

MONITOR REFERENCE SERIES

o w n e r s m a n u a l



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Introduction

Thank you for purchasing the Monitor Reference Series loudspeakers.

By using the finest materials around, we have been able to use our decades of expertise in developing quality loudspeakers to bring the Monitor Reference series to life.

Resplendent in a stunning black oak vinyl furniture finish and built with the accuracy that exemplifies the Monitor Audio brand world-wide, the six model strong Monitor Reference Series will look gorgeous in any room.

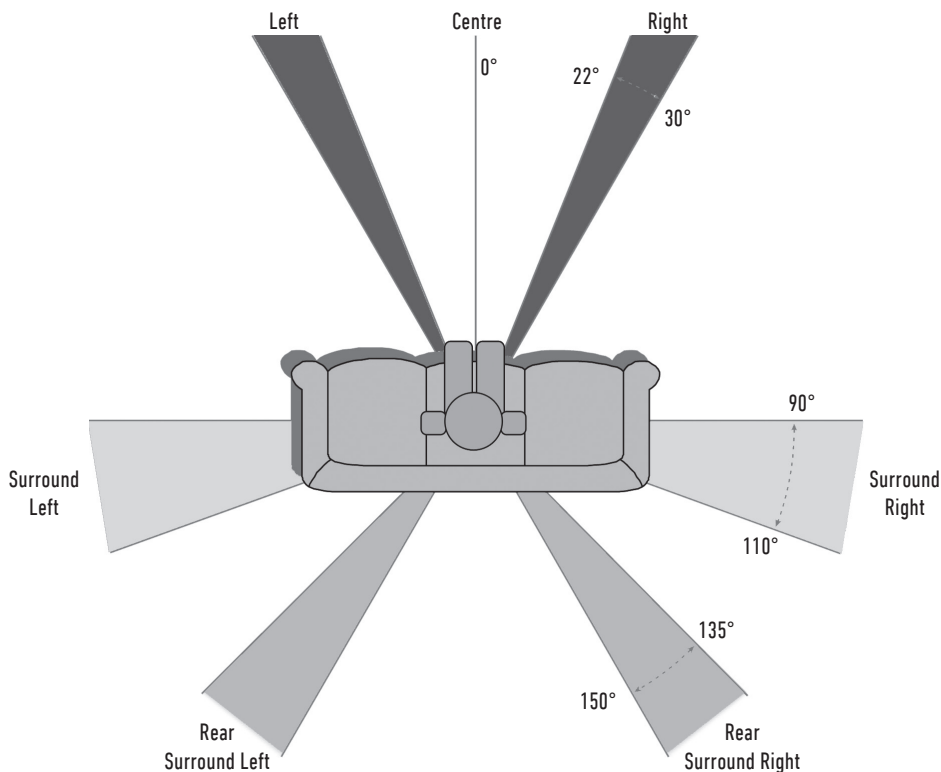
Positioning

AV Positioning

The front, and in some cases rear, floor standing and stand mount speakers should be positioned approx 6 - 9 feet apart (1.8m - 2.5m) and start with them about 10 inches (25cm) from the wall.

When playing music, if the sound is too bass heavy or there is bass boom from the room, then try moving the loudspeakers slightly further away from the wall(s). If this is not possible, then try the supplied port bungs (not included in the MR Centre). Refer to Page 5.

The MR Centre should be positioned so that it is pointing at you, in your viewing position, and at approximate ear height. If it is below or above ear height, use some rubber feet (small feet supplied) to angle it slightly.



2 Channel Positioning

For use in a 2 channel system, the listening position and the loudspeakers should form an equilateral triangle. The speakers should be positioned approximately 6 - 10 feet (1.8 - 3m) apart. They ideally need to be between 8 - 18 inches (20 - 45cm) away from the rear and 3 feet (1m) from the side walls.

Experimentation is strongly advised when initially setting up your speakers, as environments and personal preference differ with each installation. If there is not enough bass, for example, then try moving your speakers closer to a wall. The opposite, if there is too much bass. Also see the information on page 5 referring to Port Bungs. If you are losing stereo imaging, try 'toeing' them in slightly. The sound should appear to originate from the centre point between the speakers, not the actual speakers themselves.

Spike Fixing

The Monitor Reference Series floor standing loudspeakers, come with spikes. These enhance the acoustic performance of the loudspeaker and should be used where possible. The spikes can be found in the packaging of the MR4 and MR6 only.



