



***poly-planar***<sup>®</sup>  
WATERPROOF MARINE AUDIO SYSTEMS

## **MRD-60 Marine AM / FM / CD / MP3 Receiver**

**Installation and Operation Manual**



Poly Planar Group LLC 1352 Charwood Road, Hanover, MD 21076 PH: 410-761-4000

## MRD-60 Audio System

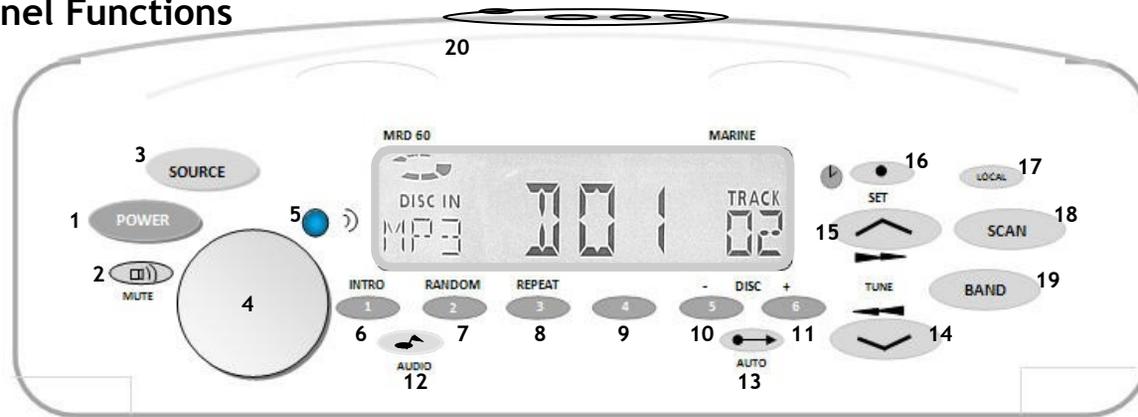
### Features:

- Plays CD, CDR, CDR-W, MP3, WMA discs
- Waterproof Front Panel
- Stainless Steel Chassis
- Conformal coated circuitry
- Audio Expansion Port™ for easy system expansion
- Stereo Auxiliary inputs (for TV , MP3 etc.)
- Highly visible back lighted display
- Ergonomic controls
- Automatic distortion control
- Equalized for Marine acoustics
- Infrared Remote compatible
- 10 - 40 Sec. Anti skip CD deck
- 18 Presets for FM, 12 Presets for AM

