



10W6v2-D4 12W6v2-D4 13W6v2-D4
Subwoofers

owner's manual

Congratulations on your purchase of a JL Audio subwoofer component. Your JL Audio subwoofer is a precision loudspeaker which has been engineered to produce the highest quality sub-bass performance in your vehicle. Authorized JL Audio dealers have extensive technical information for many different applications of your new speaker. They also have the knowledge, skills and tools to build a high-quality enclosure that will maximize the performance of your speaker. We highly recommend that you have your enclosure built by an authorized JL Audio dealer.

Inside you will find specifications and two recommended enclosures for your speaker; one is a sealed enclosure, the other is a ported design. Both types of enclosures will give you excellent sound quality and low-frequency extension. The sealed enclosure is a better choice if space is extremely tight, but the ported enclosure will produce 3dB more output at the same power if you have the extra space to work with.

If you decide to build one of these enclosures yourself, you must have the construction of the box inspected and approved by your authorized JL Audio dealer in order for the 1 year limited warranty to be valid. Please read the warranty information carefully.



SUBWOOFER SPECIFICATIONS

SUBWOOFER:	10W6v2-D4	12W6v2-D4	13W6v2-D4
Free Air Resonance (Fs):	28.5 Hz	25.0 Hz	24.3 Hz
Electrical "Q" (Qes):	0.497	0.480	0.464
Mechanical "Q" (Qms):	8.458	7.100	6.700
Total Speaker "Q" (Qts):	0.469	0.450	0.434
Equiv. Compliance (Vas):	1.18 ft ³ 33.4 litres	2.82 ft ³ 79.9 litres	3.94 ft ³ 111.6 litres
One-way, Linear Excursion: (Xmax)*	0.60 in 15.2 mm	0.65 in 16.5 mm	0.85 in. 21.6 mm
Efficiency (1W/1m)**:	83.7 dB SPL	85.9 dB SPL	87.4 dB SPL
Effective Piston Area (Sd):	51.4 in ² 0.0332 m ²	77.8 in ² 0.0502 m ²	100.4 in ² 0.0648 m ²
DC Resistance (Re)**:	6.30Ω	6.75Ω	6.50Ω
Nominal Impedance:	Dual 4Ω	Dual 4Ω	Dual 4Ω
Power Handling (continuous):	400W	400W	500W
Mounting Depth:	6.9 in 175 mm	7.6 in 193 mm	9.2 in 234 mm
Mounting Hole Diameter:	9.0 in 229 mm	11.0 in 279 mm	12.5 in 318 mm
Driver Displacement:	0.068 ft ³ 1.9 litres	0.090 ft ³ 2.5 litres	0.120 ft ³ 3.4 litres

* Xmax specifications are derived via one-way voice coil overhang method with no correction factors applied.

** Efficiency (1W/1m) is **not** an accurate indicator of a subwoofer's output capability and should not be used as a comparison to other subwoofers to determine which one is "louder" !

*** Re (DC resistance) is measured with the voice coils in series, for parallel-wired specification divide Re by 4. All other specifications remain the same.

- The W6v2s employ a pole vent to remove heat and pressure from the inside of the speaker. This vent is located around the JL Audio badge at the rear of the speaker. A minimum distance of 3/4-inch (20mm) is required between the back of the speaker and any wall of the enclosure to allow proper operation of the pole vent.
- The enclosure recommendations listed are **external** dimensions which assume the use of 3/4" (19mm) thick material. If you are using 5/8" (16mm) thick material, subtract 1/4" (6.5mm) from each dimension. Do not use any material with a thickness of less than 5/8" (16mm) as this may compromise the rigidity of the enclosure.
- All enclosure volumes listed are **net internal volumes!** Box volume displacement, port displacement and brace displacement must be added to obtain the final gross internal volume. All enclosure dimensions listed have already taken this into account.
- When using **two** subwoofers in a common enclosure simply **double** the required volume and, in the case of a ported enclosure, use **two times** the recommended port(s).
- We recommend the use of this speaker in a **bi-amplified system** using high-quality satellite speakers and amplifiers. We do not recommend the use of this subwoofer with a **passive crossover (coil)**, as this type of device will adversely affect performance.

