

PR

POWER REFERENCE
subwoofer guide



PRX6D1

PRX6D2

PRX8S4

PRX8D4

PRX104

PRX1044

PRX124

PRX1244

PRX154

PRX1544

MEMPHIS



PR POWER REFERENCE
SUBWOOFERS

READY TO TURN IT UP? READ THIS FIRST!

Memphis Audio built a 50 year legacy in the audio industry engineering the highest quality products to produce the best possible listening experience for our fans and loyal supporters. To fully appreciate our products we recommend taking the time to read and follow the instructions in this manual. As always, we recommend all installations and service be performed by an authorized Memphis Audio dealer.



TIP For optimal performance, Memphis recommends using only Memphis Connection accessories. Outfitting your system with properly sized Memphis Connection wire and accessories will dramatically boost your listening experience and increase the durability of your Memphis Audio products.

Power Reference subwoofers have been a staple in the Memphis lineup for years. Tried and true proven performance is the reason the PR subwoofer has always been our best selling, most reliable workhorse subwoofer.



TIP Check out our full line of Power Reference amplifiers and speakers to create complete Memphis Power Reference system in your ride.

FEATURES

- High temperature TIL voice coil former
- Tooled polypropylene cone
- Double stitched rubber surround
- Upgraded 2.5" voice coil on 15" models
- Reinforced spider shoulder
- Woven tinsel leads
- Reinforced terminal

High temperature TIL voice coil former
Improved power handling

Tooled poly polypropylene cone
Increased Efficiency

Double stitched rubber surround
Increased durability

Upgraded 2.5" voice coil on 15" models
Improved power handling

Reinforced spider shoulder
Improved durability and accuracy

Woven tinsel leads
Added durability

Reinforced terminal
Ease of installation and added durability

TROUBLESHOOTING

When troubleshooting your subwoofer, speaker wires should be tested first.

Poor Bass Response

- Check the system phasing by switching the positive and negative speaker wires on the subwoofer. If the bass response improves the subwoofer was out of phase. Confirm woofers are wired to the correct impedance for the amplifier
- Confirm all wiring is firmly connected.
- Both +12V and REM terminals must have +12 Volts present and GND must be connected to chassis' ground or to the negative battery terminal.
- Confirm the signal source is connected and supplying an output signal. To confirm the amp is working, connect an RCA patch cord to the line inputs of the amplifier (do not connect the other end of the patch cord). Briefly tap the center pin of each disconnected RCA with your finger. This should produce a noise (brief static or hum) in the speakers.
- If the amp is hot, check the speaker impedance or load. The total minimum impedance of all speakers should not be lower than the rating of the amp.

Only One Channel Works

- Confirm the speaker terminal strip connections are firmly connected.
- Check "balance" control on your signal source.
- If using RCA Low-Level inputs, reverse the input plugs at the amplifier. If the channel that is silent reverses position, the problem is in the source unit or connecting cable.

Weak Output

- Check input sensitivity control adjustment

Unwanted Noise

- Whine that increases and decreases with engine speed - confirm the Amp & Source unit are grounded properly.
- Clicking or popping noise at a rate that follows engine speed - this is often induced by the vehicles ignition system. Confirm that the vehicle is equipped with resistor spark plugs and wires. The ignition system may need service. Noise can be caused by routing speaker input wires too close to the light wires and other accessory wires in the vehicle. Re-route wires to avoid unwanted interference.
- If above steps do not improve/reduce noise, the system should be checked by a professional audio installer at a Memphis Authorized Dealer.

Amp Red LED is Illuminated

- Speaker or wire is shorted
- Battery voltage too low
- Battery voltage too high
- Amplifier has overheated due to improper ventilation

SERVICE & RETURNS

Please consult with your local authorized dealer if you experience issues with your unit. You may also contact Memphis Audio customer service at 800-489-2300 or email tech support directly at: techsupport@memphiscaraudio.com.

INSTALLATION INFORMATION

Memphis Audio recommends the installation of our products to be performed by an Authorized dealer. Attempting an installation project on your own or through an unauthorized source may result in damage to your products and may potentially void your warranty.



PROLONGED EXPOSURE TO MEMPHIS BASS CAN CAUSE PERMANENT HEARING LOSS AND DAMAGE TO YOUR EARS. USE CAUTION BUT DON'T SAY WE DIDN'T WARN YOU.