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## Front Panel Functions



1. Power ON/OFF

2. Mute

3. Source

4. Volume

5. IR port

6. Intro /Station Presets (6-11)

7. Random play

8. Repeat

9. Pause / Play (Preset # 4)

10. Disc- (Changer, Prev. Disc)

11. Disc+ (Changer, Next Disc)

12. Audio

13. Auto

14. Tune /Seek Down

15. Tune/Seek Up

16. Clock Set

17. Local

18. Scan

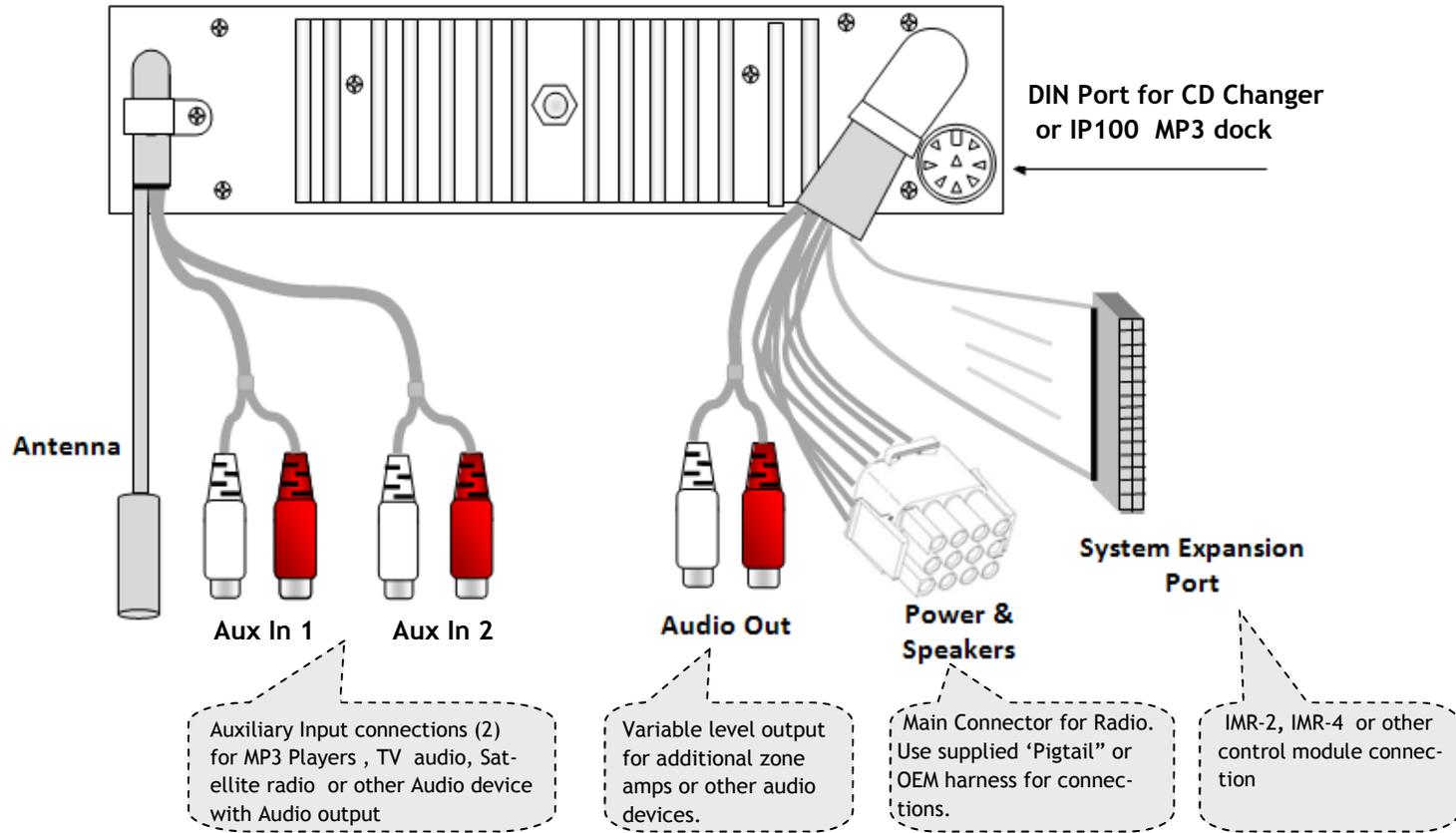
19. Radio Band

20. Front Panel Latch

21. CD Eject (Inside Door)

## MRD-60, Rear Chassis Connections

See page 10 for connection details



## Power & Speaker Harness Connections

**Important!** Disconnect power before installation.

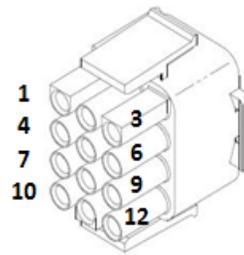
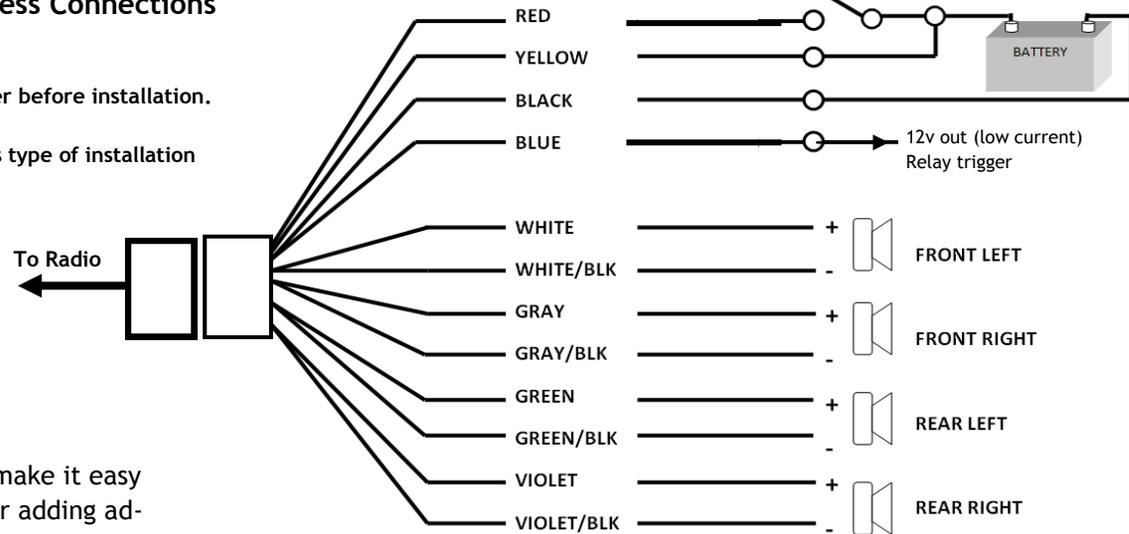
If you are not familiar with this type of installation seek professional assistance

Use the wired plug end (Pig tail) provided to make power and speaker connections according to the diagram on the right.

Using this connector will make it easy to disconnect the radio for adding additional features or service. Removing the factory plug end will void warranty

