

Installation Warning

- 1. Ensure the vehicle 12 volt lead is removed before any equipment is connected.
- 2. Investigate the vehicle's gas tanks, brake lines and electrical wiring locations before you begin installation.
- 3. Attach the product securely to the vehicle to prevent damage in the event of an accident.
- 4. Ensure all wiring is protected to avoid damage or pinching of the cables.

For further product and installation information please visit www.fusionelectronics.com
Para obtener más información sobre los productos o su instalación, visite www.fusionelectronics.com
Weitere Informationen zum Produkt und zur Installation finden Sie auf folgender Website: www.fusionelectronics.com
Ga naar www.fusionelectronics.com voor meer product- en montage-informatie
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Per ulteriori informazioni su prodotto e installazione, potete visitare www.fusionelectronics.com
За дополнительной информацией о продукции и установке обращайтесь на www.fusionelectronics.com

RECORD YOUR PURCHASE DETAILS HERE:

MODEL NUMBER _____ DATE OF PURCHASE _____

AFFIX RECEIPT HERE

WARNING! Audio Systems can produce sound levels over 135dB. Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss! Please watch for emergency vehicles as warning signals may not be heard. USE COMMON SENSE!

YOU CAN HELP PROTECT THE ENVIRONMENT!
Please remember to respect the local regulations:
Hand in the non-working electrical equipment
to an appropriate waste disposal center.



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POWERPLANT
SUBWOOFERS

PP-SW120, PP-SW150

Subwoofer Parameters

	PP-SW120	PP-SW150
Max Power Rating	1200 Watts	1500 Watts
RMS Power Rating	500 Watts	625 Watts
Frequency Response	25Hz - 2.5kHz	20Hz - 1.5kHz
Impedance	2 x 2 Ohms	2 x 2 Ohms
Sensitivity	90 dB	91 dB
Compliance [Cms]	207.925	91.005
Cone Area [Sd]	490.87	754.77
D.C. Coil Resistance [Re]	3.6 (1.8 x 2)	3.6 (1.8 x 2)
Electrical Q [Qes]	0.475	0.397
Force Factor [Bl]	12.471	21.715
Free Air Resonance [Fs]	37	33.620
Linear Excursion [Xmax]	30	30
Mechanical Excursion [mm]	9	9
Mechanical Q [Qms]	3.345	2.643
Total Loudspeaker Q [Qts]	0.416	0.345
VAS [L]	71.142	73.618
VAS [CuFt]	2.5	2.6

Optimum Enclosures

Ported	PP-SW120	PP-SW150
Volume [litres]	41	60
Volume [cu.ft.]	1.48	2.2
Port diameter	101mm/4"	101mm/4"
Port length	348mm / 13.73"	350mm / 13.75"
Tuned frequency [Hz]	40	38.5
Sealed		
Volume [litres]	27	45.5
Volume [cu.ft.]	1.0	1.6
Tuned frequency [Hz]	75	80

Enclosure Construction

All enclosures should be constructed from 18mm {3/4"} Medium Density Fibre board. Enclosures should be glued and screwed, because MDF is porous. FUSION recommends sealing the internal sides with a polyurethane sealer prior to installation. To accurately cut the subwoofer hole use the unique FUSION ruler guide included inside the FUSION Subwoofer packaging.

Enclosure Placement

An important factor is to place the subwoofer enclosure as far back in the vehicle as possible, so that the natural bass gain of the vehicle is utilised. If your vehicle is a hatch back, always experiment with which direction the subwoofer is facing. Facing the subwoofer towards the rear of the car, should enhance the low down bass that PowerPlant Subwoofers are designed to produce.

Enclosure Tuning

When tuning the system it is always a good idea to try running the subwoofer out of phase (which means switching the speaker wires around) with your other speakers. Do this and listen to the system to see if the perception of bass is more from the subwoofer location or the front speaker location. Which ever way gives the better perception that the bass is coming from the front speakers, would quite safely guarantee the subwoofer is wired correctly.

