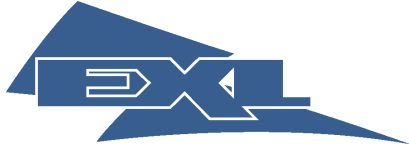


Operation and Installation Manual



EXL 1200D

CERWIN-VEGA! MOBILE AUDIO

POWER AMPLIFIER

CERWIN-VEGA!
MOBILE AUDIO

CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER

INTRODUCTION

Thank you for purchasing a Cerwin-Vega! car audio amplifier. This power amplifier has been designed to provide high quality performance with a minimum of maintenance. However, its performance will only be as good as the care and quality of components with which it is installed. We therefore advise that you read these instructions very carefully to familiarize yourself with the product and its features.

The Cerwin-Vega! EXL1200D is a full-featured two-channel amplifier incorporating the following features:

- Advanced circuit design that features bridgeable and mixed mode operation for use in various systems, including those with bridged amplifiers and dual voice coil subwoofers
- Variable subsonic/lowpass crossover with 24dB per octave slope and full adjustable range (from 15Hz to 150Hz) to aid in audio system design
- Variable bass boost circuit to reinforce low frequency signals that may be lost due to subwoofer box design
- Adjustable input level control with ground loop isolation accepting a wide range of input signals
- Remote turn-on with "soft start" muting to prevent turn-on "thump"
- Pulse-width modulated (PWM) MOSFET power supply with low AM RFI and protection circuits for overheating and speaker shorts
- 1-ohm load capability to drive a variety of speaker systems
- Gold-plated input/output connectors and an internal fuse bank
- Power save lowers the current drawn when system volume is reduced
- Phase Select Switch
- Master / Slave Ability

ABOUT THE MANUAL AND WARRANTY

To start enjoying your new Cerwin-Vega! Class-D monoblock amplifier, please read the instructions listed in this manual. Keep all instructions for future reference. Please fill out

and send in the enclosed warranty card to protect your purchase and aid in warranty service. Also, save your original sales receipt as proof of purchase.

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OPERATION AND INSTALLATION MANUAL

CONGRATULATIONS!

Congratulations on your purchase of this quality CERWIN VEGA car audio amplifier. The EXL1200D amplifier has been engineered in the UNITED STATES with the latest technology to give you the best most efficient operation available today.

We want you listening for a lifetime. That means you should be a responsible listener and take care of your ears. This amplifier is capable of producing sound pressure levels that can cause PERMANENT HEARING damage if caution is not used. Louder levels can cause hearing damage in a very short time period while much lower levels can cause damage through prolonged exposure.

Over time the human ear adapts to the levels of sound pressure causing loud sounds to sound more normal and become more dangerous. Here is a list of some sound pressure examples. Please note that it has been determined that continued exposure to sounds above 90 dB are hazardous. The louder the sound the shorter the duration of hazardous exposure!!!

40 dB	Refridgerator
50 dB	Light traffic, conversation
60 dB	Air conditioner at 20 feet
70 dB	Vacuum cleaner
80 dB	Noisy traffic corner
90 dB	Subway, motorcycle, lawn mower
100 dB	Garbage truck, chain saw
120 dB	Live Band, riveter
140 dB	Gunshot blast, jet plane



DESCRIPTION

The Cerwin-Vega! EXL1200D Class-D Monoblock amplifier provides 500 watts of power into a 4 ohm load and 900 watts of power into a 2 ohm load and 1,200 watts into mono at 1 ohm. This full featured model is an excellent choice for a variety of car audio sound system configurations.

The EXL1200D uses an unregulated MOSFET power supply for superior control of output wattage. Dual toroid-coil transformers yield maximum power transfer with minimum heat loss. Careful attention to circuit design keeps AM RFI at low levels, so you won't hear unwanted noise when the level is cranked up. Protection circuits

safeguard the amplifier when overheating and speaker shorts or improper load conditions occur.