The 12v Positive and Negative connection should be min. 16 or 14 AWG depending on length to the battery.

Be sure to observe the correct polarity on the speaker connections



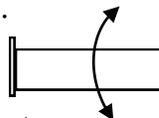
Receiver Side

1	Red	+12VDC
2	Green / Blk	Rear Left Speaker -
3	Green	Rear Left Speaker +
4	Yellow	Memory +12VDC
5	White / Blk	Front Left Speaker -
6	White	Front Left Speaker +
7	Blue	12VDC out, Aux Amp On
8	Gray / Blk	Front Right Speaker -
9	Gray	Front Right Speaker +
10	Black	System Ground (Neg-)
11	Violet / Blk	Rear Right Speaker -
12	Violet	Rear Right Speaker +

## Mounting Instructions:

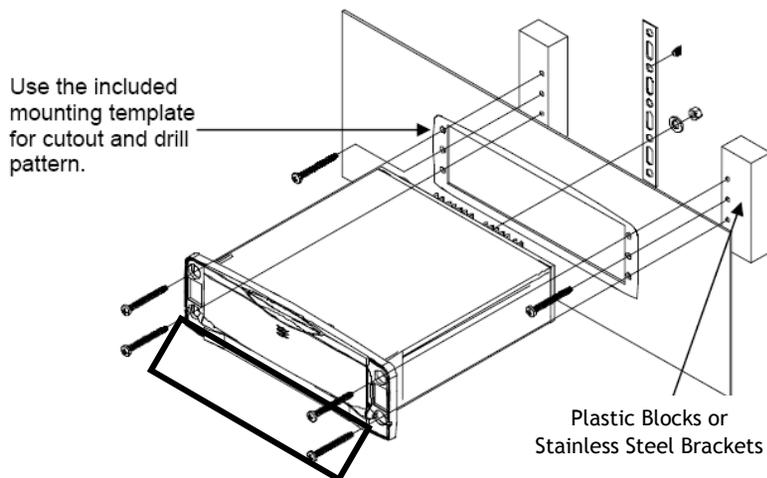
**IMPORTANT!** Before mounting be sure there is sufficient room to accommodate the unit and that there is sufficient ventilation. **Disconnect power before installation.**

Receiver should be mounted within 30° (+ or - 15°) from Horizontal



Use the template provided to make the cutout. For blind installations (no rear access) the center screw will hold the mounting blocks/brackets in place while the radio is mounted. Be sure to make all connections before inserting Radio.