RECOMMENDED ENCLOSURES

Your enclosure choice will determine two different performance outcomes. If you need assistance in determining which enclosure is best for your application please consult your dealer or Memphis Audio Tech Support.

Sealed Enclosures

Sealed enclosures deliver highly accurate bass compared to other box designs. These enclosures are ideal for those who demand tight accurate bass and when sound quality is desired versus volume. Features of a sealed box design include:

- Precise clean sound
- Compact design requiring a smaller footprint
- Higher power handling

Ported (Vented) Enclosures

Ported enclosures are the recommended enclosure for those who want to achieve extreme bass in an application where space is not an issue. Vented enclosures are capable of playing louder while needing less power.

Features of a ported enclosure include:

- Louder bass with less power
- More 'booming' bass
- Tuning adjustments can be made by altering port length

Enclosures can be tuned to suit your needs and listening style

- Typically larger box construction than a sealed enclosure

BOX BUILDING TIPS

We recommend using MDF (medium density fiberboard) for construction of all enclosures. Birch plywood can be used as a lightweight substitute if desired. Thickness will be based on application, but 3/4 inch is usually preferred for most applications.

#8 or 10 wood screws recommended for fastening enclosures together (at least twice the length of the thickness of material you are using - Example 3/4" MDF to 3/4" MDF minimum 1 1/2" screws should be used). 16 or 18 gauge brad nails will work if not using screws to assemble your box.

All boxes should be assembled using ample amounts of high quality wood glue on all connecting surfaces and fastened with screws 6" on center. Screw length should be at least twice the length of the thickness of the material you are screwing through.

Corner gussets are recommended for additional box rigidity and strength. 2" gussets are sufficient. Be sure to calculate area of gussets during design.

Any single surface area over 4 Sqft should be braced internally for maximum rigidity and performance. Be sure to calculate area of brace during design.

Seal every exposed joint in your box with a latex or silicone sealant. Sealing your box completely creates an airtight enclosure ensuring your box performs to its full potential. This is still extremely important in vented enclosures.

When building enclosures for M6 and MOJ06 a double thickness baffle (the subwoofer mounting surface) is recommended maximum rigidity and performance.

Securely mounting your enclosure to your vehicle is extremely important. ALWAYS SECURE YOUR ENCLOSURE! Even the simplest and most basic of bass systems can be projectiles in an accident. ALWAYS SECURE YOUR ENCLOSURE!! The same goes for your aftermarket electronics and accessories of any kind. Make sure to securely mount all aftermarket accessories. In addition to safety, securely mounting your enclosure can significantly improve the sound quality and output of your subwoofer system.