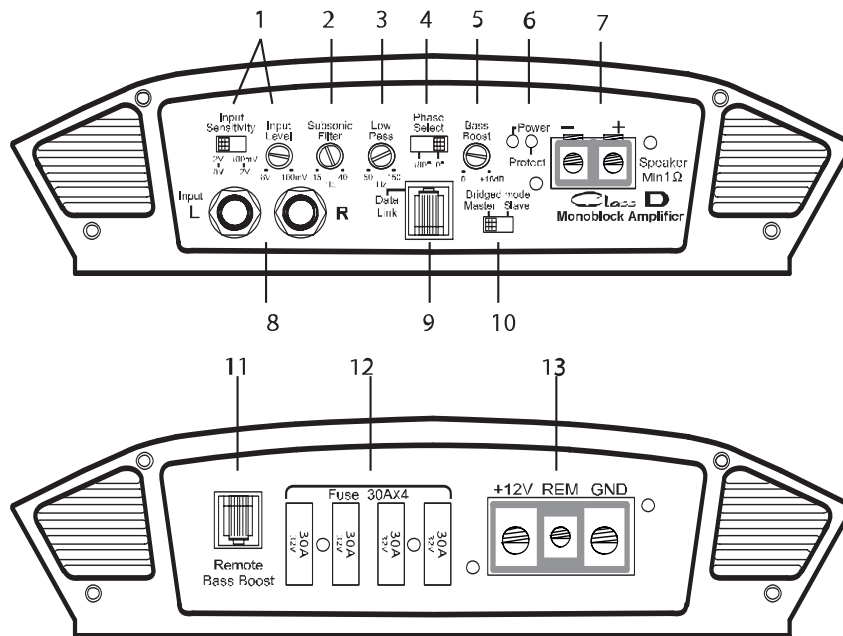
All connections and controls of the EXL1200D are on the end panels and are easy to understand. We use gold-plated RCA and barrier connectors to ensure the best electrical connection for your system. Included is an external automotive type fuse that is easy to replace.



CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER

FRONT AND REAR CONNECTIONS AND AUDIO CONTROLS

The front panel of the EXL1200D contains connections for RCA Inputs, Speaker and Audio Controls as shown below.



- 1) SENSITIVITY RANGE SELECTOR AND CONTROL.
- 2) SUBSONIC (HP) FILTER FREQUENCY CONTROL.
- 3) LOW PASS CROSSOVER FREQUENCY CONTROL.
- 4) PHASE SELECT SWITCH.
- 5) BASS BOOST CONTROL.
- 6) POWER AND PROTECT LED INDICATORS.
- 7) GOLD PLATED SPEAKER TERMINAL BLOCK.
- 8) GOLD PLATED RCA INPUTS.
- 9) DATA LINK CONNECTOR.
- 10) BRIDGE MODE SELECTOR SWITCH.
- 11) REMOTE BASS BOOST CONNECTOR.
- 12) FUSE BANK
- 13) POWER, REMOTE, GROUND INPUT BLOCK.

OPERATION AND INSTALLATION MANUAL

SENSITIVITY RANGE SELECTOR AND CONTROL – The switch allows you to select and adjust the nominal operating level of the amplifier. The range is selectable from either 100 mV to 2.0 V, or 2 V, to 8.0 V.

SUBSONIC FILTER – This allows you to tune the response of the amplifier at very low frequencies. This can increase efficiency of your system and even protect your drivers from over excursion in vented boxes.

LOW PASS FREQUENCY CONTROL – This allows you to tune the response of the amplifier at higher BASS frequencies to match your systems requirements.

PHASE SWITCH – Used to invert the Phase of the output to the speaker.

BASS BOOST CONTROL – Again used to tune amplifier response by adding up to 18 decibels of Boost at 42 HZ.

POWER and PROTECT led indicators – When the unit is powered on and operating correctly the POWER led will illuminate. When the unit is on but in a fault condition the PROTECT led will illuminate

SPEAKER TERMINAL BLOCK – GOLD PLATED solid brass machined terminals for delivering very high current to the speakers.

GOLD PLATED RCA INPUTS – The RCA input terminals are GOLD PLATED to ensure the highest quality contacts and the lowest noise in your audio system.

DATA LINK - The best way to use two amplifiers is to use the DATA LINK cable provided. This feature synchronizes the POWER SUPPLY and HIGH CURRENT OUTPUT STAGE of the SLAVE amplifier to the MASTER amplifier. This in turn increases efficiency, and SPL while reducing noise and eliminating the need for any adjustments of the slave amplifier controls.

BRIDGE MODE SELECTOR SWITCH - For installations using one amplifier set this to MASTER. When installations include two amplifiers setting this switch to SLAVE (in conjunction with using the DATA LINK CABLE) will cause the SLAVE amplifier to function identical to the MASTER amplifier.

REMOTE BASS CONTROL – Use this control to control BASS levels from the comfort your of drivers seat.