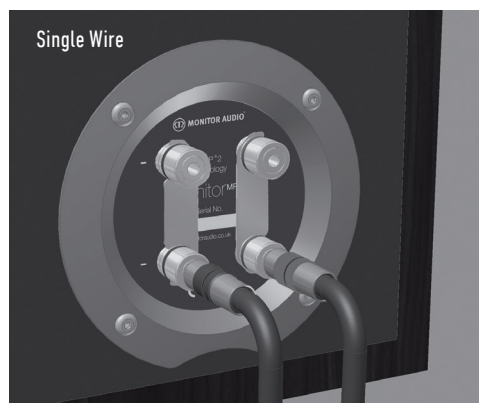
BEWARE. The spikes are very sharp, and could cause injury if care is not taken when handling them. Please ensure there are no hidden wires under the carpet, or trailing mains leads that could be damaged by the spikes.

1. Carefully place the cabinet on it's top or back to fit the spikes.
2. Screw the spikes into the threaded inserts on the bottom of the cabinets.
3. Carefully turn your speaker back over and check that it is evenly balanced. If uneven, you can adjust the height in the appropriate (lowest) corner by unscrewing the spike slightly. This operation may need to be repeated a several times to ensure your cabinet is completely level. When you are happy with the balance of the cabinet, tighten the locking nut on each spike.

Wiring configurations

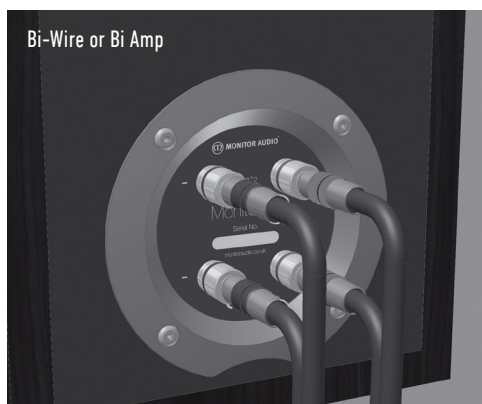


For the MR1 and MR Centre, there are only one pair of terminals (as in illustration opposite). This means it is only possible to single wire these speakers.



The MR2, MR4 & MR6 all have two pairs of terminals. By running one pair of cables (one positive and one negative) you will be single wiring them.

When single wiring these speakers, you must leave the terminal links in.



By running two pairs of cables (two positive and two negative) from a single pair of terminals on your amp, you will be bi-wiring them.

Some AV amplifiers support bi-amping. This is very similar in process to bi-wiring, except the two pairs of cables will not be joined at the amplifier end to a single set of terminals, they go to two pairs of terminals. Bi-amping is also achieved by using two stereo amplifier.

By bi-wiring/ bi-amping them you will get a cleaner, more smooth sound with tighter mid and more controlled bass.

When bi-wiring these speakers, you must remove the terminal links. Failure to do so will result in damage to your amp.

Port bungs



WARNING: Care must be taken not to insert the port bungs too far into the port, as this may result in the foam bung being lost inside the cabinet.

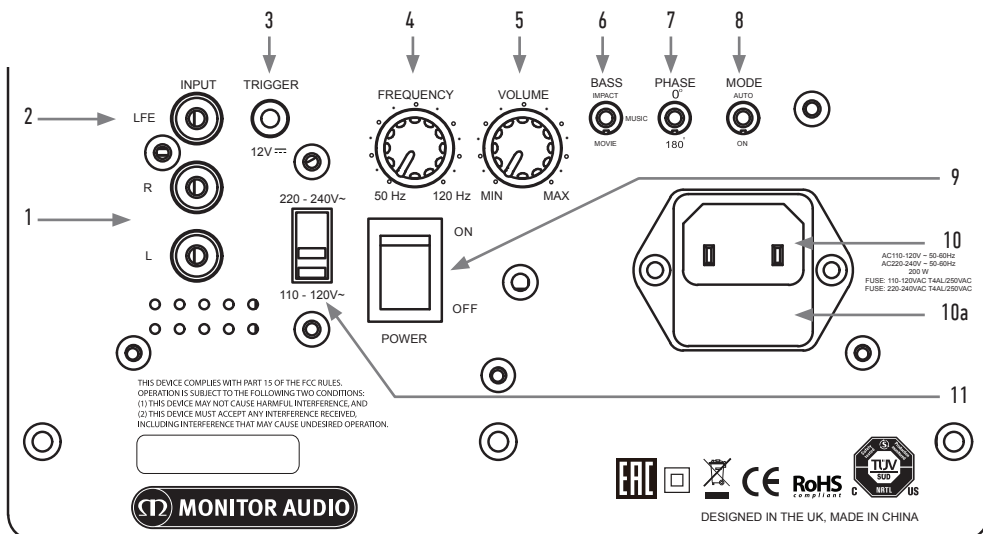
If the loudspeaker is to be installed in a small room, typically 9 sqM (80 sqFT), or a room known to reproduce accentuated bass response, it may be desirable to fit port bungs. However, experimentation is recommended with positioning of the loudspeaker in the room prior to fitting. To optimise performance from the loudspeaker it is important to ensure the loudspeaker is not positioned too close to a wall or near the corners of a room (refer to the suggestions on pages 2 and 3).