With the faceplate down insert the remaining 4 screws. Use the 5mm nut and bracket provided to stabilize the rear of the radio.



## Optional Mounting Techniques



RM -10 Underdash or Overhead Mount



WC-70 Bracket mount Radio Cover

For more information Please refer to the instructions supplied with these products or on our website:

[www.polyplanar.com](http://www.polyplanar.com)

## Getting Started....

### Power On / Off

Push (1) to power on unit , Push again to turn unit off.

### Adjusting the Volume

Rotate Volume knob (4) to increase or decrease volume level. Current setting is displayed for a few seconds.

### Mute

Push (2) to mute sound, push again to resume

### Program Selection

Press the Source button (3) to cycle through the available program sources: Tuner>CD>CD Changer> AU-1> AU-2> Tuner

If a source is not active or disconnected that source will not appear.

If the CD Changer is attached but has no magazine inserted it will display "EJECT"

### Adjusting the Audio levels

Pressing **AUDIO** button (12) will indicate **BAS** (Bass Level) **TRE** (Treble) **BAL** (Balance) or **Fade**. When the desired function is on the screen use the volume knob to adjust values. Display will return to Volume mode after 3 seconds.

**Bass and Treble:** "C - 0" indicates center, -2 to -12 is Bass cut +2 to +12 is increased level.

**Balance:** "C 0" indicates center, L1 to L15 indicates left bias. R1 to R15 indicates right bias.

**Fade:** "C 0" indicates center, F1 to F15 indicates front bias. R1 to R15 indicates rear bias.

### Setting The Clock:

Hold the **SET** button (16) for 2 seconds until the first digit of the time flashes. Use the **TUNE/SEEK-UP** button (15) or **TUNE/SEEK Down** (14) to set the Hour.

Press the **SET** button to toggle the display between Clock and Radio Modes.

### Opening and Closing the front panel:

Place thumb on the front panel latch button (20 ) Firmly depress the button while pulling the front panel open. Keep door firmly closed except when changing discs.

### Radio Operation:

Press the **SOURCE** button (3) to select the Radio Mode. Pressing the **Band** Button (19) will toggle through the available radio modes: FM1, FM2, FM3, AM1, AM2. Each band stores up to 6 independent presets, for a total of 18 FM and 12 AM presets.

### Automatically setting the presets:

To automatically set the presets to the next higher stations, press the preset button (6-11) from which to start programming. Hold the **AUTO** button (13) for at least 2 seconds. The current preset and additional preset memories up to P6 will be programmed with the next tunable stations.

To select only the strongest stations, be sure the unit is set to **LOCAL** mode (17).

All 18 FM and 12 AM presets can be set sequentially by selecting the next band and continuing the operation during auto programming.

To program a preset, tune in the desired station. Push and hold the desired **PRESET** button for at least 2 seconds.

#### **Seek & Manual Tune:**

Press the **TUNE/SEEK-UP** button (15) once to auto-matically tune to the next higher station.

Press the **TUNE/SEEK-DOWN** button (14) once to automatically tune to the next lower station

To manually tune to a frequency, press and hold either TUNE/SEEK button for 2 Sec. . When the desired station is reached, release the button. The unit remains in manual tune for 3 sec. So you can still fine tune. After 3 seconds unit returns to Seek mode.