FUSE BANK – These are the fuses.

POWER, REMOTE, GROUND INPUT BLOCK – Battery power, Ground, and Remote input connections are made here.

CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER**INSTALLATION**

This section lists Mounting and Wiring Precautions for installing a Cerwin-Vega! EXL1200D. Combined with the experience of a professional installer, these safeguards provide enough detail to successfully complete an installation. If you do not have the necessary skills, do not install the amplifier yourself. Instead, see your authorized Cerwin-Vega! dealer for installation recommendations.

MOUNTING PRECAUTIONS

Although the Cerwin-Vega! EXL1200D incorporates heat sinks and protection circuits, mounting the amplifier in a tight space without any air movement can still damage internal circuitry over time. Choose a site that provides adequate ventilation around the amplifier. For easy system set-up, mount the amplifier so the front panel controls will be accessible after installation. In addition, observe the following precautions:

1. For the most efficient cooling, mount the amplifier so cool air runs along the length of the fins rather than across them. Remember, any moving air will dissipate heat.
2. Mount the amplifier on a rigid surface. Avoid mounting to subwoofer enclosures or areas prone to vibration. Do not install the amplifier on plastic or other combustible materials.
3. Prior to drilling, make sure proposed mounting holes will not cut into the fuel tank, fuel lines, brake lines (under chassis) or electrical wiring.

WIRING PRECAUTIONS

Read all wiring precautions. If you are not sure of the connections, contact your authorized Cerwin-Vega! dealer.

1. Before installation, make sure the source unit Power switch is in the OFF position.
2. Disconnect the negative (-) lead of the battery before making any power connections.
3. When making connections, be sure that each connection is clean and secure. Insulate final connections with electrical tape or shrink tubing. Failure to do so may damage your equipment.
4. A secure clean ground connection is critical to the performance of your Cerwin-Vega! amplifier. Use the shortest ground wire possible and securely connect to the car chassis to minimize resistance and avoid noise problems.
5. Add an external fuse on the amplifier's positive (+) power lead and connect it as close as possible to the vehicle's (+) battery terminal. Use a rating that equals the total current consumption at full output of all amplifiers in the system. Adding an external fuse will protect the electrical system from short circuits that can cause a fire.



OPERATION AND INSTALLATION MANUAL**WIRING PRECAUTIONS (cont.)**

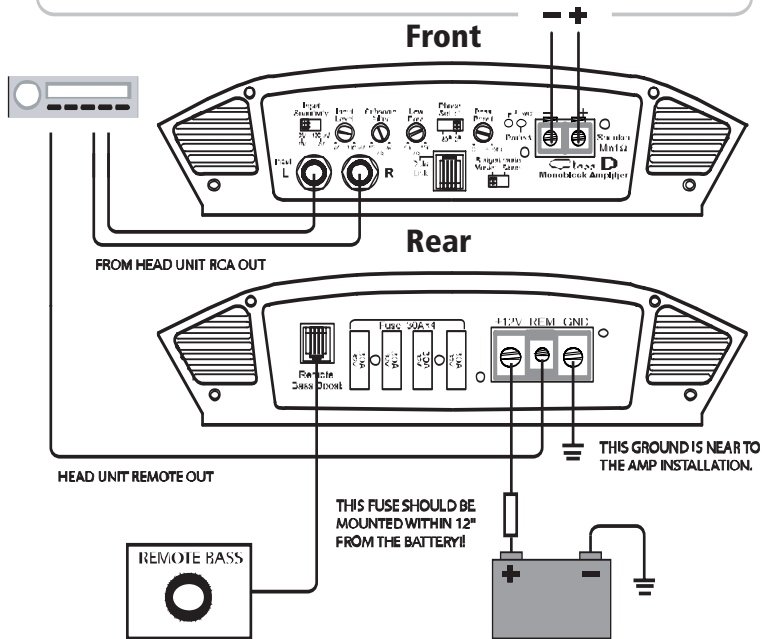
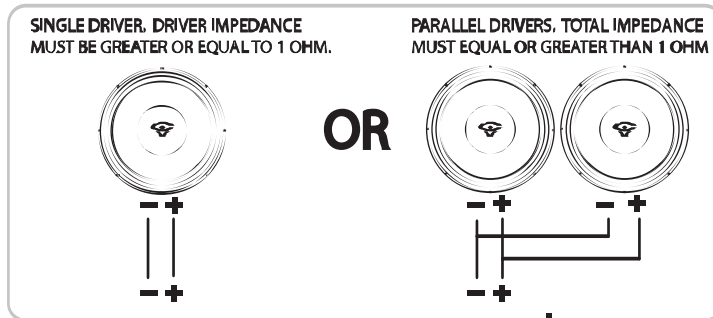
6. Refer to Figure 6 when making electrical connections. Connect the amplifier's positive (+) lead via a fuse directly to the positive (+) terminal on the battery. Do not connect this wire to the car's fuse panel. Use red-insulated 10-gauge (or larger) wire for the amplifier's positive (+) power lead and the same-gauge black-insulated wire for the ground.
7. When replacing the amplifier's fuse, always use one having the same current rating. Substituting a higher-rated fuse or a slow-blow type can result in serious damage to the amplifier.
8. Never ground the speakers to the vehicle chassis or body.
9. Make sure that your vehicle's electrical system (alternator, battery, etc.) is capable of handling the additional load. If you are planning a multi-amplifier system, you may need to add a second battery and possibly upgrade the alternator with a higher-output rated model. Consult your authorized Cerwin-Vega! dealer for recommendations.
10. To avoid noise problems, run the amplifier's positive (+) power lead along one side of the vehicle to the battery. Run the remote turn-on wire and RCA audio cables down the center, and route the speaker wires along the remaining side. If wires must cross, run them perpendicular to each other.
11. When creating passage holes for the power wire, use grommets to eliminate any sharp edges created during drilling. This will protect the wire from being nicked and causing a short circuit.
12. Extra cable can cause signal loss and act as an "antenna" for noise. Use only high-quality RCA cables that are no longer than necessary to make a direct connection with the source unit or equalizer.



CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER

WIRING

SINGLE 1 OHM OR DUAL 2 OHM DRIVER INSTALLATION



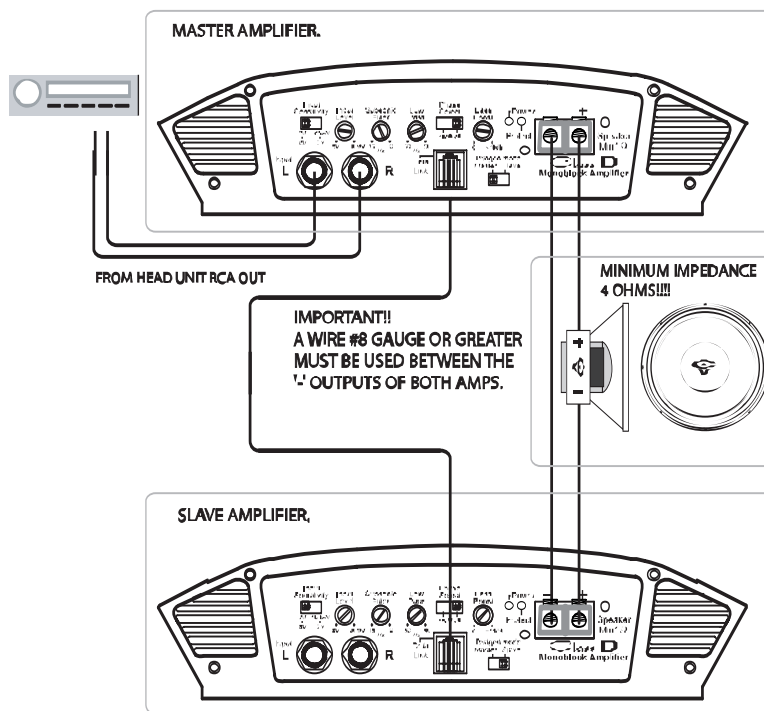
TECHNICAL NOTE;
DUAL VOICE COIL DRIVERS CAN BE USED IN THE SAME CONFIGURATION
AS THE PARALLEL DRIVERS.

OPERATION AND INSTALLATION MANUAL

WIRING

MASTER/SLAVE ON A SINGLE VOICE COIL

LOAD IMPEDANCE MUST BE GREATER OR EQUAL TO 4 OHMS.

