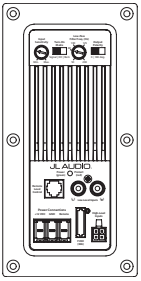
OWNER'S MANUAL



MicroSub+ / PowerWedge+

Amplified Subwoofer Systems with DCD™ Amplifier Technology

Thank you for purchasing a JL Audio amplified subwoofer system for your automotive sound system.

Your subwoofer system has been designed and manufactured to exacting standards to provide high-quality sub-bass performance and years of musical enjoyment in your vehicle. For maximum performance, we highly recommend that you have your new subwoofer system installed by an authorized JL Audio retailer. Your authorized retailer has the necessary training, expertise and installation equipment to ensure optimum performance from this product. Should you decide to install your subwoofer system yourself, please take the time to read this manual thoroughly so as to familiarize yourself with it installation requirements and setup procedures.

If you have any questions regarding the instructions in this manual or any aspect of your subwoofer system's operation, please contact your authorized JL Audio retailer for assistance. If you need further assistance, please call the JL Audio Technical Support Department at (954) 443-1100 during business hours.

SAFETY CONSIDERATIONS

- Install this subwoofer system in a dry, well-ventilated location that does not interfere with your vehicle's safety equipment (air bags, seat belt systems, ABS brake systems, etc.).
- Securely mount the subwoofer system so that it does not come loose in the event of a collision or a sudden jolt to the vehicle.
- Check before drilling to make sure that you will not be drilling into a gas tank, brake line, wiring harness or other vital vehicle system.
- Do not run system wiring outside or underneath the vehicle. This is an extremely dangerous practice, which can result in severe damage/injury.
- Protect all system wires from sharp edges by carefully routing them, tying them down and using grommets and loom where appropriate.
- Secure all wiring as needed, using cable ties or wire clamps to protect them from moving parts and sharp edges.

WHAT'S INCLUDED

(1) Enclosure with subwoofer(s), built-in DCD™ amplifier and grille(s)
(1) Power Connection plug
(1) High-Level input plug
(1) Fuse
(1) User manual

PRODUCT DESCRIPTION

Enclosed subwoofer system with built-in DCD™ Class D amplifier and specially engineered, low-impedance driver(s).

ABOUT DCD™ TECHNOLOGY

JL Audio's exclusive DCD™ amplifier technology combines direct power conversion with an ultra-high current output section and unique low-impedance drivers to extract maximum power and efficiency. By directly converting a vehicle's 12V supply into speaker power, DCD™ amplifiers are free of traditional switching power supplies, thus enabling them to be very compact, while generating remarkable power output with unprecedented efficiency (up to 94%). This also permits DCD™ amplifiers to operate at much cooler temperatures than conventional amplifiers.

WARNING! DCD™ amplified subwoofer systems use very specific components. Never use a DCD™ amplifier or its companion subwoofer(s) with incompatible, non-DCD™ products. Doing so will void the warranty and may cause severe damage/injury.

INSTALLATION APPLICATIONS

The built-in amplifier used in this subwoofer system is designed for operation in vehicles with 12V, negative-ground electrical systems. Using this product in systems with positive ground and/or voltages other than 12V may result in damage to the product and will void the warranty. This product is not certified or approved for use in aircraft.

INSTALLATION PROCEDURE/CONNECTIONS

All connections are located on the amplifier panel of the enclosure. All connections are made via RCA-type or quick-disconnect plugs, making it easy to remove the enclosure quickly, anytime you need additional space in your vehicle.

