR1600S  
MARINE CD RECEIVER

01.2007

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# BOSS<sup>®</sup> AUDIO SYSTEMS

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**MR1600W** RDS Model with  
Switchable USA/European  
Frequencies  
**MR1600S**

*Fully Marinized  
In-Dash CD Receiver*

**Congratulations on your  
purchase of a BOSS Marine  
CD Receiver.**

It has been designed, engineered  
and manufactured to bring you  
the highest level of performance  
and quality, and will afford you  
years of listening pleasure.

Thank you for making  
**BOSS Marine** your choice for  
marine audio entertainment!

## USER'S MANUAL

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### MR1600W • MR1600S Marine CD Receiver Packing List

*Before installing your new BOSS CD Receiver, please unpack the contents and check that your package contains the following items:*

Main unit	Wired remote control
Detachable front panel with protective case	Remote control cable
<i>Mounting hardware for main unit:</i>	<i>Mounting hardware for remote control:</i>
Rear bracket plate	Mounting arms (2)
Rear mounting screw	Mounting tube (1)
Plain washer	Machine screws (2)
Spring washer	
Screw	User's manual
Hex nut	Warranty card
Removal keys (2)	
Wiring harness	

## Head unit installation

Before installing your new **BOSS** AUDIO SYSTEMS CD Receiver, please become familiar with all the information contained in this manual.

Choose a mounting location where the unit will not distract or otherwise interfere with the pilot's ability to control the boat.

Use only the installation parts and hardware provided with the unit to ensure proper installation. Using other parts can cause malfunction and possible damage to your **BOSS** AUDIO SYSTEMS CD receiver.

Do not install this unit at an angle in excess of 30° from horizontal, as it may affect performance.

Although this unit has been designed for outdoor use, you can extend its life if you install it in a location which is not subject to extreme temperatures, from such sources as heaters or exhaust lines. Also, if you see dirt, dust or debris on a disc or in the CD slot, remove it with a clean cloth to avoid pushing it into the player mechanism.

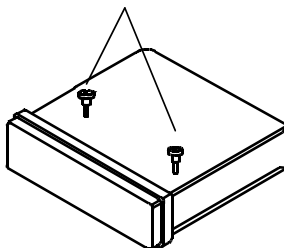
To remove dirt from the faceplate, use a clean cloth lightly moistened with filtered water. If the unit is splashed with water, wipe it off with such a clean damp cloth before the water has dried to avoid an accumulation of salts on the face of the unit.

If properly installed, this unit will meet the IPX5 Waterproof standard. Please note that this does NOT mean the unit is submersible, but will resist being sprayed and splashed as might occur in a normal boat cabin.

**To ensure that the installation meets the IPX5 Waterproof Standard, please follow these steps carefully.**

1. Remove the transport screws from the top of the enclosure before beginning the installation.

Fig 1 Remove transport screws



2. Place the two pieces of plastic film provided over the two screw holes to prevent water penetration.

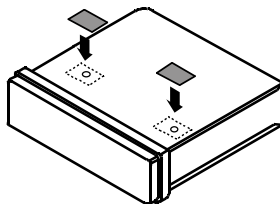


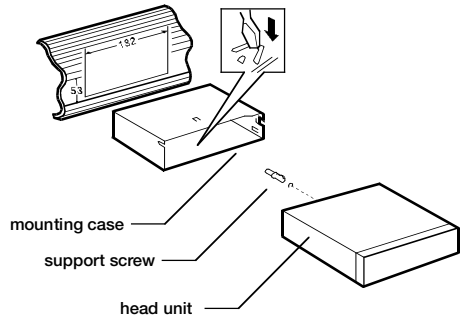
Figure 2 Apply plastic film to seal screw holes

3. Insert and tighten the “headless” support screw into the back of the head unit where shown.

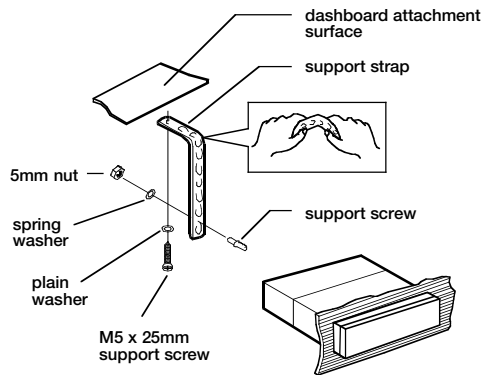
4. Insert the mounting case for the head unit into the dashboard. Inspect the dashboard material to determine its approximate thickness. Select the appropriate support tabs and bend them outward to secure the bracket in place (**Figure 3**).

5. Bend the backstrap to conform to the mounting case and the dashboard surface to which you plan to secure the backstrap (**Figure 4**). Slide one of the utility holes on the backstrap onto the support screw and fasten it with the spring washer and nut provided.

6. Using the 5 x 25mm screw and the plain washer, secure the backstrap to the dashboard surface as shown in the diagram. Tighten, secure, and check the overall mounting to be sure it is safe and will not release in an emergency stop or other sudden movement of the vehicle.



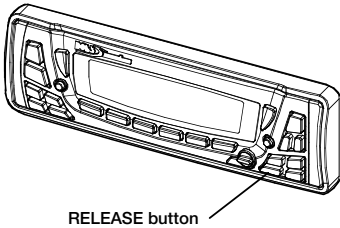
**Figure 3** Bending the support tabs



**Figure 4.** Forming the support bracket

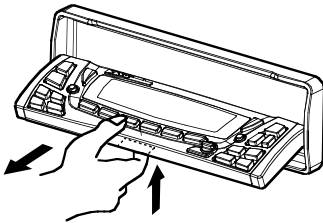
## Detaching the front panel

1. Press the RELEASE button to lower the front panel. (Figure 5).



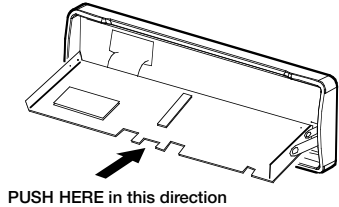
**Figure 5** Press RELEASE to release the front panel

2. Press the panel release latch on the front edge of the lower surface of faceplate, and at the same time pull the panel forward to disengage it from the main unit. (Figure 6).