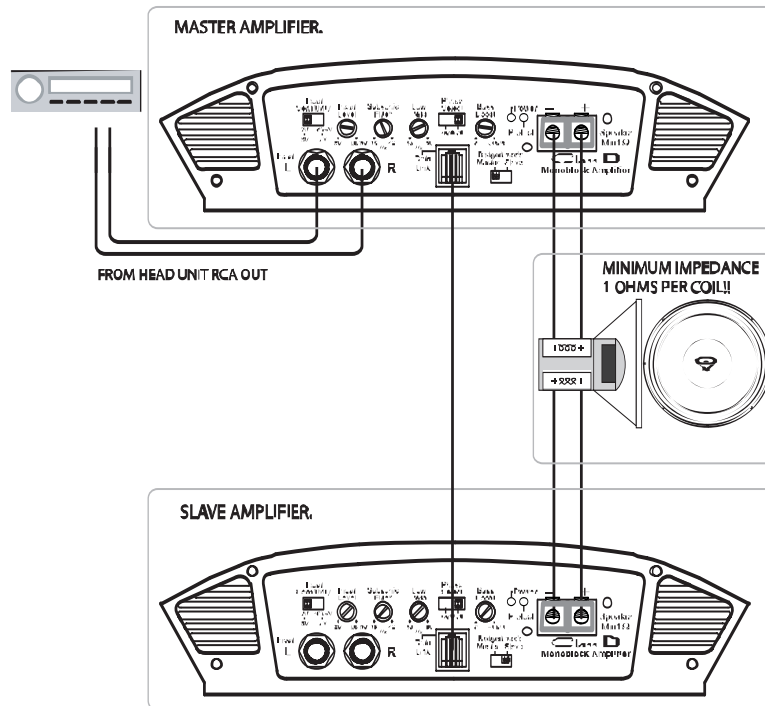


- 1) CONNECT THE RCA CABLES FROM THE HEAD UNIT TO THE L + R INPUTS OF THE 'MASTER' AMPLIFIER. IF DESIRED THE 'REMOTE BASS CONTROL' MAY BE CONNECTED TO THIS AMPLIFIER. ON THIS AMPLIFIER SET THE 'BRIDGE MODE' SWITCH TO 'MASTER'. ADJUST THE 'INPUT LEVEL', 'SUBSONIC FILTER', 'LOW PASS' AND 'BASS BOOST' CONTROLS AS DESIRED.
- 2) SET THE 'BRIDGE MODE' SWITCH ON THE SLAVE UNIT TO 'SLAVE', (ALL CONTROLS ON THIS AMP ARE DISABLED WHEN IN THE 'SLAVE' MODE).
- 3) CONNECT THE SPEAKER TO BOTH AMPLIFIERS AS SHOWN ABOVE. A #8 GAUGE WIRE MUST BE USED BETWEEN THE '-' SPEAKER TERMINALS OF BOTH AMPLIFIERS. CONNECT THE 'DATALINK' CABLE BETWEEN BOTH AMPLIFIERS.
- 4) CONNECT POWER, GROUND AND REMOTES LEADS TO BOTH AMPLIFIERS.
- 5) THE LOAD IMPEDANCE MUST NOT BE LESS THAN 4 OHMS!!

CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER**WIRING**

MASTER/SLAVE ON A DUAL VOICE COIL DRIVER.

EACH COIL MUST BE GREATER OR EQUAL TO 1 OHM.