1. Disconnect the NEGATIVE battery post connection and secure the disconnected cable to prevent accidental reconnection during installation. **This is an essential safety precaution during installation!**
2. Run power wire from the battery location to the amplifier's "+12 VDC" connection, taking care to route it in such a way that it will not be damaged and will not interfere with vehicle operation. **8 AWG is the recommended power wire size for this amplifier.**
3. An appropriate fuse at the main power wire to the amplifier is vital for vehicle safety. This fuse must be installed within 18 inches (45 cm) of the positive (+12V) battery post connection. If this is the only device connected to this main wire, use a 30A fuse. Do not install the fuse until the power wire has been securely connected to the amplifier.
4. Find a good, solid metal grounding point close to the amplifier panel and connect the negative power wire to it using appropriate hardware. Use the same sized wire used for the +12V connection, no longer than 36 inches (90 cm) from the amplifier's ground (GND) connector to the ground connection point. **8 AWG is the recommended ground wire size for this amplifier.**
5. Run a wire from the source unit's positive (+12V) remote turn-on output to the amplifier's "Remote" connection. If your source unit does not have a dedicated remote turn-on output, you may elect to use one of the automatic turn-on options, configured via the amplifier's "Turn-On Mode" switch. (See "Control Panel Settings and Adjustments.")
6. Signal Input (Low-Level): Connect the amplifier's RCA input jacks to the source unit's preamp level output jacks. You may run a stereo or a mono signal into the

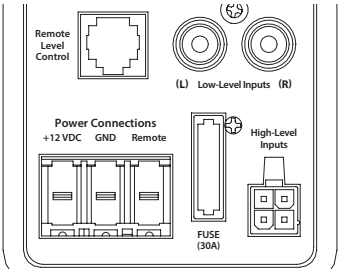
inputs of the amplifier. The amplifier's input section automatically sums stereo signals to mono for the internal amplifier section. When feeding a single, low-level RCA input connection, use a Y-adaptor splitter to split the mono signal and connect it to both Left and Right RCA inputs.

7. Signal Input (High-Level): If your system does not offer a preamp level signal option, you can connect speaker level signals directly to the "High-Level Inputs" connector using the supplied 4-pin plug and wire harness. Simply splice the appropriate left/right and positive/negative wires to the included harness, and plug the harness into the "High-Level Inputs" connector on the amplifier. The amplifier will attenuate the high-level signal to make it compatible with its input stage. Refer to the table below for corresponding wire color information. Make sure to observe correct polarity in making high-level input connections. Failure to do so will result in a loss of signal (poor performance).
8. Make necessary adjustments to the input sensitivity and filter controls.
9. With the optional RBC-1 Remote Level Control (sold separately), you can control the amplifier's output level from the front of the vehicle. Connect the RBC-1 to the amplifier's panel-mounted RJ11 input jack. (Refer to Appendix B)

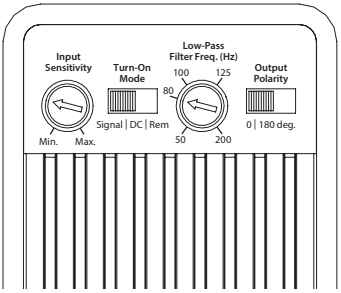
POWER CONNECTIONS PLUG

To connect the power wires and remote turn-on wire to the amplifier, unplug the "Power Connections" plug from the amplifier panel (pull back firmly) and back out the set screws on the connector plug using a Phillips head screwdriver. Strip 3/8 inch (10 mm) of insulation from the end of each wire and insert the bare wire into the receptacle on the power connector plug, seating it firmly so that no bare wire is exposed. While holding each wire in place, tighten each set screw firmly, taking care not to strip the head of the screw.

Warning! Never make power connections with a "live" wire. Always disconnect the negative battery post before making any connections or adjustments to a 12V power connection! Failure to make safe, tight, high-integrity connections can result in fire and extensive damage!