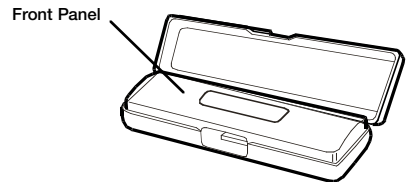
**Figure 6** Press release latch on on the lower surface of the front edge of the panel and pull the panel until it is free of the head unit.

3. Push the panel mechanism back into the housing so it is not protruding. To do so, push the BOTTOM EDGE down straight into the unit – do not lift it! (Figure 7).



**Figure 7** Push the panel mechanism back in

4. Immediately place the front panel in its protective case for safe and clean storage (Figure 8).



**Figure 8** Place the front panel in its protective case

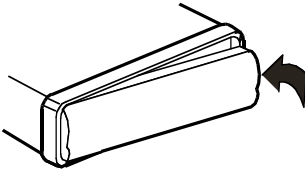
## Be careful when handling the front panel!

1. Do not drop front panel.
2. When detaching or reinstalling, do not put pressure on the display.
3. Do not touch the contacts on the panel or the main unit body – doing so may result in poor electrical contact.
4. Dirt or foreign substances can be removed with a clean, dry cloth.
5. Do not expose the panel to high temperatures or direct sunlight.
6. Do not permit volatile agents or solvents to contact the front panel.
7. Do not attempt to disassemble the front panel.

## Reinserting the front panel

1. Insert one side of the panel fully into the opening in the main unit.
2. Then push the other end of the front panel into the main body. You should hear a “click.” (**Figure 9**)

**NOTE:** *If the panel fails to lock into position properly, the function of some controls may be impaired, and some segments of the display may not become illuminated. If this occurs, press RELEASE and reinstall the front panel.*

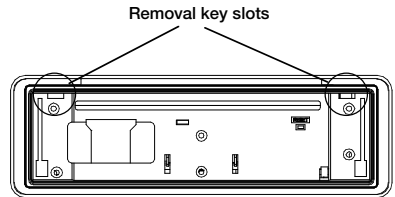


**Figure 9** Insert one end of the panel into the opening in the main unit. Then push the other end of the panel into main unit until you hear a “click”

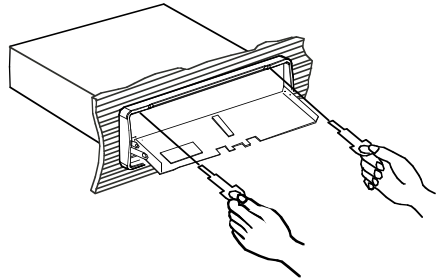
## Removing the head unit

Should you need to remove the head unit, first remove and store the front panel as described on the preceding page.

After you have removed the front panel, insert the removal keys supplied with the head unit into the two removal slots as shown in the drawing until you feel a “click.” You can now use the levers to pull the unit from the mounting surface. (**Figures 10 and 11**).



**Figure 10** Slots for removal keys



**Figure 11** Insert removal keys until “click” occurs, keys to pull out head unit.

## Remote control installation

The **BOSS** AUDIO SYSTEMS Marine Remote Commander has been designed with particular attention to ease and flexibility in installation.

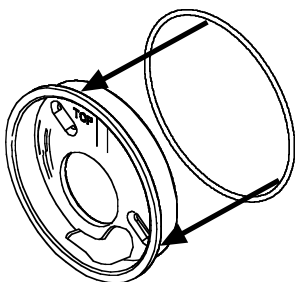
It can be mounted in both flush-mount and surface mount situations. Both use our exclusive “push and turn” system. In both types of mountings, you will first attach the mounting cup in place.

Once the cup is secure, you simply feed the wires thru the hole in the back of the cup (flush mount) or the lower edge of the cup (surface mount) and then insert and turn the remote until it is engaged.

### FLUSH MOUNT

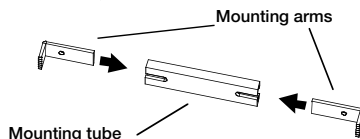
Follow these steps for a successful installation:

1. Select the proper location which accommodates the 3.45” overall diameter, and mark its centerpoint.
2. Drill a hole with diameter of 3.2” - 3.3” (82-84mm). **It is very important that the hole does not exceed 3.3”.**
3. Place the O-ring provided in the groove on the rear surface of the flange of the mounting cup.



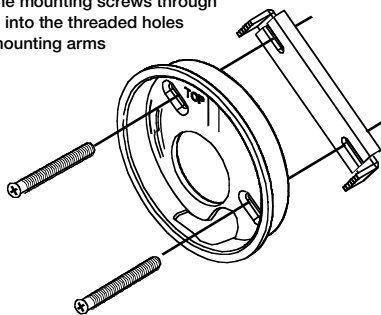
Place O-ring in groove on rear surface of flange of cup.

4. Insert mounting arms fully into mounting tube.



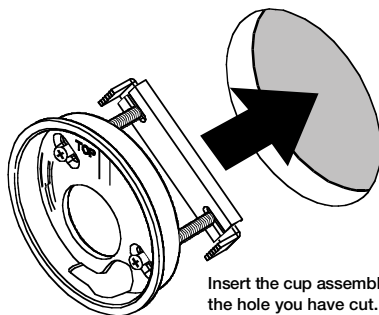
5. Insert mounting screws provided through the slots in the cup and into the threaded holes in the mounting arms. Do not tighten more than a few turns.