If the positioning of the loudspeaker is predetermined by room aesthetics or layout, or you find you have accentuated bass, please read point 1 for the MR1 & MR2 and point 2 for the MR4 & MR6.

1. Where bookshelf/ stand-mount speakers (MR1 & MR2) are to be sited in close proximity (less than 8 inches/ 20cm) to a rear wall (such as on a bookshelf, wall mounted, positioned in a cabinet or on a stand close to a wall), we recommend experimenting with fitting port bungs into the ports. This will reduce the bass 'boom' sometimes termed as "overhang", and assist the loudspeakers to reproduce their best performance under these environmental conditions. 'Boom' is generally caused when bass energy from the loudspeaker 'excites' room modes and causes an accentuation at a particular frequency, or number of frequencies.
2. Where floor-standing loudspeakers (MR4 & MR6) are to be sited in close proximity (closer than 18 inches/ 45cm) to a rear wall, we recommend experimenting fitting the port bungs. This will reduce the bass 'boom' sometimes termed as overhang and assist the loudspeakers to reproduce their best performance under these environmental conditions. This is caused when bass energy from the loudspeaker 'excites' room modes and causes an accentuation at a particular frequency, or number of frequencies.
3. When fitting port bungs the overall bass extension will not be reduced, however bass energy/ output around the port tuning frequency will be reduced. This has the effect of reducing bass 'boom' while increasing bass clarity and apparent agility.

Experimentation is highly recommended.

Amp Panel & Controls for MRW-10



1. RCA Stereo Inputs (Left & Right)

This is the method of signal input when using a stereo amplifier system, connection can be provided by a pair of high-quality signal cables from the pre-out section of an amplifier. The crossover frequency will need to be set if using this method of connection. If using the Bronze Series speakers set the crossover dial to approximately 80Hz. This may vary depending on room and tastes.

Note:- cable lengths should not exceed 10 metres to avoid interference from other electrical appliances.

2. LFE Input (RCA Type)

This input is to be used when connecting the subwoofer to an AV amplifier/ receiver. When using the LFE input, the crossover frequency dial is not used. This is due to the crossover function being controlled by the AV amplifier/ processor to which it is connected.

3. 12 Volt Trigger Input ~ Centre Pin = +12Vdc

For external power control from AV amplifier/ receiver to the MRW10. Monitor Audio recommend using this function and a lead is supplied. A 12 volt signal is supplied by the AV amp/receiver and tells the MRW10 to turn on from standby mode. This allows a more accurately controlled auto on/off function, and is far more energy efficient. When using the 12v trigger, the Mode Switch (8) can be in either position, for it to function correctly.

4. Crossover Frequency Control

The crossover frequency control only operates when using the RCA stereo input (1) and is used to set the upper frequency limit (low pass) of the subwoofer. The crossover control should be set in accordance with the size or bass output of the main/ satellite speakers. When using the Bronze Series speakers, set this to between 50 - 100Hz (depending on additional speakers). Experimentation is advisable.

Type of Main Speaker	Monitor Reference Series Product	Crossover Control Setting
Small stand-mount/ bookshelf speaker	MR1/ MR2	60-100 Hz
Floor Standing Speaker	MR4/ MR6	40 - 80 Hz

5. Volume Control

This control allows the level or volume to be adjusted in order to achieve a balanced overall sound. To get the balanced sound a selection of familiar music or film excerpts will need to be played. Start with the volume at minimum and increase the level control until a balanced sound is established.

If using an AV processor or AV receiver amplifier, the system can be adjusted by the test tone function within the set-up features. (Refer to the set up section in the AV processor or AV receiver amplifier user guide.) When the subwoofer is correctly set-up, you should not be able to identify its location easily in the room.