RECOMMENDED ENCLOSURES

SUBWOOFER	SEALED ENCLOSURE		PORTED ENCLOSURE		
	Volume (net int.)	External Dimensions (Width x Height x Depth)	Volume (net int.)	Enclosure External Dimensions (Width x Height x Depth)	Slot Port Internal Dimensions (Slot Width x Slot Height x Slot Length)
10W6v2-D4	0.625 ft ³ 17.7 litres	14.5" x 12" x 10.25" 368mm x 305mm x 260mm	0.75 ft ³ 21.2 litres	22" x 12" x 10.75" 559mm x 305mm x 273mm	1.25" x 10.5" x 30" 32mm x 267mm x 762mm
12W6v2-D4	1.25 ft ³ 35.4 litres	18" x 14" x 12.75" 457mm x 356mm x 324mm	1.50 ft ³ 42.5 litres	26.25" x 14" x 13" 667mm x 356mm x 330mm	1.5" x 12.5" x 29" 38mm x 318mm x 737mm
13W6v2-D4	1.625 ft ³ 46 litres	18" x 16" x 14.125" 457mm x 406mm x 359mm	1.875 ft ³ 53.1 litres	18.875" x 16.5" x 18.625" 480mm x 419mm x 473mm	1.75" x 15" x 27.625" 44.5mm x 381mm x 702mm

!! CAUTION !!

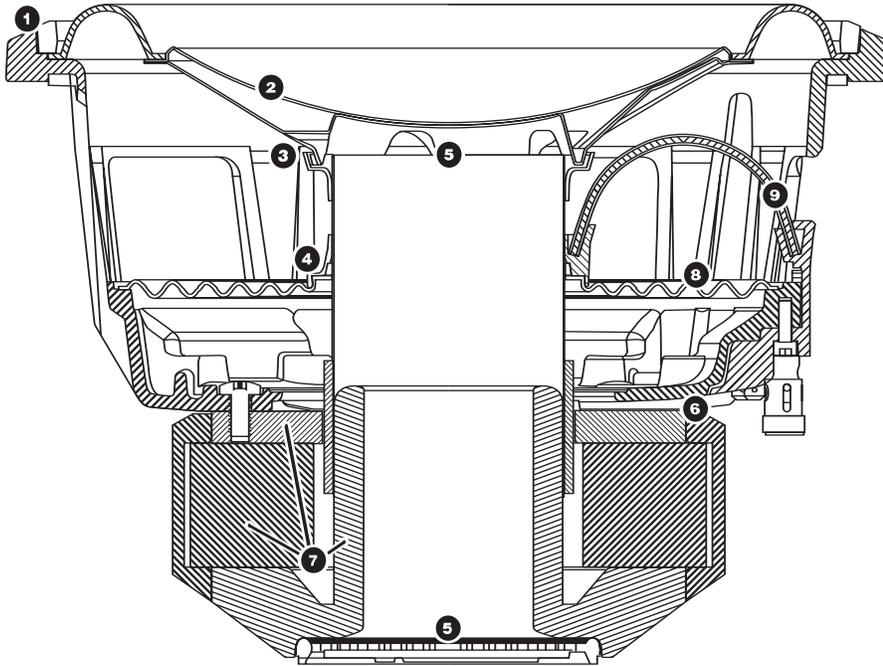
Prolonged exposure to sound pressure levels in excess of 100dB can cause permanent hearing loss. This high-performance speaker can exceed this level. Please exercise restraint in its operation in order to preserve your ability to enjoy its fidelity.

When installing a subwoofer in your vehicle, it is extremely important to secure the enclosure firmly. We recommend bolting the enclosure through the metal of the floorpan or the frame of the vehicle with large diameter washers for reinforcement. If an enclosure is not firmly attached, it can become a projectile in a collision. This is particularly important in a hatchback, station wagon, sports utility vehicle, or van.