Insert the mounting screws through the cup into the threaded holes in the mounting arms



6. Insert this assembly fully into the hole you have cut so that the flange rests on the mounting surface.

**Be sure the cup is oriented with arrow next to the word TOP is pointing UP or your remote will be turned when it is installed!**

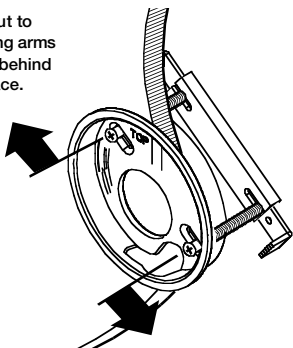


Insert the cup assembly fully into the hole you have cut.

## Remote control installation, continued

7. Using your fingers, grasp the heads of the mounting screws and slide them out, away from the center of the cup. This will cause the mounting arms to also slide out so that when you tighten the screws, the ends of the arms will be engaged behind the mounting panel.

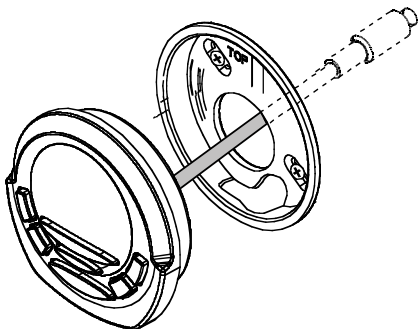
Slide the screws out to extend the mounting arms so that they reach behind the mounting surface.



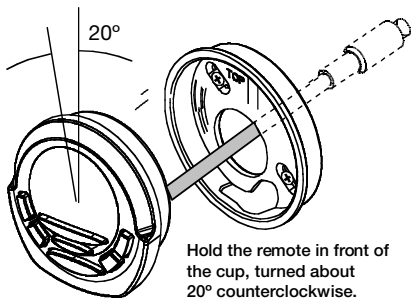
8. Tighten the screws equally until the cup is firmly seated and the O-ring is contacting the mounting surface.

**Please note: With the mounting arms installed as shown ("pointing to the front"), this mounting system can be used on mounting surfaces up to about 3/4". For thicker surfaces, you can reverse the arms, which will permit mounting to surfaces about 1" thick.**

9. Press the cable into the curved groove on the back of the remote housing. Feed the cable end thru the relief hole at the back of the cup.

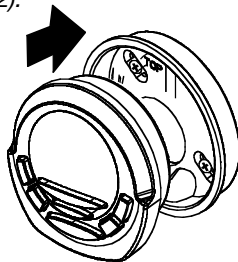


10. Hold the remote in front of the cup with the top up, and as you hold it, rotate it about 20° counterclockwise.

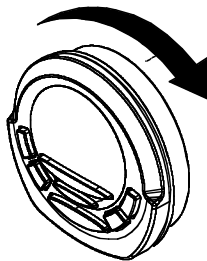


11. Insert the remote control fully into the cup so that the mounting hooks penetrate the slots in the back of the cup.

*If you feel resistance when you insert the remote into the cup, pull the remote housing and check that the cable has been pressed into the curved slot, as described in Step 2).*



12. Grasp and turn the remote to the right until it is in the correct position.





## Remote control installation, continued

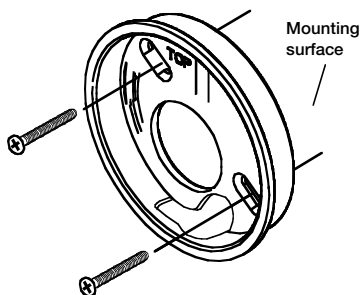
### SURFACE MOUNT

Follow these steps for a successful installation:

1. Place the mounting cup in the location you wish to install it.

**Be sure the cup is oriented with arrow next to the word TOP is pointing UP or your remote will be turned when it is installed!**

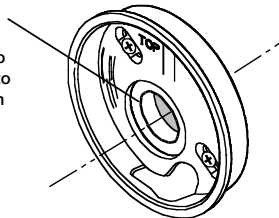
Using screws of suitable size and type for your application, attach the cup to the mounting surface. If necessary, drill pilot holes for the screws first.



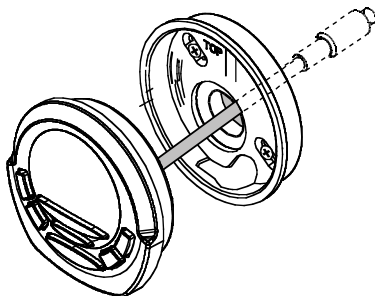
2. If you are going to run the cable into a hole in the mounting surface, drill a hole of at least 9/16" (15mm) so that you can pass the remote cable connector through it.

If you are going to run the cable out the bottom relief hole and out along the mounting surface, skip this step.

Drill a 9/16" (15mm) or larger hole to allow cable to pass through mounting surface.

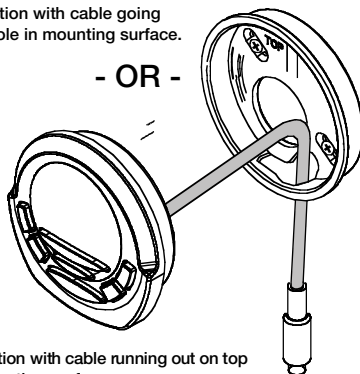


3. Press the cable into the curved groove on the back of the remote housing. Feed the cable end thru the relief hole at the BACK of the cup OR the bottom of the cup.



Installation with cable going into hole in mounting surface.

- OR -

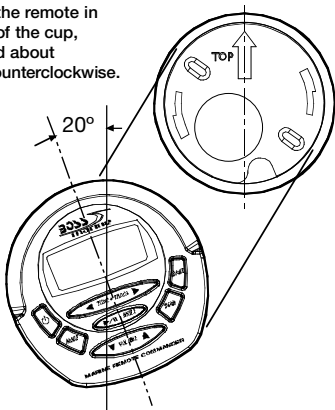


Installation with cable running out on top of mounting surface.