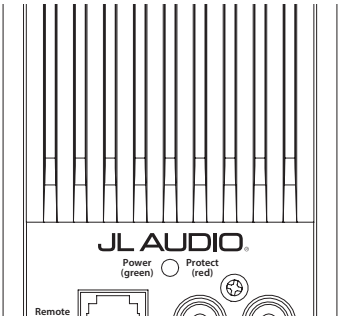
Connection			Description	
Power Connections	+	+12 VDC	Positive (+12V) Power Connection	
	–	GND	Negative (GND) Ground Connection	
	R	Remote	Positive (+12V) Remote Turn-On Input	
Low-Level Inputs (RCA Jacks)	(L)	White RCA	Ch. 1 Input	Left Channel Signal Input
	(R)	Red RCA	Ch. 2 Input	Right Channel Signal Input
High-Level Inputs (4-Pin Connector)	White		Ch. 1 Input	(+) Left Channel Positive
	White/Black			(–) Left Channel Negative
	Gray		Ch. 2 Input	(+) Right Channel Positive
	Gray/Black			(–) Right Channel Negative
Remote Level Control			RJ11 Input Jack for RBC-1 (sold separately)	



CONTROL PANEL SETTINGS AND ADJUSTMENTS

Use the amplifier's panel mounted settings and controls to integrate and adjust the performance of your subwoofer system to your vehicle and listening preference.

Switch	Setting	Mode / Function	
Input Sensitivity	**Variable**	Adjusts the input stage of the amplifier to match the source unit's output voltage for maximum clean output (refer to Appendix A)	
Turn-On Mode	**Rem**	Conventional (Preferred)	Connect to the source unit's +12V remote turn-on output
	DC	DC-Offset Sensing (Auto)	Turns on and off by detecting the presence of small DC signal in OEM audio outputs; connect to the source unit's high-level/speaker outputs
	Signal	Signal Sensing (Auto)	Turns on by detecting full-range audio signal in OEM outputs; turns off after 30 seconds without signal; connect to the source unit's high-level/speaker outputs
Low-Pass Filter Freq. (Hz)	**Variable**	Adjusts the low-pass filter cutoff frequency, variable from 50-200 Hz, 12 dB/Octave	
Output Polarity	**0**	Normal speaker polarity	
	180 deg.	Polarity reversed 180 degrees	



STATUS LED / PROTECTION CIRCUITRY

A bi-color LED located on the amplifier panel is used to indicate the amplifier's operational status.

"Power (green)": Lights up green to indicate the amplifier is turned on and operating normally.

"Protect (red)": Lights up red to indicate the amplifier's protection circuitry has been activated due to thermal overload. When the protection mode is activated, the amplifier outputs are muted to protect its circuitry. When the amplifier cools, the amplifier will return to its normal operation and the LED will turn green.

Enclosure Specifications				
Model	Driver(s)	Nominal Impedance	RMS Power @ 14.4V, <1% THD+N	Dimensions
ACP108LG-W3v3	(1) 8W3v3-0.40	0.40 Ω	250 W	18.5 in x 11.125 in x 5.125 in 470 mm x 283 mm x 130 mm
ACP208LG-W3v3	(2) 8W3v3-0.40	0.20 Ω	500 W	36.625 in x 11.125 in x 5.125 in 905 mm x 283 mm x 130 mm
ACP110LG-TW1	(1) 10TW1-0.25	0.25 Ω	400 W	21 in x 13.5 in x 6.625 in 533 mm x 343 mm x 168 mm
ACP112LG-TW1	(1) 12TW1-0.25	0.25 Ω	400 W	23.75 in x 15.75 in x 9.25 in 603 mm x 400 mm x 235 mm
ACS110LG-TW1	(1) 10TW1-0.25	0.25 Ω	400 W	18.5 in x 11.125 in x 5 in 470 mm x 283 mm x 127 mm
ACS112LG-TW1	(1) 12TW1-0.25	0.25 Ω	400 W	21 in x 13.5 in x 6.625 in 533 mm x 343 mm x 168 mm

DCD™ Amplifier Specifications (All Models)					
Input Voltage Range	Filter Type, Range, Slope	Output Polarity	Remote Bass Controller	Power/GND Wire	Fuse Rating
70 mV – 1.40 V (Low) or 280 mV – 5.4 V (High)	Low-Pass, 50 – 200 Hz, 12 dB/Octave	0 or 180 degrees	RBC-1 (sold separately)	8 AWG (recommended)	30A

Warning - Never use a DCD™ amplifier or its companion subwoofer(s) with incompatible, non-DCD™ products. Doing so will void the warranty and may cause severe damage/injury.