6. Bass Switch

This switch tailors the bass response of the subwoofer to your tastes. There are three settings: Music, Movies and Impact. Movie mode provides a relatively flat response down to 35Hz. Music mode is -2dB down on Movie mode but goes lower, all the way down to 30Hz. Impact mode is +3dB up on Movie mode and comfortably goes down to 40Hz.

7. Phase Control Switch

The Phase Control is used to synchronise any delay between the subwoofer and main/ satellite speakers. When the subwoofer is in phase with the main/satellite speakers the sound should be full bodied. Sit in a normal listening position whilst adjusting the phase switch. Help from another person may be required. When set correctly the location of the subwoofer should be almost undetectable. Experimentation is advised in order to achieve optimum results. However it should be noted that in most cases the phase control switch should be set to 0 degrees.

8. Power Mode Switch with On-Auto Facility

With the switch in the 'On' position, the subwoofer is permanently switched on under all conditions. In the 'Auto' position the subwoofer will automatically switch on when an input signal is received. It will remain on for a period of 15 minutes without receiving a signal before switching into standby mode until a signal is received once more.

Additional Notes on the Auto On Function

When using the auto on feature, the subwoofer will "lock" onto the input it was activated by. In most cases, when using either stereo or LFE input connection this will not matter. However, if using both stereo and LFE connections, you will not be able to toggle between inputs until the subwoofer has entered standby. This can be done manually by turning it off and on again, or by letting it time out (15 minutes) before changing the inputs over.

9. Mains Power Switch

The Mains Power Switch should be switched to the 'Off' position when the subwoofer is unused for extended periods. The switch must be in the 'On' position for the subwoofer to function.

WARNING: Due to the mains switch being located on the rear panel, the apparatus must be located in the open area with no obstructions to access the mains switch.

10. IEC Mains Power Connector/ Fuse Location

The subwoofer is supplied with a two-pin mains input socket for connection to the mains supply. Use ONLY the appropriate IEC mains lead provided with the product. Also fitted is an external mains fuse. If this fuse blows during operation a spare fuse is provided within the fuse holder for replacement. If you wish to change the fuse, you can do this by removing the IEC mains lead and carefully levering out the original fuse from its holder below the IEC mains input socket (10a). If the fuse blows again it is advisable to seek help from an authorised service agent. DO NOT attempt to re-fit a further fuse as this could result in serious damage to the amplifier unit.

11. Mains Voltage Selector

This is factory set to your country's mains voltage specification. Do not attempt to adjust this as this may lead to permanent damage to the product and even the risk of fire. There is a clear plastic cover over the selector to prevent accidental adjustment.

The LED on the top of the cabinet indicates whether the unit is in standby mode or operational. It will be illuminated red when in standby, and green when operational.

Positioning / Initial Set Up of MRW-10

Leave the subwoofer unplugged from the mains until the installation procedure is completed. The subwoofer should now be sited in the most suitable position. If placed in a corner of the room there may be excessive bass 'boom'. Once a desirable position is achieved it is important to check if the cables are long enough to reach comfortably without being under tension. The optimal control settings will depend entirely on your system configuration. For initial trials set the controls as follows:

Volume Control	Should be set to minimum
Frequency Control	Should be set to the 12 o'clock position
Phase Control	Should be set to zero degrees
Power Mode Switch	Should be set to 'On'
By Pass Filter Switch	Should be set to the 'On' for AV and 'Off' for 2 channel listening.

Input connections can be made at this stage before the power is connected to the subwoofer.



Never connect or disconnect any leads with the subwoofer connected to the mains.

Set Up

Once the input cables are connected and the controls are set in accordance with the initial set-up procedure above, the subwoofer can be connected to the mains power supply and switched on at the mains power switch.

- For use with an AV amp/ receiver (product with sub woofer output) run the auto set up on the AV amp. Check the settings it has supplied and carry out fine adjustment if necessary. This may include adjusting the gain or crossover frequency on the AV amp or level on the sub woofer. The crossover frequency should be similar to that in the table on page 6.
- Play some familiar movies to double check it integrates with the system and carry out any adjustments to the levels or crossover frequency if necessary.
- For use with a stereo amp (product without Sub woofer output), set the crossover frequency control in accordance with the table on page 6. The level may need to be adjusted so that it integrates at all levels. Further fine-tuning of the crossover frequency may be required.

The Phase Control can now be set, please refer to page 7 for further information. It is important to try a variety of music and film excerpts with which you are familiar in order to obtain the optimum overall settings.