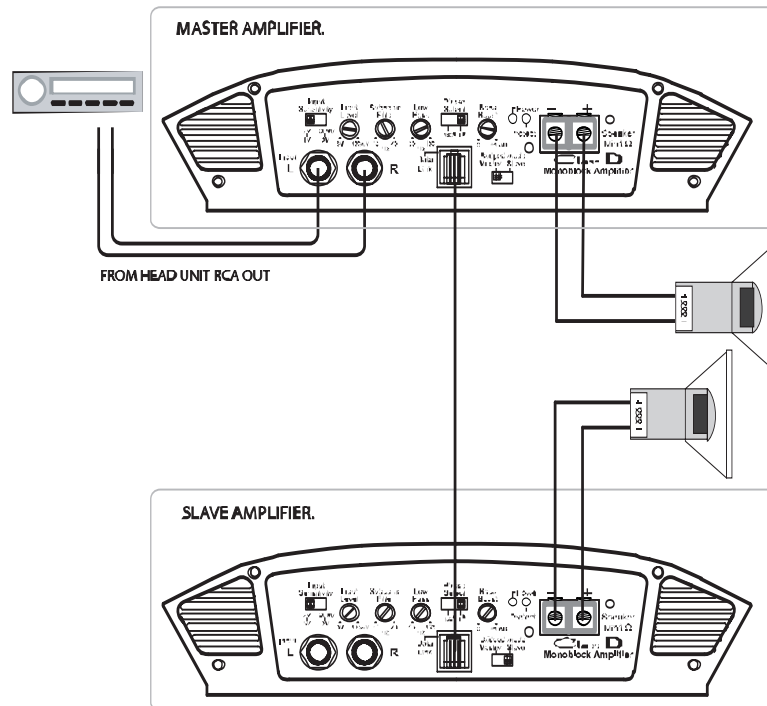
- 1) CONNECT THE RCA CABLES FROM THE HEAD UNIT TO THE L + R INPUTS OF THE 'MASTER' AMPLIFIER. IF DESIRED THE 'REMOTE BASS CONTROL' MAY BE CONNECTED TO THIS AMPLIFIER. ON THIS AMPLIFIER SET THE 'BRIDGE MODE' SWITCH TO 'MASTER'. ADJUST THE 'INPUT LEVEL', 'SUBSONIC FILTER', 'LOW PASS' AND 'BASS BOOST' CONTROLS AS DESIRED.
- 2) SET THE 'BRIDGE MODE' SWITCH ON THE SLAVE UNIT TO 'SLAVE'. (ALL CONTROLS ON THIS AMP ARE DISABLED WHEN IN THE 'SLAVE' MODE.
- 3) CONNECT THE MASTER AMP TO ONE VOICE COIL OF THE SPEAKER AS SHOWN.
- 4) CONNECT THE SLAVE AMP TO THE SECOND VOICE OF THE SPEAKER AS SHOWN. WATCH POLARITY!!
- 5) CONNECT THE 'DATALINK' CABLE BETWEEN BOTH AMPLIFIERS.
- 4) CONNECT POWER, GROUND AND REMOTES LEADS TO BOTH AMPLIFIERS.
- 5) EACH COIL MUST NOT BE LESS THAN 1 OHM.

OPERATION AND INSTALLATION MANUAL

WIRING

MASTER/SLAVE ON DUAL 1 OHM DRIVERS.

EACH DRIVER MUST BE GREATER OR EQUAL TO 1 OHM.



- 1) CONNECT THE RCA CABLES FROM THE HEAD UNIT TO THE L + R INPUTS OF THE 'MASTER' AMPLIFIER, IF DESIRED THE 'REMOTE BASS CONTROL' MAY BE CONNECTED TO THIS AMPLIFIER. ON THIS AMPLIFIER SET THE 'BRIDGE MODE' SWITCH TO 'MASTER'. ADJUST THE 'INPUT LEVEL', 'SUBSONIC FILTER', 'LOW PASS' AND 'BASS BOOST' CONTROLS AS DESIRED.
- 2) SET THE 'BRIDGE MODE' SWITCH ON THE SLAVE UNIT TO 'SLAVE'. (ALL CONTROLS ON THIS AMP ARE DISABLED WHEN IN THE 'SLAVE' MODE.
- 3) CONNECT THE MASTER AMP TO ONE DRIVER AS SHOWN.
- 4) CONNECT THE SLAVE AMP TO THE SECOND DRIVER AS SHOWN. (WATCH POLARITY!!)
- 5) CONNECT THE 'DATALINK' CABLE BETWEEN BOTH AMPLIFIERS.
- 4) CONNECT POWER, GROUND AND REMOTES LEADS TO BOTH AMPLIFIERS.
- 5) EACH DRIVER MUST NOT BE LESS THAN 1 OHM.

CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER**SETTING UP THE AMPLIFIER CONTROLS**

Set the SUBSONIC filter control to the minimum frequency. Set the LOW PASS control to the maximum frequency. Set the BASS BOOST control to 0. Adjust the INPUT LEVEL control so you can clearly hear the response of the system. Adjust the LOW PASS control to the desired frequency for the best system response. Adjust the SUBSONIC filter slowly until the reduction in BASS output becomes audible. Adjust the BASS BOOST as desirable.

**SETTING THE GAIN**

After completing the installation, follow these steps to set the Gain Control and then perform the Final System Checks.

1. Turn the Gain Control all the way counter-clockwise.
2. Turn the vehicle's Ignition Switch to the ON position. Then turn the ON/OFF Switch on the source units to the ON position. Set all Tone or Equalization Controls to "flat" positions and turn Loudness off.
3. Play a CD or Tape and set the Volume Control at 75% of full level. Note: If the system uses an equalizer, set its frequency controls to "flat" positions.
4. Slowly increase the Gain Control. Stop when you hear a slight distortion of audio.