APPENDIX A

Input Sensitivity Level Setting

Follow the steps below to adjust the input sensitivity of the amplifier to achieve overall system balance.

1) Turn off or set to center all processing (bass/treble, loudness, EQ, etc.) on the source unit. Set the source unit's fader control to center position and its subwoofer level control (if applicable) to ¾ of maximum.

2) Turn the amplifier's "Input Sensitivity" control to the "Min." position.

3) While playing a dynamic audio track, increase the head unit volume until the subwoofer output distorts. Then, reduce the volume by one step (or until the subwoofer's output is no longer distorted).

4) Increase the "Input Sensitivity" until the subwoofer output is distorted.

5) Reduce the "Input Sensitivity" slightly until the subwoofer output is no longer distorted.

6) Listen to the overall system and adjust the "Input Sensitivity" downward if the subwoofer output requires attenuation to achieve the desired system balance.

APPENDIX B

With the optional RBC-1 Remote Level Control (sold separately), you can control the subwoofer volume from the front of the vehicle. The RBC-1 connects to the jack labeled "Remote Level Control" on the amplifier panel using a standard telephone cable (supplied with the RBC-1). When connected to the amplifier, the Remote Level Control operates as follows. At full counter-clockwise rotation, the audio will mute completely. At full clockwise rotation, the level will be the same as if the RBC-1 was not connected at all. In other words, it operates strictly as a level attenuator. Care should be taken to securely mount this control in a manner that does not interfere with the vehicle's operation. When setting the amplifier's input sensitivity, the Remote Level Control should be unplugged or at full clockwise rotation (maximum level).

PROTECT YOUR HEARING!

We value you as a long-term customer. For that reason, we urge you to practice restraint in the operation of this product so as not to damage your hearing and that of others in your vehicle. Studies have shown that continuous exposure to high sound pressure levels can lead to permanent (irreparable) hearing loss. This and all other subwoofer systems are capable of producing high sound pressure levels. Please limit your continuous exposure to high volume levels. **While driving, operate your audio system in a manner that still allows you to hear necessary noises to operate your vehicle safely (horns, sirens, etc.).**

TROUBLESHOOTING

Problem	Possible Cause	Solution
How to properly set input sensitivity		Please refer to Appendix A to set the input sensitivity for maximum, low-distortion output.
Amplifier doesn't turn on	Faulty fuse	Remove fuse and check with continuity meter. Replace if necessary.
	Poor connection integrity	Check "+12 VDC", "GND", and "Remote" leads for pinched wires; ensure tight connections.
	Insufficient "Remote" input	Make sure there is a sufficient +12V supply at the "Remote" connection; if not, a relay may be required.
Intermittent output, fluctuates when I tap on it or hit a bump	Poor connection integrity	Make sure wiring insulation has been properly stripped back at connection points for good contact area.
		Make sure the signal input connections (low-level or high-level) are making good contact.
Output shuts off after a while	Overheating condition (Thermal Protection)	Make sure enclosure is positioned allowing the amplifier adequate space for ventilation and heat dissipation.

LIMITED WARRANTY - AMPLIFIED SUBWOOFER SYSTEMS (USA)

JL Audio warrants this product to be free of defects in materials and workmanship for a period of two (2) years from the original date of purchase. This warranty is not transferable and applies only to the original purchaser 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.

Warranty is void if the product's serial number has been removed or defaced.

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 's Service Facility 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. 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.

For Service Information in the U.S.A. please call
JL Audio Customer Service: (954) 443-1100
9:00 AM – 5:30 PM (Eastern Time Zone)
JL Audio, Inc
10369 North Commerce Pkwy.
Miramar, FL 33025
(do not send product for repair to this address)

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