"EL" (Port Extension Length):
 10W6v2: 17.25" (438mm)
 12W6v2: 16" (406mm)
 13W6v2: 9.75" (248mm)

All specifications are subject to change without notice.

W6v2 TECHNOLOGIES



1 - Customizable Trim Ring: This removable ring can be painted to match the installation theme, if desired.

2 - W-Cone™ (Patent-Pending): The W-Cone™ unit-body cone assembly delivers astonishing cone-stiffness with minimal mass.

3 - Floating-Cone™ Attach Method (Patent-Pending): This unique assembly technique ensures proper surround geometry in the assembled speaker for better excursion control and dynamic voice coil alignment.

4 - Plateau-Reinforced Spider Attachment (U.S. Patent #6,118,884): A derivative of JL Audio's famous VRC technology, this bulletproof suspension attachment relieves stress from the spider material at high excursions for enhanced reliability.

5 - Pole and Cone Venting (Patent-Pending): Vents at the neck of the lower cone body work in conjunction with the pole vent at the rear of the motor structure. These vents effectively remove hot air during high power operation to improve sound quality and reliability.

6 - Forced-Air-Cooled Aluminum Alloy Frame (U.S. Patent #6,219,431 and #6,229,902): Cool air is directly pumped onto the voice coil of the speaker through slots between the frame and top-plate. This enhances power handling and sound quality by minimizing dynamic parameter shifts and power compression.

7 - Highly Optimized Motor Systems: Highly linear, FEA-optimized motors reduce audible distortion and improve transient behavior for superior sound quality and dynamic stability.

8 - Large, Progressive-Roll Spiders: Optimized to control the long excursion of the W6v2's without limiting it.

9 - Engineered Lead Wires and Connectors: Connections for both voice coils terminate in a unique configuration block on one side of the basket. The extruded lead wire casing and carefully engineered attachments ensure controlled behavior and improved reliability under extreme excursion demands.

W6v2 TERMINAL JUMPER SYSTEM

Please note that the W6v2 is a dual voice coil driver. BOTH voice coils must be connected to the amplifier (in series or parallel) for the speaker to operate properly. To accomplish this, each W6v2 features a pair of main input connection push-terminals and four voice coil configuration tab terminals. These are located behind the main input connectors and are used to interconnect the dual voice coils in one of two ways: **Diagram A** shows a series connection (8Ω nominal impedance per speaker). **Diagram B** shows a parallel connection (2Ω nominal impedance per speaker) and is the way the speaker is configured at the factory. After verifying that the tabs are properly configured using the supplied jumper(s), connect the amplifier's output wires to the W6v2's main input push-terminals and install the speaker into the enclosure.

Warning! Failure to properly connect the configuration tabs will result in no output and may damage the speaker.

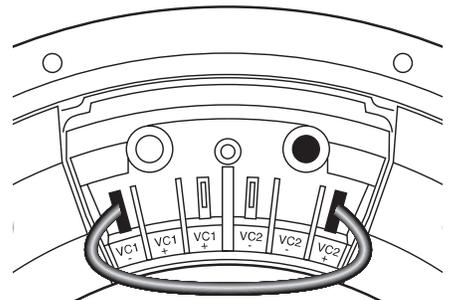


Diagram A: Series Connection (8Ω):
Use one jumper from "VC1-" to "VC2+"

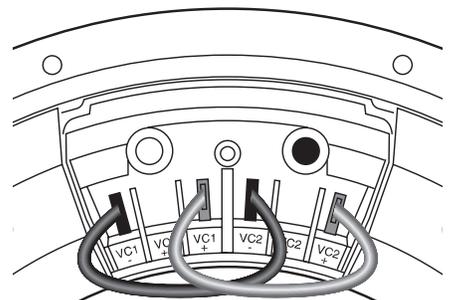


Diagram B: Parallel Connection (2Ω):
Use two jumpers... one from "VC1-" to "VC2-" and one from "VC1+" to "VC2+".