## Remote control installation, continued

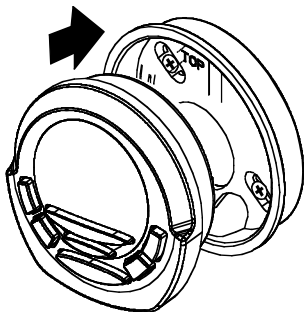
4. Hold the remote in front of the cup with the top up, and as you hold it, rotate it about 20° counterclockwise.

Hold the remote in front of the cup, turned about 20° counterclockwise.



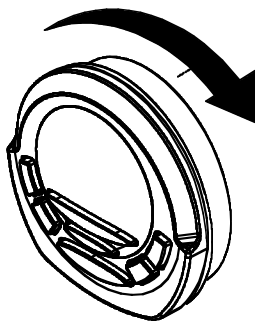
5. Insert the remote control fully into the cup so that the mounting hooks go through the slots in the back of the cup.

If your installation is one in which the cable is exiting out the bottom of the housing (NOT the back), as you insert the remote module pull the cable down gently so it does not interfere with the insertion of the remote into the cup.

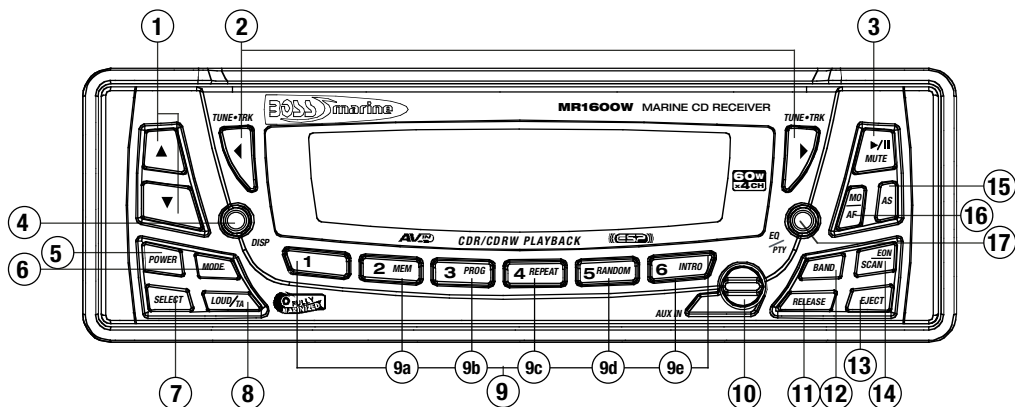


*If you feel resistance when you insert the remote into the cup, pull the remote housing out and check that the cable has been pressed into the curved slot, as described in Step 3).*

6. Grasp and turn the remote to the right until it is in the correct position.



## General and Tuner Controls



### 1 VOLUME UP/DOWN BUTTONS

In normal operation, these buttons are used to increase or decrease the volume level.

Used in combination with the SELECT button, these buttons are used to increase or decrease the settings of various audio parameters.

### 2 TUNE/TRACK BUTTONS

**In Radio mode**, press these buttons briefly to step up or down the radio dial in single step increments. Press and hold for more than one-half second and the tuner will enter the SEEK mode. In this mode the tuner will stop at the next strong station available.

**In CD mode**, pressing these buttons briefly will advance the player to the next (or previous) track. Press and hold and the player will enter SEARCH mode.

### 3 PLAY/PAUSE, MUTE

**In CD mode**, discs will begin playback automatically upon insertion. To pause playback, press this button. Press again to resume playback.

**In Radio, AUX and AUX 1 modes**,

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

### 4 DISPLAY (Clock display and setting)

Press this button briefly to display the current time. To reset the time, press and hold this button until it begins flashing. Then you can use the UP/DOWN buttons to change the hour and minutes.

### 5 POWER

Press this button to turn unit on. Press again to turn it off.

### 6 MODE (Input Select)

Press this button repeatedly to cycle through the audio input sources in the following order:

RADIO > CD > AUX > AUX 1 (front panel aux input)

To clear all stored memories, press and hold this button for several seconds.

## 7 SELECT

The SELECT button is used to access a wide range of settings for the receiver.

### AUDIO SETTINGS

To change settings in the audio section, press SELECT briefly, repeatedly, to step thru the following audio parameters:

VOLUME > BASS > TREBLE > BALANCE > FADER

Use the UP/DOWN buttons to change the settings as desired. If you have made a change to a setting, press SELECT to enter it and move to next parameter. When you are finished making settings, after about 5 seconds the unit will return to normal mode.

*Please note: If you have selected a preset EQ curve, the settings for BASS and TREBLE will not be available in the Audio Settings section.*

### SYSTEM SETTINGS

#### General Settings

To access system setup items, press and hold SELECT for more than two seconds.

The LCD will display "MENU" and then will display the first adjustable item, which is "CLOCK."

Press SELECT briefly to step thru the available settings. Use the UP/DOWN buttons to make any changes. The following list shows the sequence of items in the menu, and the choices possible. **The factory default is indicated in bold type.**

- *Clock 12HR/24HR:* 12HR or 24HR In areas with US frequencies **12 HR**, in areas with European frequencies, **24HR**.

- *CT (Clock time):* If the frequency area switches from American to European, the clock will display 24:00. Similarly if the area switches from European to American, the clock will display 12:00. Use the UP/DOWN buttons to adjust the minutes or hours.