#### **Scan Function:**

Select any AM or FM station and press **SCAN** (18) to listen to a few seconds of each station. The display will flash and scan up for the next station. To stop the scan and listen to the current station press **SCAN** again.

The radio remains in the Scan mode until the SCAN button or one of the TUNE buttons is pressed.

#### **Preset Scan Function:**

Press **AUTO** The radio will scan the station presets for 3 seconds from low to high. If you wish to remain on the station press **SCAN** again .

#### **Local /Long Distance Function:**

Press the **LOCAL** button (17) to toggle between local and distant station mode. In Local mode the strongest stations will be selected during SEEK or Scan.

#### **Changing Tuner for US or European Frequencies:**

The radio is factory set to US frequency steps. For European use disconnect power and reset switch on the bottom of the radio to the European setting. **Power must be off or the reset must be used.**

### **Using The CD / MP3 / WMA Player**

Open the front panel. Insert the disc (label side up!) partially into the slot and it will be drawn in automatically and play. The DISC IN symbol will appear and the Play timer will start. Changing the source will stop the CD deck and leave the disc in the bay. Press the EJECT button to eject or change the disc.

#### **Display Modes:**

**CD:** When playing an audio CD the runtime track and will be displayed.

To advance to the next track press TUNE up (15) once. Press and hold will fast forward the track To return to the beginning of the track press TUNE down (14) once. Pressing again within 1 second will play the next track down.



**MP3 / WMA Discs:** When playing MP3 Discs the disc type, Folder/Directory and the track of the current folder will be displayed



To advance to the next Directory press the **DISC +** (11) Use the **DISC-** to choose a previous Directory.

To advance to the next track press TUNE up (15) once. Press and hold will fast forward the track To return to the beginning of the track press TUNE down (14) once. Pressing again within 1 second will play the next track down.

After 5 seconds the Directory display will revert to Run Time.

### INTRO, SCAN

**CD:** Press the INTRO button (6) to enter into Scan Mode, SCN will appear in the left side of the display. In this mode the first 10 seconds of each track will play.

**MP3 Disc:** If the disc is an MP3 the first 10 seconds of each track will play and then advance to the next directory. Press the INTRO button for 3 seconds and DCN will appear in the display. In this mode the first 10 seconds of the first track in each Directory will play.

**CD Changer:** If an MCD6 changer is installed pressing the INTRO button will show SCN in the left side of the display. The main display will show which CD is playing. In this mode the first 10 seconds of each track of each CD in the magazine will play. Pressing INTRO for 3 seconds will change the display to CDC and play the first ten seconds of the first track on each disc.

### RANDOM, REPEAT

Press RANDOM button to play the tracks of the current CD or MP3 disc in random order. RDM will appear on the left side of the display.

Press the REPEAT button and the current song will replay. RPT will appear on the left side of the display.

### TROUBLESHOOTING

**Front Panel buttons:** It is possible to press the elastomeric buttons in a way that will allow them to stick under the panel face. This will stop further function. Simply push again to re-center.

**Reset Button:** A system reset button is located inside the front panel. Use a paperclip or thin rod to press the rest button if required. This will restore factory defaults.

**Fogged CD or lens:** This may occur in certain conditions. Wipe CD with soft dry cloth. The optical components will return to normal when the radio warms up.

Unit will not turn on	- Check Power Connections and voltage to unit - Check Fuses (Red 10A, Yellow 1A) - Check front panel for stuck buttons. - Press reset button (see page 9)
CD will not play	- Check disk for Damage - Try another CD/MP3 disc - Check for stuck buttons - Press reset button
Volume up stops but indication continues to "31"	- Check available voltage - This indicates insufficient wire size on power connection
Error Codes	Error Codes are indicated on the Display
E-03	- Read Error, Possible bad Disc, Retry with new disc - Try reset button
E-07	- General Error code. This normally indicates a CD Deck failure. Contact Service Center

### Repair / Returns

If your Poly Planar radio is not functioning correctly contact our Service Department: Ph. 410-761-4000 or Fax: 410-761-6274

- All returns must have a Return Authorization number
- No returns will be accepted without a Return Authorization Number

## Accessories

**Remote Control** of the radio is possible with a Poly Planar MRR2 Wireless infrared remote control. The IR port is located next to the volume knob and must be in line of site for the remote to operate.