Calculating Enclosure 'Box' Volume

Cuft:
To calculate Cuft multiply the height [A], width [B], depth [C] in inches, then divide that number by 1728.
Example: 10" high x 18" wide x 12" deep = 2160 inches³
Divide 2160/1728 = 1.25 ft³

Litres:
To calculate Litres, multiply the height [A], width [B], depth [C] in centimetres, then divide that number by 1000.
Example: 25.4cm high x 45.72cm wide x 30.48cm deep = 3539cm³
Divide 35396/1000 = 35.39 litres

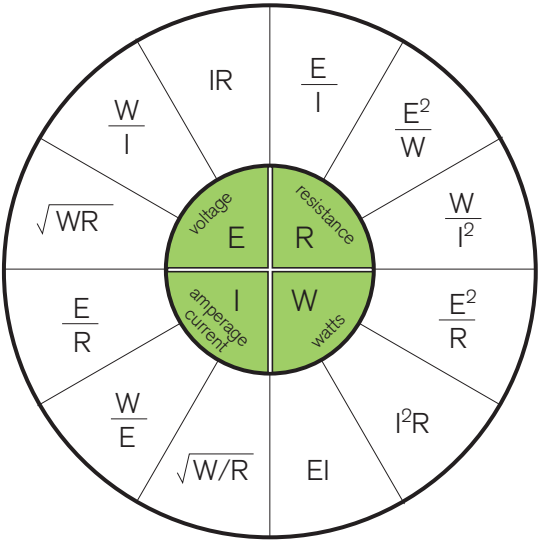
Tech Tips

TOTAL AMPERAGE	0-4 FT	4-7 FT	7-10 FT	10-13 FT	13-16 FT	16-19 FT	19-22 FT	22-28 FT
0 - 20	14	12	12	10	10	8	8	8
20 - 35	12	10	8	8	6	6	6	4
35 - 50	10	8	8	6	4	4	4	4
50 - 65	8	8	6	4	4	4	4	2
65 - 85	6	6	4	4	2	2	2	0
85 - 105	6	6	4	2	2	2	2	0
105 - 125	4	4	4	2	0	0	0	0
125 - 150	2	2	2	0	0	0	0	0

The above chart shows cable gauges to be used, if no less than a 0.5 volt drop is acceptable. If aluminium wire or tinned wired is used, the gauges should be of an even larger size to compensate. Cable gauge size calculation takes into account terminal connection resistance.

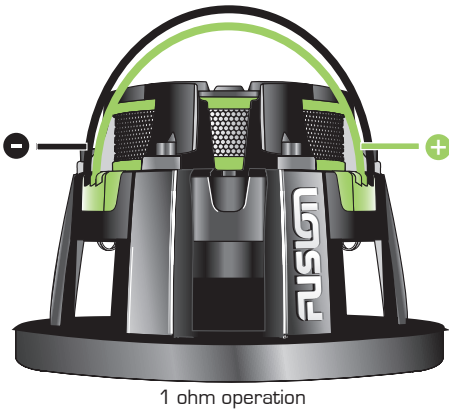


Ohms Law Simplified



Series and Parallel Subwoofer Wiring for 2 x 2 Ohm Dual Voice Coil Subwoofers

Parallel Voice Coil Wiring (1 Ohm operation)
To wire a 2 x 2 ohm DVC subwoofer in parallel (to get 1 ohm), use two short pieces of speaker wire and link the positive from one coil to the positive of the second coil, and do the same for the negative as shown below. Then wire the amplifier to opposite sides of the subwoofer in order to equalise any connection resistance



Series Voice Coil Wiring (4 Ohm operation)
To wire a 2 x 2 ohm DVC subwoofer in series (to get 4 ohms), use one short piece of speaker wire and link the positive from one voice coil to the negative of the second coil as shown below. Then wire the amplifier to opposite sides of the subwoofer.