- *Subwoofer channel:* **ON/OFF**

- *LOC/DX radio reception:* **LOC/DX**

- *Area:* Factory set to **the country in which the radio is sold**. Europe > Latin > OIRT > AUST > ASIA > USA

- *V-PGM (maximum volume level):* **0-12**

- *Beep (when you press a button):* **ON/OFF**

- *Clock On (determines if clock will be displayed when radio is turned off):* **ON/OFF**

- *LCD1/2 (LCD brightness level):* **1/2**

### RDS Radio Settings

- **SEEK RDS/ALL**

This setting determines the behavior of the radio SEEK function when RDS tuning mode. If ALL is selected, the SEEK function will stop at both RDS and non-RDS stations. Otherwise, it will only seek RDS stations. **RDS/ALL**

- *TA (Traffic Alert) SEEK/ALARM*

When TA mode is on, the radio monitors the Public Information channel which is piggy-backed on the FM channel you are currently enjoying. If such a channel is not detected or is weak the tuner will SEEK another PI channel and monitor it. (This is the TA SEEK setting).

If ALARM setting is chosen, if a signal is insufficiently strong, instead of monitoring an alternate station for PI information, the radio will produce a double beep (alarm) and silence itself, and display "LOST TP TA." **TA SEEK/ALARM**

- *TA VOLUME*

This setting determines the volume level of the Traffic Alerts as they play. 0-40 (**18 is default**)

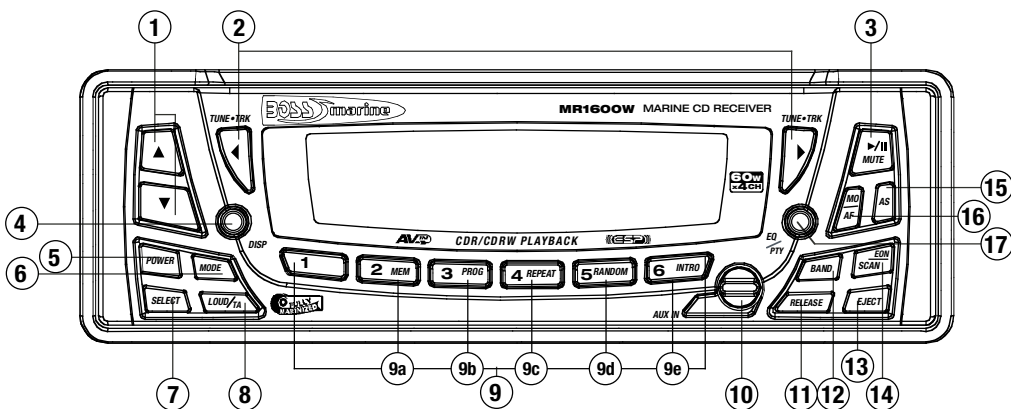
- *REG ON/OFF*

This setting determines the behavior of the radio reception when AF (Alternate Frequency) mode is on. The AF system continuously monitors the signal strength of a station and compares it with other stations on the same network. If another station is stronger, it changes to that station.

Since sometimes in different regions stations on the same network will play different programs, the AF system can interrupt the current program. If REG ON is selected, the station will check if the programs are the same, and if not, the TA system will not change the station.

**REG OFF/ON**

## General and Tuner Controls, continued



- 8 LOUDNESS/TA**  
Press briefly increase the level of bass output. Press again to turn off the Loudness function.
- Press a little longer to turn on the TA (Traffic Alert) mode. For more information about this mode, please see page 16 of this manual)
- 9 PRESETS 1-6 (Radio Mode)**  
These buttons are used to store the presets for radio stations. To set a preset, tune to the desired radio station. Then press and hold the preset to which you wish to assign that station for more than one second and release. To replace it with a different station, repeat the process and the new setting will override the previous one.
- 9a MEMORY**  
**9b PROGRAM**  
These two buttons are used together for programmed play mode. You can select up to 32 tracks on a disc to play in an order you arrange. Please see page 15 for instructions on Programmed Play mode using these buttons.
- 9c REPEAT**  
When you press this button, the player will keep repeating the same track until you press it again.
- 9d RANDOM**  
Pressing this button will cause the player to play all the songs on the current disc in random order.
- 9e INTRO SCAN**  
The Intro Scan function is a convenient way to find a particular track. Press this button and the player will play the first few seconds of a song, and then skip to the next song and play a few seconds of that song. This process continues until you press the INTRO button again, and the player will continue playing that song.
- 10 AUX IN JACK**  
This jack is a convenient way to play music from an MP3 music player such as an iPod through your marine stereo.
- Simply connect the headphone output of the MP3 player to this input jack, and use the CD Receiver's MODE button to select AUX 1 as input source and begin playing music on the MP3 player.
- 11 RELEASE**  
To remove a disc or take off the front panel, first press this button to lower the panel.
- To remove the front panel, please see the instructions on page 4.
- 12 BAND**  
Press briefly, repeatedly to cycle between the radio bands:  
FM1 > FM2 > FM3 > AM1 > AM2 >
- 13 EJECT**  
To eject a disc, you must first open the door. Then press this button and the disc mechanism will move the disc out to where you can grab it and remove it safely.

- 14 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 push SCAN, the tuner will scan up to the next station and repeat the same pattern.

**To turn on EON mode of RDS System**, press and hold this button. When the EON function is turned on, "EON" will be displayed on the screen (for more information about the EON function see page 16).

- 15 AS/PS (Automatic preset setup, preset scan function)**  
When pressed and held for several seconds, the tuner will search and store the first six strong stations as presets in the current radio band.

Press this button briefly, repeatedly to step between and listen to the six presets of the current band.

- 16 MO/ST, AF (Alternate Frequency)**  
If you are dissatisfied with the quality of the reception in stereo, switching to mono often improves the overall sound quality. To do this, press this button briefly.

Press and hold this button to turn on the RDS AF function, which compares the signal strength of the current station with others on the same network and changes to improve reception. See page 16 for more information.

