RAMPAGE™

HIGH PERFORMANCE SUBWOOFERS

MODELS AVW110, AVW111, AVW121 and AVW122

OWNER'S MANUAL

Released 2-25-03

Congratulations on your purchase of the ***Rampage*** High Performance Subwoofer. The ***Rampage*** Subwoofers are designed to provide you with high quality Bass reproduction required to make your car audio system perform to its full potential.

RAMPAGE Subwoofer Features

Dual 4-Ohm (AVW110/121) or Dual 6-Ohm (AVW111/122) voice coil for maximum flexibility and performance

Double stacked magnet

Chrome plated stamped steel basket (AVW110/121) or Patented die-cast aluminum basket (AVW111/122)

Patented thermo-cooling motor structure

3-Inch Hi-Temp Kapton voice coil structure (AVW111/122)

SUBWOOFER PARAMETERS

	AVW110	**AVW111**	**AVW121**	**AVW 122**
Nominal Power Rating	300 Wrms	350 Wrms	350 Wrms	400 Wrms
Peak Power Rating	600 W	700 W	700 W	800 W
Double Stacked Magnet	110 Oz	110 Oz	150 Oz	150 Oz
Frequency Response	40 Hz-1kHz	40 Hz-1kHz	40 Hz-1kHz	40 Hz-1kHz
Resonant Frequency	55 Hz ± 20%	55 Hz ± 20%	55 Hz ± 20%	55 Hz ± 20%
Woofer Size	10"	10"	12"	12"
Nominal Impedance	4 Ohms x 2	6 Ohms x 2	4 Ohms x 2	6 Ohms x 2
Mounting Depth	6.25"	5.5"	6.5"	5.5"

WARNING: High-powered car audio systems may produce sound pressure levels that exceed the threshold at which hearing loss may result. They may also impair a driver's ability to hear traffic sounds or emergency vehicles. Use common sense and practice safe listening habits when listening to your audio system.

DUAL VOICE COIL WIRING

CAUTION: Never connect only one voice coil of a dual voice coil woofer. Both must be driven at the same time for proper operation. Never connect an amplifier to an impedance load lower than it is rated to handle.

SERIES/PARALLEL MONAURAL CONNECTION

Parallel wiring for a single, dual-voice coil 4-Ohm woofer in a monaural system will result in a total impedance load of 2 Ohms at the amplifier, (See Fig. 1) if your amplifier is rated to drive 2 Ohms in bridged or one-channel operation. If each of two dual-voice coil 4-Ohm woofers are connected in parallel and then wired to

each other in parallel, a 1-Ohm monaural output would result (See Fig. 2). On the other hand, if your amplifier is rated for 4-Ohm operation in bridged or one-channel operation, series-connect the woofer voice coils (See Fig. 3). If the amplifier is rated for 8 Ohms, interconnect the voice coils of the woofer in series as shown to obtain an 8-Ohm monaural output (See Fig. 4).
The same applies for parallel wiring of a single, dual-voice coil 6-Ohm woofer, in which a total impedance load of 3 Ohms will be seen at the amplifier.