SPECIFICATIONS

	Unit	PRX6D1	PRX6D2	PRX8S4	PRX8D4	PRX104	PRX1044	PRX124	PRX1244	PRX154	PRX1544
Thiele Small Parameters											
Resonant Freq (fs)	Hz	51.6Hz	52.3	49.1	52.6	40	38	36	35	27	30
Mechanical Q (Qms)		4.63	4.109	6.431	7.1	5.64	4.97	5.05	5.37	4.53	4.82
Electrical Q (Qes)		0.684	0.668	0.813	0.954	0.74	0.69	0.7	0.73	1	1.29
Total Q (Qts)		0.596	0.575	0.722	0.841	0.7	0.64	0.67	0.69	0.92	1.15
Sensitivity	Db	82	82	84	84	83	84	86	86	85	84
Xmax Linear	in.	0.246	0.224	0.232	0.257	0.51	0.55	0.51	0.55	0.51	0.53
Displacement	cf.	0.012	0.012	0.023	0.023	0.052	0.052	0.084	0.084	0.172	0.172
Air Vol of Susp. (Vas)	cf.	4	4.74	10.18	8.25	0.604	0.728	1.502	1.806	4.331	3.128
Moving Mass(Mms)	g	55.644	45.761	63.544	68.212	118	127.9	143	143.8	164	164
Susp. Comp. (Cms)	mmN	0.171	0.202	0.165	0.134	0.076	0.076	0.119	0.102	0.062	0.063
Eff. Piston area (Sd)	SqCm	128.68	128.68	208.67	208.67	49.54	47.65	73.73	73.7	126.42	123.28
Motor Strength (Bt)	TM	3.405	4.65	9.272	6.48	12.6	8.59	12.28	8.04	12.66	8.56
Voice Coil and Magnet											
Impedance series	ohms Ω	2	4	n/a	8	n/a	8	n/a	8	n/a	8
Impedance parallel	ohms Ω	0.5	2	n/a	2	n/a	2	n/a	2	n/a	2
Voice coil diameter	in	1.4	1.4	1.5	1.5	2	2	2	2	2.5	2.5
RMS Power	Watts	150	150	200	200	250	250	300	300	350	350
Peak Power	Watts	300	300	400	400	500	500	600	600	700	700
Magnet weight	oz.	41	41	41	41	60	60	60	60	60	60
Magnet diameter	in.	5	5	5	5	6.4	6.4	6.4	6.4	6.4	6.4
Physical Dimensions											
Mounting depth	in.	3.11	3.11	3.89	3.89	5.18	5.18	5.54	5.54	6.73	6.73
Cutout diameter	in.	5.67	5.67	6.92	6.92	9.25	9.25	11	11	13.8	13.8
Frame outside diameter	in.	7.28	7.28	8.63	8.63	10.55	10.55	12.56	12.56	15.59	15.59
Enclosure Recommendations											
Single sub sealed	cf.	0.35	0.35	0.45	0.45	0.75	0.75	1.25	1.25	3	3
Dual sub sealed	cf.	0.7	0.7	0.9	0.9	1.5	1.5	2.5	2.5	6	6
Single sub vented	cf.	0.5	0.5	0.7	0.7	1.875	1.875	3.15	3.15	4	4
Port dimensions		2x2x8.75L	2x2x8.75L	2.5x2.5x9.5L	2.5x2.5x9.5L	10.5x 1.5x13.5L	10.5x1.5x3.5L	12.5x2.25x16.5L	12.5x2.25x16.5L	15.5x5x17.25L	15.5x2.5x17.25L
Tuning frequency	Hz	47	47	43	43	40	40	39	39	39	39
Dual sub vented	cf.	1.4	1.4	1.7	1.7	3.67	3.67	5.88	5.88	7.78	7.78
Port dimensions		7x2x12L	7x2x12L	9x2x14L	9x2x14L	10.5x3x12.25L	10.5x3x12.25L	12.5x4.5x14.75L	12.5x4.5x14.75L	15.5x5x15.25L	15.5x5x15.25L
Tuning frequency	cf.	47	47	43	43	40	40	38	38	38	38

BASIC WIRING

8"/10"/12"/15" Power Reference Subwoofers are available in both 4Ω DVC (dual voice coil) and 4Ω SVC (single voice coil) versions. 6.5" Power Reference Subwoofer is available in 1Ω DVC and 2Ω DVC.

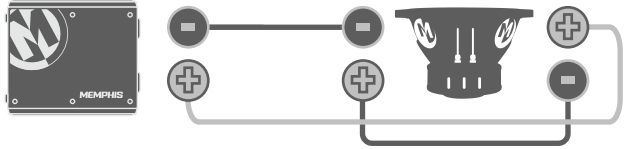
1 DVC Subwoofer Wired in Series

Connecting the two voice coils of the driver in series (+ to -) will result in the following:

Dual-4Ω Subwoofer: 8Ω

Dual-2Ω Subwoofer: 4Ω

Dual-1Ω Subwoofer: 2Ω



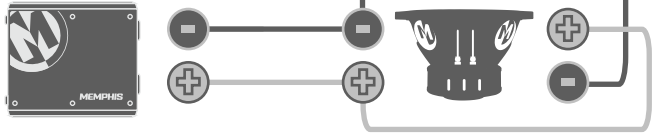
1 DVC Subwoofer Wired in Parallel

Connecting the two voice coils of the driver in parallel (+ to +, - to -) will result in the following:

Dual-4Ω Subwoofer: 2Ω

Dual-2Ω Subwoofer: Not Rec.

Dual-1Ω Subwoofer: Not Rec.