- 17 EQ (Preset Equalizer Curves) PTY (RDS Program Type Tuning)**  
Press briefly, repeatedly to cycle through five modes: POP > JAM > JAZZ > ROCK > CLASSICAL > FLAT > OFF.

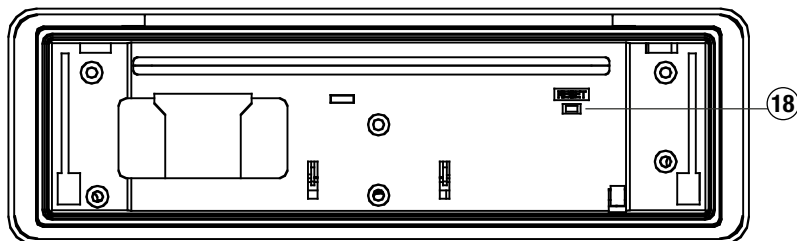
Press and hold this button to turn on the PTY function and begin RDS tuning radio stations. For information on assigning using the PTY function, please see page 17 of this manual.

- 18 RESET**  
If you experience abnormal functioning of the unit, try turning the unit off and back on again about ten minutes later.

If problems persist, remove and carefully reinsert the front panel, making sure it is fully seated. If problems continue, remove the panel again and clean the connector on the back of the panel with a cotton swab moistened with isopropyl (rubbing) alcohol.

If you still have problems, press the reset button with a small pointed object such as a ball point pen. This will restore all factory defaults to the unit, which includes clearing your radio presets.

## RESET button



## Remote Control

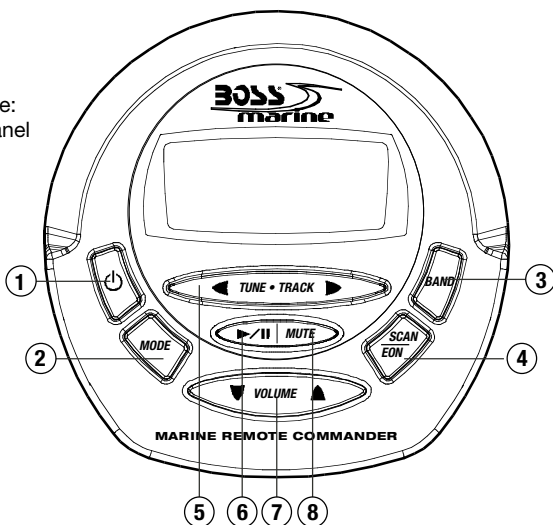
- 1 POWER**  
Use to turn CD Receiver ON or OFF.
- 2 MODE**  
Press to choose desired audio source:  
RADIO > CD > AUX > AUX1 (front panel aux input)
- 3 BAND**  
Press briefly, repeatedly to cycle between the radio bands:  
FM1 > FM2 > FM3 > AM1 > AM2 >

- 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 push SCAN, the tuner will scan up to the next station and repeat the same pattern.

*To turn on EON mode of RDS System*, press and hold this button. When the EON function is turned on, "EON" will be displayed on the screen (for more information about the EON function see page 14).

- 5 TUNE/TRACK (◀ and ▶)**  
**In Radio Mode**, press and release to activate automatic seek function ("AUTO" will appear on display). Press and hold to engage manual tuning mode ("MANUL" will appear on display).

**In CD Mode**, press and release to advance to the next track or to return to the beginning of the current track (track number will be displayed). Press and hold to fast forward or reverse. Play will begin at the point when you release the button.



- 6 PLAY/PAUSE**  
Discs will begin playback automatically upon insertion. To pause playback, press this button. Press again to resume playback.
- 7 VOLUME** Use to increase or decrease volume level.
- 8 MUTE**  
**In Radio, AUX and AUX 1 modes**, press this button to silence the audio. Press again to restore the previous audio volume level.

*Please note: MUTE is not available in CD Playback mode.*

## CD playback

Please follow these general instructions to play a music CD disc.

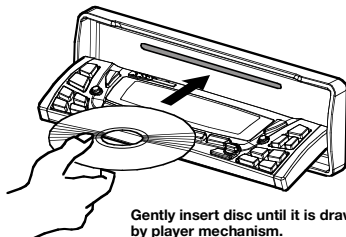
### Loading a disc

Press the **RELEASE** button to lower the front panel. This will expose the disc slot.



Press **RELEASE** button to lower front panel to expose the disc slot.

Gently insert a disc into the disc slot until you feel it being drawn in by the player mechanism. If there is already a disc in the player, first press **EJECT** to eject it and remove it.



Gently insert disc until it is drawn in by player mechanism.

### Playing a disc

The disc will begin playing automatically. If you wish to pause playback, press **PLAY/PAUSE**, and press again to resume playback.

### Intro Scan function

The Intro Scan function is a convenient way to find a particular track. Press this button and the player will play the first few seconds of a song, and then skip to the next song and play a few seconds of that song. This process continues until you press the **INTRO** button again, and the player will continue playing that song.

### Repeating a track

To keep repeating the same track, press the **REPEAT** button. To cancel the repeat function, press again.

### Random play

Pressing the **RANDOM** button will cause the player to play all the songs on the current disc in random order. Press again to cancel this function.

## PROGRAMMED PLAY MODE

In this mode, you can select up to 32 tracks on a disc to play in an order you arrange. The **MEMORY** and **PROGRAM** buttons are used together for both programming and playback of this mode.

To set up a programmed playback, following these steps:

1. Press and hold **MEM** to enter the mode. The **P-01** icon will flash on the screen, indicating that it is ready to accept the first playback item.

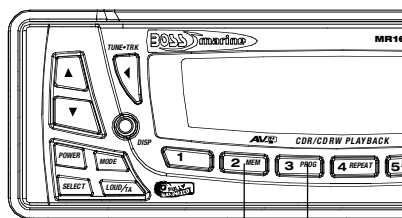
2. Use the **<** or **>** button to move to the desired track number. Press **MEM** to enter it. **P-02** will flash on the screen, indicating readiness to accept the second item. Use the **<** or **>** button to move to the next track you wish to program, and press **MEM** to enter it.