Specifications

Model	MR1	MR2	MR4	MR6	MR Centre					
Frequency Response	55Hz - 30kHz	42Hz - 30kHz	36Hz - 30kHz	33Hz - 30kHz	60Hz - 30kHz					
Sensitivity (1w @ 1m)	88dB	90dB	91dB	90dB	91dB					
Nominal Impedance	6 Ohms	6 Ohms	6 Ohms	6 Ohms	6 Ohms					
Power Handling (RMS)	70W	100W	150W	150W	120W					
Recommended Amp Requirements	15 - 70W	30 - 100W	30 - 120W	40 - 150W	20 - 120W					
Bass Alignment	Bass Reflex - Rear Ported.	Bass Reflex - Front Ported.	Bass Reflex - Front and Rear Ported.	Bass Reflex - Front and Rear Ported.	Sealed Cabinet					
Drive unit Complement	1 x 5.5" MMP® Bass/ Mid driver. 1 x 1" (25mm) C-CAM® gold dome tweeter	1 x 6.5" MMP® Bass/ Mid driver. 1 x 1" (25mm) C-CAM® gold dome tweeter	1 x 6.5" MMP® Bass driver. 1 x 6.5" MMP® Bass/ Mid driver. 1 x 1" (25mm) C-CAM® gold dome tweeter	2 x 6.5" MMP® Bass driver. 1 x 6.5" MMP® Bass/ Mid driver. 1 x 1" (25mm) C-CAM® gold dome tweeter	2 x 5.5" MMP® Bass/ Mid driver. 1 x 1" (25mm) C-CAM® gold dome tweeter					
External Dimension H x W x D (mm)	260 x 165 x 180	350 x 185 x 250	850 x 185 x 255	970 x 200 x 300	165 x 460 x 165					
External Dimensions H x W x D (inch)	10 1/4 x 6 1/2 x 7 1/16	13 3/4 x 7 5/16 x 9 13/16	33 7/16 x 7 5/16 x 10 1/16	38 3/16 x 7 7/8 x 11 13/16	6 1/2 x 18 1/8 x 6 1/2					
Weight (each) Kg (lb)	3.5 (7.7)	5.6 (12.3)	12 (26.4)	17.2 (37.8)	6.2 (13.6)					
MRW-10	Low Frequency Limit	Upper Frequency Limit (Variable)	Amplifier Output	Low Pass Filter Alignment	Cabinet Alignment	Driver Complement	Input Impedance	Mains Input Voltage (Factory Preset)	External Dimmensions (H x W x D) mm (Inches)	Weight Kg (lbs)
	28Hz	45 - 150Hz	100W	12dB/ octave filter	Bass Reflex, 18mm construction	1 x 10" Long Through Driver	20K Ohms	110 - 120Vac 220 - 240Vac	320 x 280 x 280 12 5/8 x 11 x 11	12.9 (28.4)

Monitor Audio reserves the right to alter specifications without notice.

Trouble Shooting

Should you experience any technical, or set-up problems with your subwoofer please check the Trouble Shooting Guide below:

My subwoofer will not turn on/ no power.

- Is the LED illuminated on the unit? If not, then check your mains lead is properly connected both at the subwoofer and at the mains outlet. Also check the fuse of the mains plug (where fitted) and also the fuse in the subwoofer. See page 8 for further information on changing the fuse and it's location.
- Is the LED red? If so, you have power going to the unit. It could be that there is no signal.
- Is there a signal going to the subwoofer? If there is a signal present, is the Power Mode Switch in the Auto or On position, and the source is turned on? Try adjusting the volume level of the source and try the switch in the 'On' position.

If it still does not turn on/ power up, please contact your local dealer/ distributor or Monitor Audio immediately.

No sound from subwoofer.

- Is the LED red or green? If it is red, then the unit hasn't actually turned on, see suggestions above. If it is green, then your unit is powered up and turned on. Check further suggestions below.
- Are the signal leads connected correctly? Check these. If possible, check with a second, known to be working set.
- Is the volume level just very low?

If it still does not output a signal, please contact your local dealer/ distributor or Monitor Audio immediately.

Owner Information

Product Details

Model

Product Serial No

Date of Purchase

Dealer Details

Dealer Name

Address

.....

E-mail address

Telephone Number

Guarantee

Both the craftsmanship and the performance of this product is guaranteed against manufacturing defects for a period of five years for speakers from the date of purchase (see conditions in the Important Safety Instructions booklet), provided that the product was supplied by an authorised Monitor Audio retailer under the consumer sale agreement.

To help us find your warranty details within our customer database, should the need arise, please take a few minutes to register your product(s) online at: **www.monitoraudio.com**



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