OPERATION AND INSTALLATION MANUAL**FINAL SYSTEM CHECKS**

1. Start the engine and turn on the source unit. After a two-second delay, slowly increase the Volume Control and listen to the audio. If you hear any noise, static, distortion or no sound at all, check the connections, and also refer to Troubleshooting. Depending on your system design, the levels may become quite loud even at low Volume Control settings. Until you get an "audio feel" of the system's power, use care when adjusting controls.
2. Turn the Balance Controls to their extreme positions and listen to the results. Audio imaging should match control settings (audio from the left speaker when balance is left).
3. Increase the volume and verify that the amplifier reproduces audio (at full frequencies) without distortion. If you hear distortion, check the connections and verify that the Gain Control is set correctly. Another possibility is damaged speakers or under-powered speakers. Once again refer to Troubleshooting for additional help.

TROUBLESHOOTING

Problem: No Audio.

Solution:

- Low or no remote turn-on voltage. Check remote connections at amplifier and source unit.
- Blown amplifier fuse. Replace with new fast-blow fuse (same rating). Power wires not connected. Check battery and ground wiring at amplifier; also check battery connections.
- Speaker leads shorted. Check speaker continuity to ground, it should not show a common ground.
- Speakers not connected or are blown. Check speaker connections at amplifier, measure coil impedance.

Problem: Audio cycles on and off.

Solution: Thermal protection circuits are shutting amplifier off. Check location for adequate ventilation; consult an authorized Cerwin-Vega! Audio Dealer.

Problem: Distorted audio.

Solution: Gain is not set properly, or damaged speaker cones. Review Setting Gain; inspect each speaker cone for signs of damage (i.e. frozen cone, burning smell, etc.)



CERWIN-VEGA! EXL1200D POWER SYSTEM AMPLIFIER**TROUBLESHOOTING (Cont.)**

Problem: Audio lacks punch.

Solution: Speakers wired incorrectly, which causes cancellation of bass frequencies. Check polarity of wires from amplifier to each speaker as defined by the system design.

Problem: Amplifier fuse keeps blowing.

Solution: Incorrect wiring or short circuit. Review Installation and check all wiring connections.

Problem: Whining or ticking noise in the audio with engine on.

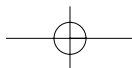
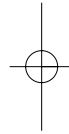
Solution: Amplifier is picking up alternator noise or radiated noise. Turn down input gain; move audio cables away from power wires. Check power and ground connections on amplifier; install an in-line noise filter on source unit's power wire; check alternator and/or voltage regulator; test for weak battery or add water to battery.

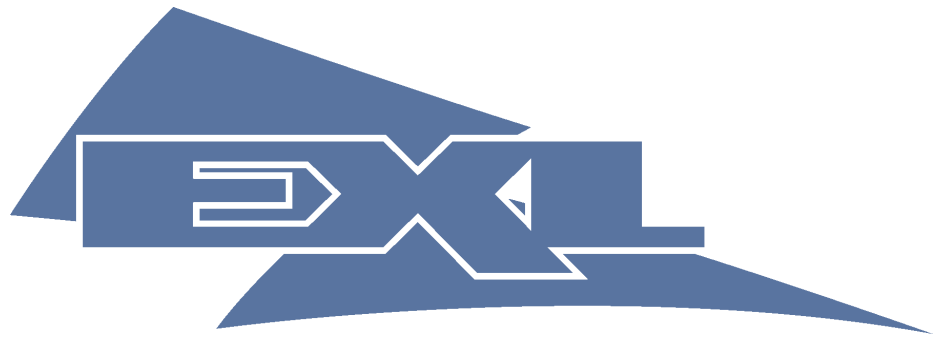
PRODUCT SPECS FOR THE EXL1200D

Frequency Response	15Hz ~ 150Hz +/- 1 dB
Signal Noise Ratio	>87 db
THD	.05% @ 100Hz
Input Sensitivity Low Level	100mV ~ 8 V
Cont. Power Output	1200w (1200w x 1) @.05% THD, 1-Ohm load
Current Consumption at output @ max power	120A @ 1200 Watts
Dimensions	2-1/2" H x 9-1/2 " W x 19-1/4" L
Weight	13 lbs.

OPERATION AND INSTALLATION MANUAL

Notes





MOBILE AUDIO