3. Continue until you have entered all the desired tracks in this manner. Press and hold the **PROG** button to complete the programming and begin playback.

4. Press and hold the **PROG** button to exit programmed playback mode. To start it again, press and hold the **MEM** button, and then press and hold the **PROG** button.

5. To clear the memorized playlist, during programmed playback press and hold the **MEM** button. The **"CLR"** icon will appear on the display. You can confirm this by pressing the **PROG** button, and seeing the **"NO-P"** icon on the display.

*Please note: When you have programmed 32 tracks, the **FULL** icon will appear on the display.*



**MEMORY** button    **PROGRAM** button



## RDS Radio functions

The RDS (Radio Data System) is a digital information system created by the European Broadcast Union (EBU).

This system “piggy-backs” a variety of information services onto normal FM broadcasts. This information can only be decoded by a radio with RDS decoding, like this model.

The three main RDS functions are described below:

### **AF/REG (Alternate Frequency)**

When this mode is enabled by pressing and holding the MO/ST•AF button, the radio will continuously monitor the signal strength of the broadcast you are listening to and if it finds the same network broadcast on a different frequency which is stronger, it will automatically switch to the stronger signal.

### **Regional mode setting**

In the SELECT menu (see page 11 in this manual) you can choose to turn on or off the REG (regional mode) subfunction within AF mode. **The default mode is OFF.**

Although the AF button can sense if one station on a network is stronger than another, it will not confirm that the actual program being broadcast is the same unless you turn ON the REG mode.

### **TA (Traffic Announcement)**

Many FM stations offer traffic announcements in addition to their regular programming.

If you enable the TA function by pressing the TA button, when this station broadcasts a traffic advisory, the radio's RDS tuner will automatically interrupt the regular program and play the alert. When the alert is finished, normal play of the broadcast will resume.

The TA function will also interrupt CD and MP3 playback temporarily if the EON feature has been enabled (see below).

There are some other settings for TA behavior that you can change. See the SELECT instructions on page 11 for more information.

### **RDS EON function setting**

The RDS EON system extends the functionality of the TA sensing to a wider range of traffic announcements from both local and national sources. It also allows the unit to interrupt disc playback with these announcements. In addition, it will play these announcements (at normal listening level) even if the audio has been muted.

(To set this level, see instructions on page 11 for setting V-PGM level).

To enable the EON function, press and hold the SCAN button. Press again to disable it.

With EON enabled, when a traffic announcement is broadcast, the radio will switch automatically to TA mode, and “TP” (Traffic Program) will be displayed.

### **PTY (Program type)**

A number of RDS stations can be selected by the type of program they broadcast, i.e. news, sport or classical music.

Press and hold the PTY button to cause the tuner to switch to RDS PTY type tuning. If at any time you wish to return to normal tuning mode, press and hold again.

When you have entered PTY mode, the display will show "PTY" indicating that the mode is enabled, and the name of the first program type, "NEWS."

To view other PTY categories, use the UP/DOWN buttons (a list of these categories is shown on the next page). To select the category, highlight it and press SELECT. If there is no station found in that category, the display will show "NONE PTY" and the radio will return to normal mode.

## **PTY Station Categories**

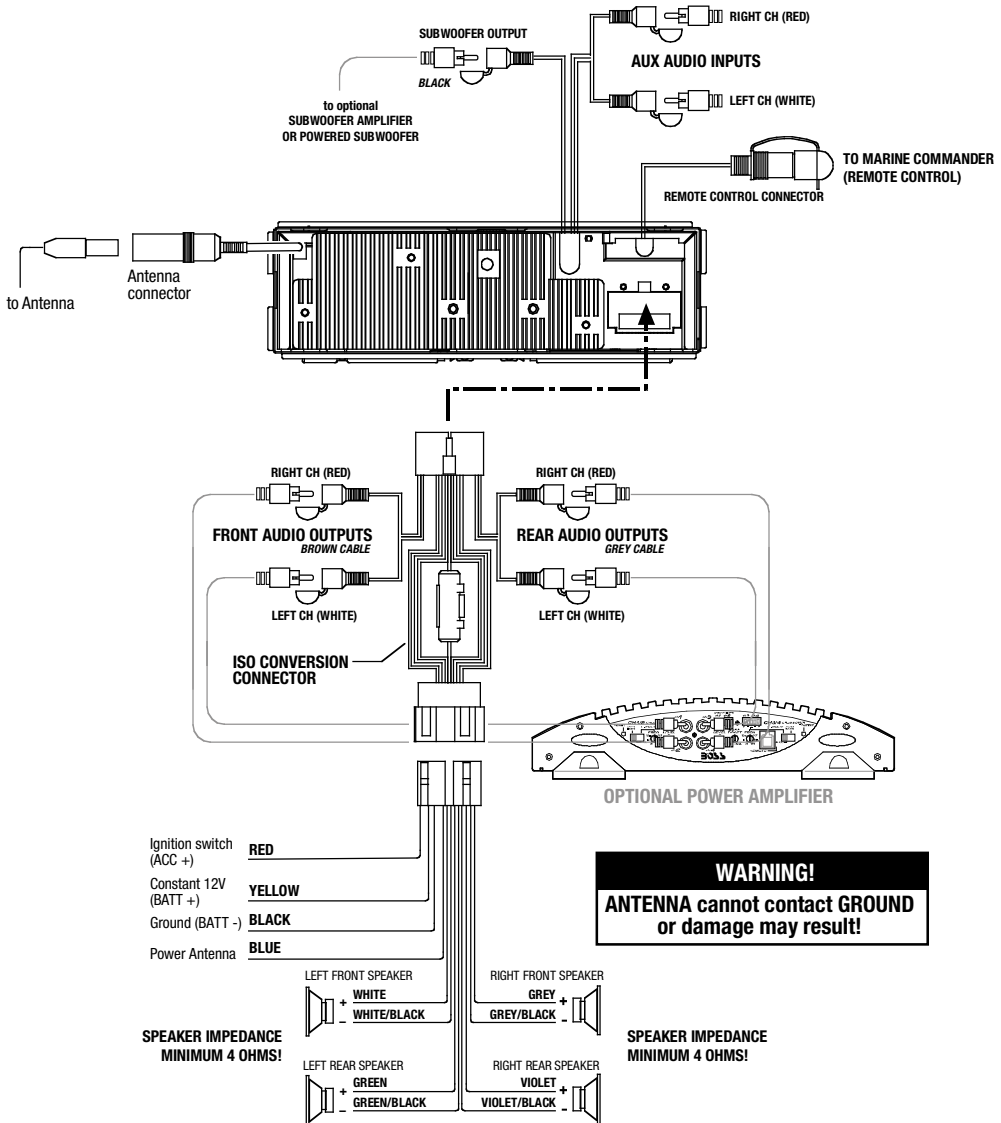
This list shows the PTY program types in the order presented in the radio display:

NEWS  
AFFAIRS  
INFORMATION  
SPORTS  
EDUCATION  
DRAMA  
CULTURE  
SCIENCE  
VARIETY  
POP MUSIC  
ROCK MUSIC  
EASY LISTENING MUSIC  
LIGHT MUSIC  
CLASSICAL MUSIC  
OTHER MUSIC  
WEATHER  
FINANCE  
CHILDREN  
SOCIAL  
RELIGIOUS  
PHONE IN  
TRAVEL  
LEISURE  
JAZZ MUSIC  
COUNTRY MUSIC  
NATIONAL MUSIC  
OLDIES MUSIC  
FOLK MUSIC  
DOCUMENTARY  
ALERT TEST  
ALARM TEST

# Wiring diagram

Follow the wiring illustration below closely to obtain proper performance from your CD receiver. Failure to make these connections properly may result in damage to your unit which will not be covered under your warranty.

This receiver contains a built-in high power four-channel amplifier. To use the built-in amplifier, connect the speaker wires as shown. To use the receiver as a head unit in a 2CH, 4CH or 4CH-plus-subwoofer mobile audio system which includes an amplifier(s) or power subwoofer, use the RCA outputs to connect to the RCA inputs of your amplifier(s).



## Troubleshooting

If you experience operation or performance problems with this product, compare your installation with the electrical wiring diagram on the previous page. If problems persist, read the following troubleshooting tips which may help eliminate the problems.

SYMPTOM	CAUSE	REMEDY
<b>No power.</b>	<p>The car ignition switch is not on.</p> <p>The fuse is blown.</p>	<p><i>If the head unit is properly connected to the car accessory power circuits, but the engine is running, switch the ignition key to the "ACC" position.</i></p> <p><i>Replace the fuse.</i></p>
<b>Disc cannot be loaded or ejected.</b>	<p>There is a disc already in the CD player.</p> <p>Disc is inserted upside down.</p> <p>Disc is dirty or defective.</p> <p>Car interior temperature is too high.</p> <p>Excess atmospheric humidity or condensation is present.</p>	<p><i>Remove disc in player and try again.</i></p> <p><i>Insert the disc with the label facing up.</i></p> <p><i>Clean the disc, or play a new one.</i></p> <p><i>Allow temperature to cool down to a normal level.</i></p> <p><i>Leave player off for an hour or so, and then try again.</i></p>
<b>No sound.</b>	<p>Volume is set to minimum.</p> <p>Wiring not properly connected.</p>	<p><i>Adjust volume to desired level.</i></p> <p><i>Check wiring connections.</i></p>
<b>Sound skips.</b>	<p>Head unit is installed at an angle of greater than 30° from horizontal.</p> <p>Disc is dirty or defective.</p>	<p><i>Adjust installation angle to less than 30° from horizontal.</i></p> <p><i>Clean the disc, or play a new one.</i></p>
<b>Buttons on front panel do not operate.</b>	<p>The built-in micro-processor is not operating properly due to noise.</p> <p>Front panel is not properly fixed in place.</p>	<p><i>Press the RESET button.</i></p> <p><i>Remove front panel, press RESET button, and re-insert front panel.</i></p>
<b>Radio does not work, or the radio automatic selection function does not work.</b>	<p>Antenna cable not connected.</p> <p>The signals are too weak to be received properly.</p>	<p><i>Insert the antenna cable firmly into connector.</i></p> <p><i>Select station manually.</i></p>

## Specifications



### MR1600W • MR1600S

Fully-Marinized In-Dash CD Receiver • RDS Model with Switchable USA/European Frequencies

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#### CD PLAYER

Signal-to-noise ratio	Greater than 50dB @ 1kHz
Frequency response	20Hz - 20kHz
Compatible formats	CD, CD-R, CD-RW

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#### RADIO

##### FM Section:

Frequency range	87.5 - 108MHz (EUROPE), 87.5 - 107.9MHz (USA)
Usable sensitivity	3uV
Intermediate frequency	10.7MHz

##### AM Section:

Frequency range	522 - 1620kHz (EUROPE), 530 - 1710kHz (USA)
Usable sensitivity	40dB
Intermediate frequency	450kHz

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#### AMPLIFIER

Maximum output power	60 watts x 4 channels
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#### GENERAL

Power supply req.	12VDC, negative ground
Current consumption	15A Max
Line out voltage	1200mV
Chassis dimensions (W X H X D)	7" x 2" x 6.4" (178 x 50 x 178 mm)

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*All specifications subject to change without notice.*