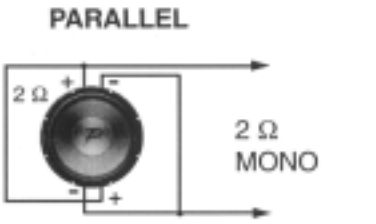

Fig. 1

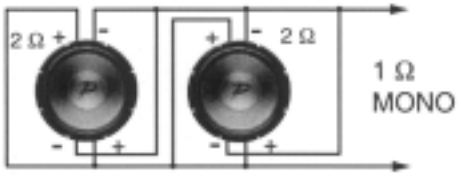

Fig. 2

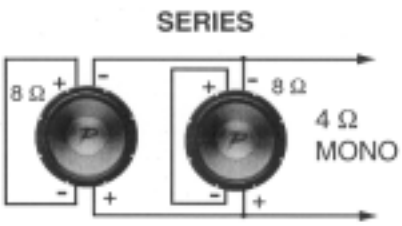

Fig. 3

Fig. 4

SERIES/PARALLEL STEREO CONNECTION

Series wiring of each of two, dual voice-coil 4-Ohm woofers will result in a total impedance load of 8 Ohms at each channel of the amplifier (See Fig. 5). Otherwise, connect one woofer to each channel for 4-Ohm stereo operation (See Fig. 6), or two parallel-wired woofers (one-per-channel) for 2-Ohm stereo operation (See Fig.7).
The same applies for series wiring of a single, dual-voice coil 6-Ohm woofer, in which a total impedance load of 12 Ohms will be seen at the amplifier.

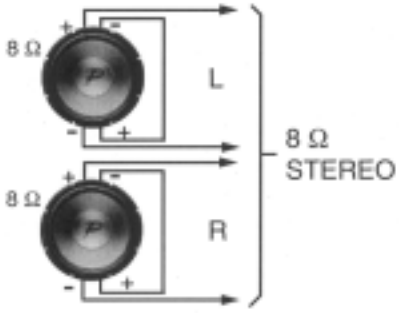

Fig. 5

Fig. 6

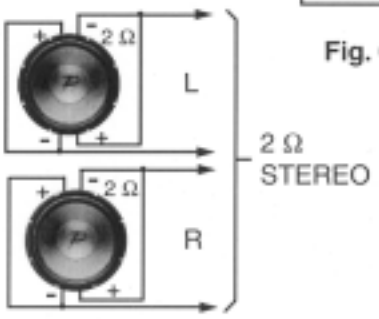

Fig. 7

INSTALLATION RECOMMENDATIONS

To realize the utmost in sound reproduction from your subwoofer(s), follow these installation recommendations:

- Use a quality large gauge wire to connect your subwoofer to the amplifier
- Use a subwoofer crossover to remove unwanted higher frequencies
- Position the enclosure in the rear of the vehicle with the subwoofer facing rearward to improve bass response and avoid cancellation of audio frequencies

ENCLOSURE CONSTRUCTION RECOMMENDATIONS

To enhance subwoofer performance, the following general recommendations should be addressed when constructing the speaker enclosure:

- Use 3/4" MDF for your construction material
- Glue all joint seams
- Screw or nail all joints tight
- Brace all walls

DESIGNING AND BUILDING YOUR SPEAKER ENCLOSURE

The following parameters are offered to assist you in designing your own enclosure. There are many computer software programs available on the market that, along with this information, will allow you to construct the type of enclosure that best suits your needs.

To obtain the best possible results, we suggest you use our recommended enclosure designs and have an automotive sound professional build your enclosure.

Parameters	AVW111	AVW121	AVW110	AVW122
Fo (Hz)	36.44	35.84	30.33	32.42
Revc (Ohms)	2.7	1.6	1.6	2.7
Levc at 1kHz (mH)	1.44	0.97	1.19	1.48
Qms	4.27	5.72	4.27	4.07
Qes	0.54	0.46	0.32	0.57
Qts	0.48	0.43	0.29	0.50
Vas (Ltrs)	31.98	61.23	39.06	68.84
Spl @ 1W/1M (dB)	86.44	89.67	87.19	87.99
X-Max Linear pk-pk (mm)	12	14	12	14

Recommended Enclosure Volumes

	AVW111	AVW121	AVW110	AVW122
SEALED				
Minimum sealed (Cu. Ft)	0.35	0.5	0.35	0.75
Maximum sealed (Cu. Ft)	0.75	1.0	0.75	1.25
PORTED				
Vented (Cu. Ft)	1.5	2	1.25	2.25
Vented to (Hz)	34	34	34	32
Port Diameter (“)	3	4	3	4
Port Length (“)	8.5	11.5	7.5	12
Number of Ports	1	1	1	1
SQUARE PORT INFO				
Port Area (Sq/In)	7	12	7	12
Port Length (")	8.5	11.5	7.5	12