**The Audio Expansion Port** (Page 4) is designed to accommodate various modules to enhance the capabilities of the system.

**IMR-4:** Input Output Module has 2 input ports and 3 Output ports

If an IMR-4 is installed the Audio ports on the back of the radio will be disabled and the ports on the IMR-4 must be used for AU-1 and AU-2 functions.

The fixed level output port is used to feed a separate zone amp that has it's own volume control like the ME-50.

The Variable level outputs (Front & Rear , Right &Left) mimic the output of the tuner. These outputs are generally used to feed a 2 or 4 channel Amplifier where the volume is controlled by the MRD-60 Receiver.

For more information see the instructional material included with the IMR-4.

**Control Modules for Spa Applications:** The MRD60 expansion port can support control modules for full spa control applications. These are OEM applications.

**Module Connection Priority:** Multiple modules can be attached to the Expansion Port. Each Module has a Priority designation on the label. Modules should be "Daisy Chained" in the Alfa Numeric order listed in the labels. (B1-B3 –C2 etc.)

**IMPORTANT! Disconnect power before installing Modules.**

## Auxiliary Inputs 1 & 2

The 2 RCA Type connections labeled AUX-IN-1 and AUX-IN-2 can be used to input audio signals from other devices such as MP3 Players and TV, DVD players.

Use the SOURCE button (3) to toggle to this input. The display will show AU-1 or AU-2

## Audio Output

The AUDIO OUT connection is used to output variable level audio from the receiver to other devices such as zone amps or other systems.

The Output volume is determined by Volume setting on the receiver.

## Specifications

### Tuner

FM usable sensitivity	10dBf
FM 50 dB quieting sensitivity	15dBf
FM alternate channel selectivity	90dB
FM stereo separation @1kHz, 60dBf	30dB
AM usable sensitivity	30 $\mu$ V

### CD/MP3/MWA Deck

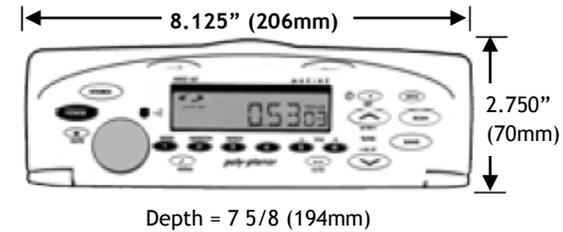
Sampling Frequency (8x oversampling)	44.1kHz
Channel separation @ 1 kHz	80dB
SNR	90dB
Freq. To noise response @ +/- 1dB	20-20kHz

### Audio

Max Power (45x4)	180W
Continuous Power, 4 Ohms, 1% THD	18Wx4

### General

Nominal power supply	14.4 VDC
Allowable power supply	10.8 -15.6 VDC
Current consumption	< 10 amp
Speaker impedance	4 - 8 ohms



### WARRANTY

Poly-Planar products are warranted to be free of defects in materials and workmanship for a period of two years. No finished goods or parts may be returned for repair or replacement without a Poly-Planar RMA (Return Merchandise Authorization) number.

Warranty is subject to proper installation and operation within published specifications. Poly-Planar will repair or replace, at its discretion, any returned unit determined to be defective. This warranty does not extend to the costs incurred in the removal or reinstallation of the unit.

Poly-Planar warranty does not cover damage occurred in transit, accident, abuse, misuse, negligence, fire flood, lightning or unauthorized service. In no event shall Poly-Planar Group LLC be liable for special, incidental, or consequential cost or damages.

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