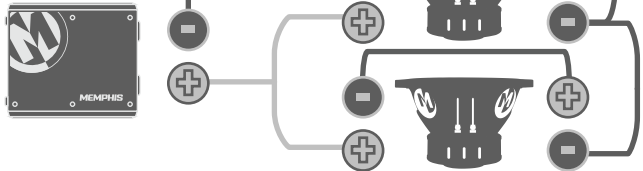
2 DVC Subwoofers Wired in Series/Parallel

Connecting the voice coils of each driver in parallel (+ to +, - to -) and the drivers themselves in parallel (+ to +, etc.) will result in the following:

Dual-4Ω Subwoofer: 4Ω

Dual-2Ω Subwoofer: 2Ω

Dual-1Ω Subwoofer: Not Rec.



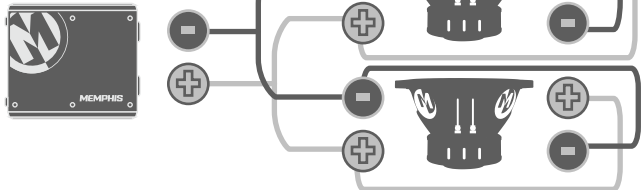
2 DVC Subwoofers Wired in Parallel/Parallel

Connecting the voice coils of each driver in parallel (+ to +, - to -) and the drivers themselves in parallel (+ to +, etc.) will result in the following impedances:

Dual-4Ω Subwoofers: 1Ω

Dual-2Ω Subwoofer: Not Rec.

Dual-1Ω Subwoofer: Not Rec.

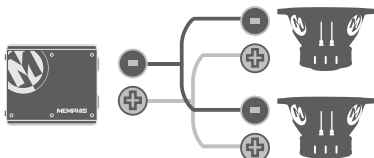




2 SVC Subwoofers Wired in Parallel

Connecting the voice coils of each driver in parallel (+ to + - to -) will result in the following impedances:

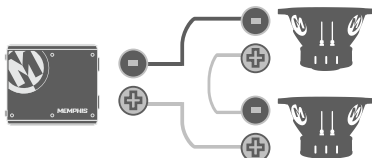
Single-4Ω Subwoofers: 2Ω



2 SVC Subwoofers Wired in Series

Connecting the voice coils of each driver in Series (+ to -) will result in the following impedances:

Single-4Ω Subwoofers: 8Ω



WARRANTY

Memphis Audio PR WOOFERS Limited Warranty

This product has a one year warranty from the date of purchase for defects in material or workmanship. This warranty will be extended to 2 years when installed by a Memphis authorized dealer using Memphis Connection products. The warranty is void if the product has been physically damaged by improper usage or abuse. If repairs are attempted outside of a Memphis Audio facility, the warranty is void.

This warranty is limited to the original retail purchaser and does not cover any expenses incurred in the removal or re-installation of the product. This warranty does NOT apply to product exterior and cosmetics. Memphis Audio disclaims any liability for incidental or consequential damages caused by product defects. Memphis Audio liability will not exceed the purchase price of the product and the warranty period specified.

What is NOT covered under warranty

- Damage due to improper installation
- Damage caused by exposure to moisture, excessive heat, chemical cleaners and/or UV radiation
- Damage through negligence, misuse, accident or abuse. (Repeated returns for the same damage may be abuse)
- Product damaged in accident and/or due to criminal activity
- Service performed by anyone other than Memphis Audio
- Subsequent damage to other components
- Any cost or expense related to the removal or re-installation of product
- Products with tampered, missing, altered or defaced serial numbers/labels
- Freight damage
- The cost of shipping product to Memphis Audio
- Return shipping on non-defective items
- Any product not purchased from an authorized Memphis Audio dealer

Some states do not allow the exclusion or limitation of incidental or consequential damages. The above limitations or exclusions may not apply to you. This warranty gives you specific rights, you may have other rights which vary from state to state.

If warranty service is required, a return authorization number is required to return the product to Memphis Audio. Warranty shipments to Memphis Audio are the responsibility of the purchaser. Pack the product carefully in the original carton if possible. Memphis Audio will not be responsible for damages incurred in shipment or due to improper packaging materials used by the purchaser.

If determined to be within warranty your product will be repaired or replaced at the discretion of Memphis Audio.

MEMPHIS CAR AUDIO



CONTACT INFO



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