RECOMMENDED CONTINUOUS (RMS) POWER RANGE FOR ONE SUBWOOFER DRIVER:



MEDIUM GRAY (MINIMUM):

From a reliability standpoint, this zone represents a very comfortable operating power range for each driver. This level of power will not stress the woofer but will not extract all of its performance potential, either.

Use of less than the minimum power level will not damage the woofer, but may result in unsatisfactory performance.

LIGHT GRAY (OPTIMUM):

This zone represents the best compromise between long-term reliability, high-output and low-distortion performance and is centered on each woofer's continuous power rating (as published in its specifications). In this zone, you will be taking full advantage of the woofer's optimum, low-distortion performance range without undue risk of failure.

DARK GRAY (MAXIMUM):

In this zone, low-distortion output and long-term reliability will be compromised (especially by an aggressive user). Slightly more SPL will be gained by pushing the power into this zone, but typically not more than 2dB, compared to the light gray zone. The closer you are to the black zone, the higher the likelihood of driver failure. Operate with caution.

BLACK (WARRANTY VOID):

We do not recommend operating woofers at this level of power. In this zone, there is a very high probability that the driver will fail due to excessive heat and/or mechanical stress.

Subwoofer drivers operated at these levels of power are NOT covered under warranty.

JL Audio offers an extensive line of high-performance subwoofer drivers to fit a wide variety of enclosure and power applications. When designing systems with our drivers, it is very important to achieve a good power match between the subwoofer amplifier and the subwoofer driver's capabilities. The power levels listed in the above chart represent continuous (RMS) amplifier power per woofer and assume that the user will regularly make full use of that power **without drastically overdriving the amplifier(s)**. Make sure you factor system impedance and the total number of subwoofers into your calculations. Adhering to these power recommendations will result in systems that are both reliable and enjoyable.

JL AUDIO LIMITED WARRANTY (USA)

Automotive Subwoofer Components

JL AUDIO warrants this speaker to be free of defects in materials and workmanship for a period of **one (1) year** from the original date of purchase, contingent upon installation being performed or approved by an authorized JL AUDIO dealer, in writing, on the original sales receipt. **If the preceding condition is not met, the warranty term is limited to ninety (90) days from the original purchase date.**

This warranty is not transferrable and applies only to the original purchaser of the product from an authorized JL AUDIO dealer. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction, JL AUDIO will, at its discretion, repair or replace the defective product with new or remanufactured product at no charge.

Damage caused by the following is not covered under warranty: accident, misuse, abuse, product modification or neglect, failure to follow installation instructions, unauthorized repair attempts, misrepresentations by the seller. This warranty does not cover incidental or consequential damages and does not cover the cost of removing or reinstalling the unit(s). Cosmetic damage due to accident or normal wear and tear is not covered under warranty.

Any applicable implied warranties are limited in duration to the period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

If you need service on your JL AUDIO product:

All warranty returns should be sent to JL AUDIO freight prepaid through an authorized JL AUDIO dealer and must be accompanied by proof of purchase (a copy of the original sales receipt.) Direct returns from consumers or non-authorized dealers will be refused unless specifically authorized by JL AUDIO with a valid return authorization number. Warranty expiration on products returned without proof of purchase will be determined from the manufacturing date code. Coverage may be invalidated as this date is previous to purchase date. Return only defective components. Non-defective items received will be returned freight-collect. Customer is responsible for shipping charges and insurance in sending the product to JL AUDIO. Freight damage on returns is not covered under warranty. Always include proof of purchase (sales receipt).

For Service Information in the U.S.A. please call:

JL Audio customer service: (954) 443-1100 during normal business hours (Eastern Time)

JL Audio, Inc

10369 North Commerce Parkway, Miramar, FL 33025

International Warranties:

Products purchased outside the United States of America are covered only by that country's distributor and not by JL Audio, Inc.